

UNIVERSITE DE LIEGE
Faculté de Philosophie et Lettres

Technical Study of Paintings by Pieter Brueghel the Younger in Belgian Public Collections



Ph.D. Dissertation

Christina M. Currie – April 2003

In memory of my father, Hamish Currie

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Introduction

For many years, Pieter Brueghel the Younger has been best-known for copying the works of his celebrated father, Pieter Bruegel the Elder and appreciated for his role in helping Bruegel the Elder's images reach a larger audience. More recently, in recognition of his very different style and several original inventions to his name, he is increasingly viewed as an artist in his own right, and studied independently of his famous parent.

In 1998, at the outset of the present study, Pieter Brueghel the Younger's oeuvre had never formed the object of in-depth technical research. Only one serious monograph existed, Georges Marlier's excellent *Pierre Brueghel le Jeune*, of 1969, but it does not deal with the technical aspects of the artist's work. In 2000, Klaus Ertz published his long-awaited *Pieter Brueghel der Jüngere 1564-1637/38. Die Gemälde mit kritischem Oeuvrekatalog* but also passes over the technical aspects of Brueghel's paintings, focusing mainly on questions regarding attribution. In Brueghel the Younger's case, a technical approach was sorely lacking, not only to discover his materials and techniques, but to reveal precisely how he succeeded in producing such close copies of his father's paintings, many years after the death of the latter and when several of the original works were almost certainly inaccessible. Furthermore, the current study's high-quality documentation of both the underdrawings and brushwork in Brueghel's paintings provides new material for the debate on attribution and the division of labour within his workshop.

Brueghel the Younger's total surviving oeuvre could not be examined for logistical reasons, so it was initially decided to limit the number of paintings to those held in Belgian public collections, which offer a rich spectrum of material. The choice was influenced by the generosity of the museum curators, who allowed full access to the works in their care. The study includes thirty-seven paintings from six different Belgian museums, namely: seventeen works from the Koninklijk Museum voor Schone Kunsten in Antwerp: *Census at Bethlehem*, signed (inv. 776), *Sermon of Saint John the Baptist*, unsigned (inv. 777), two versions of *Christ Carrying the Cross*, one signed and dated 1603 (inv. 5006), the other unsigned (inv. 31), *Crucifixion*, unsigned (inv. 962), *Flemish Proverbs*, unsigned (inv. 5111), *Massacre of the Innocents*, signed (inv. 832), *Bridal Procession*, signed (inv. 807), *Works of Charity*, signed (inv. 969), *Adoration of the Magi*, signed (inv. 797), *Visit to the Farm*, signed (inv. 5100) and five miniature roundels, one signed and dated 1594, two signed (inv. 871/1-872/5);¹ an example of the *Peasant Lawyer* (inv. 646), clearly executed outside the Brueghel workshop, was also examined for comparative purposes;² two paintings from the Museum Mayer van den Bergh in Antwerp: *Census at Bethlehem* (inv. 54) and *Winter Landscape with Bird Trap* (inv. 45),³ the latter signed and dated 16[?]; two paintings from the Groeningemuseum in Bruges: *Peasant Lawyer*, signed and dated 1620 (inv. 0.16061) and *Sermon of Saint John the Baptist*, unsigned (inv. 0.1561); eleven paintings from the Musées Royaux des Beaux-Arts de Belgique in Brussels: *Census at Bethlehem*, signed and dated 1610 (inv. 2903), *Massacre of the Innocents*, signed (inv. 361), *Massacre of the Innocents*, signed and dated 160(4) (inv. 8726), *Wedding Dance in the Open Air*, signed and dated 1607 (inv. 8725), *Adoration of the Magi*, signed (inv. 9132), *Kermis with Theatre and Procession*, unsigned (inv. 6870), a fragment of the latter composition (inv. 3592), *Battle between Carnival and Lent*, unsigned (inv. 12045), *Return from the Kermis*, signed (inv. 10831), *Good Shepherd*, signed and dated 1616 (inv. 10830) and a copy after Brueghel the Younger's *Peasant Lawyer*, unsigned (inv. 2978); three works from the Museum voor Schone Kunsten in Ghent: *Wedding Feast*, signed (inv. S46), *Wedding Dance in the Open Air*, unsigned (inv. 1914-CJ) and *Peasant Lawyer*, signed and dated 1621 (inv. 1952); two paintings from the Stedelijk Museum Wuyts Van Campen en Baron Caroly in Lier: *Sermon of Saint John the Baptist*, signed and dated 1624 (inv. 44) and *Flemish Proverbs*, signed and dated 1607 (inv. 46). In addition to paintings in Belgian public collections, the author was given the opportunity to study two important related works by Brueghel the Younger in private collections, a signed version of *Sermon of Saint John the Baptist* and a rare signed and dated example (1604) of the *Census at Bethlehem*.⁴ Furthermore, as part of the preparation for the *Brueghel Enterprises* exhibition catalogue,⁵ the author studied technical documentation for six further copies of the *Census at Bethlehem* and carried out scientific research during the show itself on four further copies of the *Peasant Lawyer* as well as four copies of the same composition from outside the Brueghel workshop. Finally, two key

¹ *Kermis of Saint George*, a version of an important original composition by Brueghel the Younger in the Koninklijk Museum voor Schone Kunsten (inv. 644), unfortunately could not be studied as it was either travelling or inaccessible during the author's on-site work at the museum.

² A large-scale version on canvas of *Adoration of the Magi* (Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 847) was also examined briefly but subsequently dropped from the study on the discovery of another artist's monogram and owing to obvious differences in underdrawing and painting style to paintings from Brueghel's workshop.

³ Another version of *Winter Landscape with Bird Trap* in a Belgian public collection was recently drawn to the author's attention (Musée des Beaux-Arts de Tournai, cat. 71). Since this version is not mentioned by Georges Marlier in his numbered list of versions of the painting (MARLIER-FOLIE 1969, pp. 242-7) and is given an 'F' (doubtful) rating by Klaus Ertz in his book (ERTZ 2000, cat. F770), the painting was not added to the present study.

⁴ The author was fortunate enough to study both these paintings in a private restoration studio in Brussels prior to their sale to private collectors, at least one abroad.

⁵ CURRIE 2001b.

original works by Bruegel the Elder were studied from the Musées Royaux des Beaux-Arts de Belgique, *Winter Landscape with Bird Trap*, signed and dated 1565 (inv. 8724) and *Census at Bethlehem*, signed and dated 1566 (inv. 3637) as well as one work in a foreign collection, *Adoration of the Magi*, signed and dated 1563 (Winterthur, Dr. Oskar Reinhart Collection 'Am Romerholz', inv. 4).⁶

Three main themes dominate the research: first, the actual techniques and materials used in Brueghel's paintings, ranging from the type, origins and manufacture of the supports to the characteristics of the grounds, *imprimatura*, underdrawings and paint layers; second, the copy process, investigating what sort of model or models may have been used as well as the technique(s) for transferral of the images to panel; third, the thorny question of attribution and division of labour within the studio: could one artist have been responsible for the underdrawing and another for the paint layer or was each painting produced by a single hand? Can separate hands be distinguished at all? What exactly was the role of the master himself? Can his hand be distinguished from the rest? As the research progressed, the recognition of the existence of variants of certain compositions prompted further questions regarding the role of the original model or models and the degree of creativity of Brueghel the Younger as an artist in his own right.

The thesis is introduced with a presentation of the biography, literature, oeuvre and the *status quaestionis* regarding Brueghel the Younger, followed by a section outlining the various historical methods of copying prior and up to Brueghel's era. This is followed by the main body of the thesis: the technical analysis of selected works by Brueghel the Younger and his workshop. Part I focuses on a few key compositions, dedicating a single chapter to each, namely, *Census at Bethlehem*, *Battle between Carnival and Lent*, *Sermon of Saint John the Baptist*, *Winter Landscape with Bird Trap*, *Adoration of the Magi*, *Peasant Lawyer* and the *Wedding Dance in the Open Air*. These compositions were chosen for the wealth of information they reveal concerning the main themes of the study. Each chapter starts with a technical account of materials and techniques from the support through to the paint layer. The style of the underdrawings and painterly brushwork is discussed as part of this section with a view to elucidating issues regarding attribution. The second half of each chapter presents the copy process, debating the possible original model or models for the series and the transfer process. Part II of the thesis concentrates on the underdrawings and possible use of cartoons in the remainder of the works in the study, as well as pointing out any interesting discoveries. Part II is followed by a short discussion on whether the hand of the master can be distinguished amongst the various underdrawings and whether the latter can help with the attribution of surviving independent drawings. After the general conclusion, bibliography and list of figures there are numerous appendices, of which Appendix 1 is particularly important, as it presents a detailed account of the author's practical tests on the types of transfer technique available in the early seventeenth century. Appendix 2 lists in chart form the main technical features of all the paintings in the study; the remaining appendices consist of charts and raw data related to particular compositions.

1.1 Methodology

In all but one case,⁷ the works of art were examined on-site. The protocol for the examinations was adapted according to the physical condition of the paintings, the constraints of the location and the wishes of the owner. In the majority of cases, the paintings were unframed⁸ and examined with the naked eye, the microscope,⁹ infrared reflectography¹⁰ and x-radiography.¹¹ Extensive photography, particularly details of brushwork was

⁶ For a list of all paintings in the study, including owner, dates, measurements and other technical details, see Appendix 2.

⁷ The *Wedding Dance in the Open Air* (Ghent, Museum voor Schone Kunsten) was examined at IRPA. It was brought to the IRPA's paintings studio for the restoration of scratches caused by vandalism.

⁸ In certain rare cases, a painting could not be unframed for examination owing to the fragile condition of the work or at the request of the owner, for example, *Crucifixion* and *Flemish Proverbs*, both part of the collection of the Koninklijk Museum voor Schone Kunsten in Antwerp.

⁹ In certain locations, such as the private restorer's studio [see note 4], the Stedelijk Museum Wuyts Van Campen en Baron Caroly in Lier, and on an early visit to the Koninklijk Museum voor Schone Kunsten in Antwerp, a microscope was unavailable and the transportation of a heavy studio microscope deemed impractical, particularly as so much other equipment had to be transported at the same time.

¹⁰ Apart from certain versions of *Census at Bethlehem* and one version of *Peasant Lawyer* (credits given in notes 495 and 932 respectively), infrared reflectography was carried out with IRPA's 'Inframetrics Infracam SWIR (short-wave infrared) video camera' (Inframetrics is now owned by FLIR, see www.flir.com). In all but one case (*Wedding Dance in the Open Air*), the work was carried out on-site in the museums. The Inframetrics camera has a solid-state detector consisting of a focal plane array (FPA) of 256 columns and 256 rows. The detector material is platinum silicide (PtSi). The camera uses a closed cycle sterling cooler based on compressed helium gas. It is capable of registering infrared wavelengths of up to 5 microns; an internal filter in the camera blocks wavelengths beyond 2.5 microns. For the purposes of infrared reflectography of paintings, narrow bandwidth filters are also employed; in the case of paintings by Brueghel the Younger, the 1.5 – 1.73 micron filter proved most suitable and was invariably used. A specially-coated, close-up lens optimised for examination in the 1.1-2.5 micron range was also employed in each case (12 inch focal length). For most paintings, the images captured were 5² cm in size. The light source consists of two small halogen lamps, mounted on articulated arms attached to a rail system ('Unomat', model LX803 MPG, max 150 W). Images are captured directly onto computer and assembled using 'Adobe Photoshop' software. The capturing of the images was done by the author with the help of Kristof Van Bellingham and Sophie De Potter. The images were assembled and processed at IRPA by Kristof Van Bellingham and Sophie De Potter using Adobe Photoshop software to produce seamless results. All printing was done by Sophie De Potter. The infrared documents were mostly studied on-screen for superior visibility of subtle details and stylistic traits in the underdrawings that are not always clear in the print-outs. The advantages of FPA cameras over infrared vidicon cameras for infrared reflectography include superior geometric properties, a wider and more even range of grey levels and better modular transfer

undertaken for every painting.¹² Except in cases of lifting paint or other problems with condition, detailed tracings of the painted compositions were made onto transparent film.¹³ Superpositions of these tracings were photographed by the author on a light box at IRPA; a certain number of the smaller images were also scanned directly onto computer and overlaid using Adobe Photoshop, which enabled the allocation of different colours to the two tracings being compared.¹⁴ For certain paintings, the taking of selected cross-sections was permitted. Certain of these were analysed by scanning electron microscopy in addition to the optical microscope.¹⁵ Dendrochronology was conducted on selected panels, depending on the condition and suitability of the edges of the panel for analysis and the agreement of the owner.¹⁶

Each method of examination is useful to the study in a different and complementary way. Microscopic examination gives clues as to the build-up and number of paint layers as well the order in which the various motifs were painted. Likewise, cross-sections provide detailed information as to the stratigraphy of the ground, *imprimatura*, underdrawing and paint layers, and when associated with scanning electron microscopy, can help indicate the pigments employed at each stage. Infrared reflectography, as well as revealing any carbon-based underdrawing, shows reserves in dark, infrared-absorbing paint and highlights the brushwork in a carbon-containing *imprimatura*. Although in other artists' work x-radiography is often used to look for changes during the evolution of the paint layer, in the case of Brueghel the Younger, who normally copies precisely the work of others and does not change his compositions during painting, x-rays are examined to spot reserves in light areas of paint and the presence or absence of a lead-white containing *imprimatura*. Detailed photography, mostly in raking light, highlights brushwork techniques as well as providing comparative material for stylistic analysis. As tracings of the painted composition represent fairly accurately the underdrawing, due to Brueghel's strict adherence to his drawing during painting, these can be used in cross-comparisons to establish the possible use of cartoons. Finally, dendrochronology provides vital clues as the *terminus post quem* of the execution of the painting, as well as giving information regarding the geographical origin of the wood employed in the manufacture of the panel.

1.2 Protocol for written text and illustrations

In Parts I and II, where paintings are discussed or mentioned, their supports will only be specified if they differ from wooden panels, for example if they are painted on copper, canvas or vellum. Regarding specific oeuvres, only list or catalogue numbers from Marlier, Ertz and the *Brueghel Enterprises* catalogue will be cited.¹⁷ To avoid repetition, background information and brief histories of specific materials or techniques, for example the application of a streaky *imprimatura* layer or the use of black chalk underdrawing will be given the first time a material or technique is observed, and referred back to in subsequent chapters. Paintings will be referred to as by Pieter Brueghel the Younger when they are considered to originate from his workshop, regardless of their quality or signature status. Paintings cited as 'after Brueghel the Younger' indicate paintings considered as executed outside of the workshop.

function giving improved visualisation of fine underdrawing lines (the advantages of PtSi cameras versus infrared vidicon technology are explained in WALMSLEY *et al.* 1994 and VAN DER WEERD *et al.* 2001).

¹¹ X-radiography was carried out by Guido Van de Voorde and the images processed by Van De Voorde with the help of Catherine Fondaire. X-radiography could not be done during the examination of paintings in the *Brueghel Enterprises* exhibition due to safety considerations since the laboratory was located in the centre of the show. For similar reasons, no x-radiography could be carried out in the private restorer's studio [cited note 4].

¹² Numerous IRPA photographers, including Jean-Luc Elias, Jean-Louis Torsin, Thierry Rolland and Jacques De Clerk contributed to on-site photography, development and printing. The author took the majority of the smaller details, most of them in raking light and they were developed and printed commercially (FNAC).

¹³ For this process, the painting was laid flat on the table and checked for flaking paint. If deemed safe, a sheet of relatively thick PVC film (0.2 mm) was laid over the painting's surface and securely attached to the table with tape to prevent movement during tracing. The outlines of the forms were made with a fine-tipped, permanent black felt marker pen for smooth surfaces.

¹⁴ The original tracings are stored at IRPA and are available to the jury on request.

¹⁵ Optical microscopy carried out by the author and scanning electron microscopy, associated with energy dispersive x-ray analysis (EDX) by Janka Sanyova at IRPA.

¹⁶ Except in two cases (Pieter Brueghel the Younger, *Census at Bethlehem*, Brussels version; Pieter Bruegel the Elder: *Winter Landscape with Bird Trap*), where dendrochronology was carried out by Joseph Vynckier at IRPA, all dendrochronological analysis and interpretation was undertaken by Pascale Fraiture, Laboratoire de Dendrochronologie, Groupe interdisciplinaire d'Archéométrie, University of Liège.

¹⁷ MARLIER-FOLIE 1969, ERTZ 2000, CAT. MAASTRICHT-BRUSSELS 2001. The reader is referred to these three works for provenance and exhibition histories.

Biography

The standard biographies of the artist are by Georges Marlier and Jacqueline Folie.¹⁸ Pieter Brueghel the Younger was born in 1564 or in the first months of 1565, probably in Brussels, where his parents lived. As no records of his baptism exist, the date is calculated based on his own declarations on 22 May 1601 that he was 36 years old and on October 10 1636 that he was 72.¹⁹ He was the eldest child of Pieter Bruegel the Elder and Mayken Coeck. He had a brother, Jan, who also became a celebrated painter, and a sister, Marie. On his father's death in 1569, when he was only four or five, his mother, Mayken Coeck may have gone to live with her mother, Mayken Verhulst, second wife of the celebrated artist Pieter Coeck van Aelst and also an artist.²⁰ After Mayken Coeck's early death in 1578, Mayken Verhulst took charge of her grandchildren and moved to Antwerp, perhaps with the intention of exposing them to its thriving artistic milieu.²¹ In his *Schilder-Boeck* of 1603-4, Karel Van Mander relates that Mayken Verhulst taught watercolour painting to her grandson Jan Brueghel.²² Although he does not mention Pieter in this context, it is probable she taught him too.²³ It is also known from Van Mander that Pieter was apprenticed to a Gilles van Coninxloo in 1579 or 1580 at the age of 14 or 15. While Van Mander assumes that this artist was the famous landscape painter, there was also a painter in the Coeck family bearing the same name that Mayken Verhulst may have alternatively chosen for her grandson's artistic training.²⁴ If Van Mander is correct in that Brueghel the Younger studied with Gillis van Coninxloo the landscapist, then the apprenticeship must have finished in or before 1585, when the latter left Antwerp for Germany.

In 1584-5 Pieter Brueghel the Younger was registered at the Guild of Saint Luke in Antwerp as a 'meestersson' (master's son) under the name 'Peeter Brugel'.²⁵ He ran an active studio, as the registers of the Guild of Saint Luke in Antwerp mention nine apprentices as having passed through. The guild registers record the entry of Franchois de Grooten in 1588, Fransken Snyders and Hans Tripou in 1593, an unnamed pupil in 1596, Andries Daniels in 1599, Hans Garet in 1608, Jasper Breydel in 1611, Gillis Placquet in 1615 and Gonzalès Cocques in 1626 or 1627.²⁶ His eldest son Pieter, born in 1589 after his 1588 marriage to Elizabeth Goddelet probably also studied with him before registering at the Guild of Saint Luke in 1608 as 'meestersson'.²⁷ The dates of entry of students suggest he is likely to have accommodated one or two students at a time, each remaining with him for a few years before setting up their own independent practices or working as journeymen. Ex-apprentices may also have remained in Brueghel's studio as journeymen – whose names were not required to be registered – because it was quite expensive to register at the guild as an independent master for candidates whose father was not a guild member.

There is some debate as to what Brueghel produced and where he was between his registering at the guild in 1584-5 and 1593, the year of his first dated painting. Since nothing is known about Brueghel during this period apart from his taking-on of apprentices, few scholars have elaborated on the issue. Ertz has suggested he may have travelled, in order to see his father's works abroad first hand.²⁸

The exact year of Brueghel's death is not known but it must have been during the academic year of 1637-8 as in 1638 his name appears in the registers of the Guild of Saint Luke under the section concerning funerary debts.²⁹ He would have been 73 or 74. He appears to have worked right up to his death as two of his paintings are dated 1636, although Ertz doubts the authenticity of one of these.³⁰

Georges Marlier pointed out that despite Brueghel's prodigious output, he was not particularly successful financially as he never owned his own house and in 1612 sold his part of the inheritance from his maternal grandfather Pieter Coeck van Aelst to his more successful brother Jan. This view is somewhat tempered by

¹⁸ MARLIER-FOLIE 1969, pp. 3-9; FOLIE 1980, pp. 137-8; FOLIE 1993, pp. [1-7] and FOLIE 2001a, pp. 44-5.

¹⁹ MARLIER-FOLIE 1969, p. 4.

²⁰ There are no documents to support this supposition. Marlier relates that at the end of the nineteenth century, Jos van den Branden wrote that at the death of Bruegel the Elder, his widow went live with Mayken Verhulst with her three children and that Mayken Verhulst took on the artistic education of her grandsons (*Ibidem*, p. 4).

²¹ *Ibidem*, p. 5.

²² MIEDEMA 1994-9, vol. 1 (1994), p. 194, fol. 234r.

²³ MARLIER-FOLIE 1969, p. 4.

²⁴ Marlier relates that Van Mander did not know of the existence of the other Gilles van Coninxloo, who was a member of the family of Peter Coeck d'Alost. All that the archives contain regarding this particular artist is that he was born around 1540 and was still alive in 1562 (*Ibidem*, pp. 5-6).

²⁵ ROMBOUITS and VAN LERIEUS, vol. I, p. 292.

²⁶ *Ibidem*, pp. 328, 373, 374, 395, 408, 451, 478, 517, 635.

²⁷ *Ibidem*, p. 448.

²⁸ ERTZ 1998, p. 20.

²⁹ MARLIER-FOLIE 1969, p. 9.

³⁰ These paintings are a *Kermis of Saint Sebastian*, 43 x 69 cm, canvas, signed and dated 'P. BREVGHEL 1636', Vienna, Gallery Friederike Pallamar (*Ibidem*, pp. 40 and 387-8, fig. 239; ERTZ 2000, cat. A1293) and a *Sermon of Saint John the Baptist*, approx. 110 x 165 cm, 1636, Esslingen/Neckar, coll. Dr. G. Armbruster (personal communication by J. Folie; ERTZ 2000, cat. E335).

Natasja Peeters' recent analysis of Brueghel's financial transactions and social circumstances, which concludes that although he had to raise cash at times, it was sometimes for the benefit of other family members and that at the end of his life, and probably from around 1616 he lived in an affluent quarter of Antwerp, close to Rubens and his brother Jan.³¹

³¹ PEETERS 2002 (forthcoming).

The Literature

Karel Van Mander, the celebrated chronicler of Flemish art, made the first literary references to Pieter Brueghel the Younger in his 1603-4 *Schilder-Boeck*. In his section on Bruegel the Elder, he states: ‘Hij liet nae twee sonen/die mede goede Schilders zijn/den eenen Pieter geheeten/leered by Gilles van Coninxloo, en is een Counterfeyter nae t’leven’ [he left behind two sons who are also good painters. The one, called Pieter, trained with Gillis van Coninxloo and is a portraitist after life].³² Later, he corrects this statement in the appendix: ‘Hier is my qualijck bericht/dat den jongen Pieter Bruegel nae t’leven conterfeyt: want hy veel zijns Vaders dinghen seer aerdigh copieert en naedoet [Here I was wrongly informed that the young Pieter Bruegel paints portraits, for he mostly copies and imitates very subtly the works of his father].³³ It should be remembered that at the date when Van Mander was writing, Brueghel the Younger was not yet inventing his own compositions. This only occurred around 1619, with the production of genre paintings of peasant themes in a Bruegelian style that pay homage to, but do not reproduce exactly works by Bruegel the Elder. In 1630-31, an inscription under Van Dyck’s etched portrait of the artist describes the artist as an ‘ANTVERPIÆ PICTOR RVRALIVM PROSPECTVVM’ [Antwerp painter of rural views], reflecting Brueghel’s later development as an inventor of images (see frontispiece).³⁴

The most significant art historical study of the œuvre of Peter Brueghel the Younger remains Georges Marlier’s seminal work, *Pierre Brueghel le Jeune*, 1969, annotated and edited by Jacqueline Folie.³⁵ This account brilliantly introduces and develops the key issues surrounding the artist and has yet to be matched. His clear and logical divisions of Brueghel the Younger’s work into copies after known paintings by Bruegel the Elder, copies by presumed lost works by Bruegel the Elder, copies after works of other artists, notably Pieter Balten, Martin van Cleve and David Vinckboons and lastly, Brueghel the Younger’s original compositions instil some sense of order into the diverse series’ of paintings attributed to the artist. As will become clear during the current technical analysis, many of Marlier’s opinions and hypotheses will be proved correct. It is only to be regretted that Marlier died before finishing his manuscript; his opinions on the *Peasant Lawyer* series in particular would surely have been pertinent, as well as his views on Brueghel the Younger’s purported surviving drawings.

For its lists, provenances and illustrations of unknown and previously unpublished paintings, Klaus Ertz’s comprehensive catalogue, *Pieter Brueghel der Jüngere 1564-1637/38. Die Gemälde mit kritischem Oeuvrekatalog*, 1988/2000³⁶ is extremely valuable;³⁷ moreover, Ertz’s opinions on the authenticity and style of individual works, usefully detailed under each catalogue entry form a basis for further investigation and will be quoted where relevant in the current account.³⁸ He classifies works as either by the hand of the master (E), doubtful (F) or executed outside of the Brueghel workshop (A).³⁹ Works Ertz has seen in person are given an asterisk beside the catalogue number and ones he has only viewed via poor reproductions are given an ‘F’ classification. He controversially deattributes certain of the ‘original’ versions by Bruegel the Elder, for example, the *Winter Landscape with Bird Trap* (Brussels), *Peasant Wedding Dance* (Detroit) and *Adoration of the Magi* (Winterthur) and casts doubts on the authenticity of *Sermon of Saint John the Baptist* (Budapest).⁴⁰ Certain factual information can be challenged, for instance his assertion that Pieter van der Heyden’s engraving of the *Wedding Dance in the Open Air* was executed in 1560,⁴¹ despite the fact that most authors place it after the death of Bruegel the Elder.⁴² Themes introduced by Marlier are expanded upon in Ertz’s account, for example Brueghel’s relationship with the work of Martin Van Cleve, David Vinckboons and Pieter Balten; others are introduced for the first time, such as Brueghel’s occasional collaborations with Frans Franken the Younger and Joos de Momper and the influence of Gillis Mostaert, Jacob Grimmer and Nicholas Baullery on certain of his compositions. Ertz’s catalogue entries for the 1997-9 exhibition in Essen, Vienna, Antwerp and Cremona, *Breughel-Brueghel. Pieter Breughel le Jeune (1564-1637/8) – Jan Brueghel l’Ancien (1568-1625)*.

³² Van Mander’s original text and translation in MIEDEMA 1994-9, vol. 1 (1994), pp. 194-5, fol. 234r.

³³ *Ibidem*, Appendix, p. 462 (fol. 234.a.reg.7). In Miedema’s notes, he says that the misunderstanding arose from the term ‘conterfeyten’ which can mean both the ‘copying’ of faces from life and the copying of existing works (MIEDEMA 1994-9, vol. III (1996), p. 266).

³⁴ FOLIE 2001a, p. 45. Another state of this engraving inserts ‘ACTIONVM’ [activities] in place of ‘PROSPECTVVM’. This is illustrated in ERTZ 1998, p. 13 and listed in MAUGUOY-HENDRICKX 1991, vol. 1, p. 103. The word ‘actionum’ better describes Brueghel’s own compositions which are clearly genre scenes, the emphasis laid on people rather than their landscape backgrounds.

³⁵ MARLIER-FOLIE 1969. This succeeded closely Marlier’s equally respected monograph, *La Renaissance flamande. Pierre Coeck d’Alost* (Brussels, 1966).

³⁶ It is strange that the monograph is dated 1998/2000 – perhaps the book was finished in 1998 but the year of publication delayed for other reasons. For the thesis, the monograph is cited as ‘ERTZ 2000’, the year during which the publication went on sale.

³⁷ For an insightful critical review of this book, see FOLIE 2001b.

³⁸ ERTZ 2000.

³⁹ E = eigenhändig; F = fraglich; A = abzuschreiben. *Ibidem*, p. 22.

⁴⁰ Jacqueline Folie expresses her disagreement with Ertz’s views on the *Winter Landscape with Bird Trap* and *Adoration of the Magi* in her review of Ertz’s book (FOLIE 2001).

⁴¹ ERTZ 2000, p. 696.

⁴² For discussion of this engraving and its dating, see Chapter VII, Section 13.1.6.d and notes 405, 993, 996 and 999.

Une famille de peintres flamands vers 1600 summarise the opinions laid out in his 1998/2000 monograph.⁴³ The introductions to the 1998 catalogue and the 2000 monograph are almost identical.

Insightful art historical commentary on Brueghel the Younger prior to Marlier started with Georges Hulin de Loo in a book published jointly with René Van Bastelaer on Bruegel the Elder in 1907.⁴⁴ Although he did not recognise Brueghel's achievement as greater than that of a copyist, Hulin de Loo makes some pertinent comments regarding his workshop and rightly points out that Brueghel turned out copies after works of artists other than Bruegel the Elder, such as Martin van Cleve⁴⁵ and Hans Sebald Beham.⁴⁶ Almost thirty years on, Gustav Glück's introduction in the Pieter de Boer Gallery exhibition catalogue, *De Helsche en de Fluweelen Brueghel*, 1934 argues the case for Brueghel the Younger as an artist in his own right, rather than as a mere copyist of his father, citing several works in the exhibition where the composition was invented by the younger master and pointing out the differences between Brueghel the Younger's and Bruegel the Elder's approaches to painting.⁴⁷

In 1969, the same year as Marlier's important monograph came out, Robert Finck, the publisher of the latter dedicated an exhibition to the artist entitled *Trente-trois tableaux de Pierre Brueghel le Jeune dans les collections privées belges*.⁴⁸ The catalogue to this exhibition draws attention to Brueghel the Younger's original inventions and distinguishes them from copies made after his father's paintings. Since 1969, several interesting contributions have appeared. In 1976, Hélène Mund's account on Brueghel the Younger's copies of the *Flemish Proverbs* introduces a previously unknown version of the composition and situates it in the context of Bruegel the Elder's original version and Brueghel the Younger's copies.⁴⁹ Françoise Van Hauwaerts's unpublished *mémoire de licence*, *Pierre Brueghel le Jeune (1564 – 1638) et la copie aux Pays-Bas*, 1977 is dedicated to the artist, and treats several works in depth.⁵⁰ She published the essential points of her *mémoire* in two articles, *La copie chez Pierre Brueghel le Jeune*, 1978 and *La véritable signature de Pierre Brueghel le Jeune: son dessin sous-jacent*, 1985.⁵¹ Jacqueline Folie's introductory essay on Brueghel the Younger in *Bruegel – Une dynastie de peintres*, 1980⁵² (reprinted in the brochure for the exhibition, *Pieter Brueghel de Jonge*, Bonnefantenmuseum, 1993)⁵³ succinctly outlines the biography of Brueghel the Younger and presents the main points of interest regarding the artist. Her catalogue entries summarise the literature concerning individual works in the exhibition. In 1993, Hélène M. Verougstraete and Roger A. Van Schoute presented a paper entitled *The Triumph of Death by Pieter Bruegel the Elder and Pieter Brueghel the Younger* at the bi-annual conference for the study of underdrawings in works of art.⁵⁴ This was followed up by an important set of essays dedicated to a newly discovered version of Brueghel the Younger's *Triumph of Death* in which Verougstraete and Van Schoute's account was reprinted.⁵⁵ Amongst the other contributions in this short but illuminating publication, there is a revealing joint study by Françoise Van Hauwaert and Jacqueline Folie on copies of the *Triumph of Death* by Peter Brueghel the Younger and Jan Brueghel the Elder.⁵⁶ In the same collection of articles, Molly Faries gives an interesting analysis of the underdrawing of Cleveland version of *The Triumph of Death*, while Nicholas Eastaugh presents a brief scientific analysis of the painting.⁵⁷ A catalogue accompanying an exhibition of paintings from the Coppée collection, *The World of Bruegel* was published in Japan in 1995 and includes many works by Brueghel the Younger although the catalogue entries do not add anything new to the body of knowledge on the artist.⁵⁸ In 1997, at the biennial conference for the study of the technique and underdrawings of paintings, Susan Urbach presented an infrared study of Bruegel the Elder's *Sermon of Saint John the Baptist* as part of her communication, 'Research report on examinations of underdrawings in the Museum of Fine Arts, Budapest. Part III', and made some useful suggestions as to the transfer technique used by Brueghel the Younger in his copies of the same composition.⁵⁹ In 1999, at the following conference in the aforementioned series, Hélène Verougstraete and Roger Van Schoute presented an interesting account of the painting technique

⁴³ ERTZ 1998. This catalogue also appeared in German, Dutch and Italian.

⁴⁴ VAN BASTELAER and HULIN DE LOO 1907.

⁴⁵ For example, the medium format version of *Massacre of the Innocents*, *Ibidem*, pp. 244, 378. See Section 5.1 and note 91.

⁴⁶ See Section 5.1, note 105.

⁴⁷ GLÜCK 1934.

⁴⁸ CAT. FINCK 1969.

⁴⁹ MUND 1976.

⁵⁰ VAN HAUWAERT 1977.

⁵¹ VAN HAUWAERT 1978 and 1985.

⁵² FOLIE 1980.

⁵³ FOLIE 1993.

⁵⁴ VEROUGSTRAETE and VAN SCHOUTE 1993.

⁵⁵ CORCORAN 1995.

⁵⁶ VAN HAUWAERT-THOMAS and FOLIE 1995.

⁵⁷ FARIES, SHEPHERD and EASTAUGH 1995.

⁵⁸ Cat. Tobu 1995.

⁵⁹ URBACH 1999.

of a previously unknown version of Brueghel the Younger's *Winter* (from the series of the 'Seasons').⁶⁰ During the same conference, the present author revealed technical findings on a version of the *Wedding Dance in the Open Air*,⁶¹ and in 2000 presented a rediscovered version of the *Census at Bethlehem* during an interdisciplinary conference at Liège University.⁶² In the exhibition catalogue, *Masterpieces of Flanders' Golden Age, 2001*, Yoko Mori published a detailed comparative account of the work and lives of the two Brueghel brothers, with special attention paid to the likely copying techniques used in Pieter's workshop.⁶³

In October 2001, the *Brueghel Enterprises* catalogue appeared in conjunction with a ground-breaking exhibition on the techniques of Pieter Brueghel the Younger.⁶⁴ The catalogue includes essays on two important compositions treated by Brueghel the Younger, the *Flemish Proverbs* and *Census at Bethlehem*, by Rebecca Duckwitz and the present author respectively as well as a biography of the artist by Jacqueline Folie, an essay by Dominique Allart treating the question of whether Brueghel the Younger actually saw the works of his father, a short account by Pascale Fraiture on the dendrochronology of a selection of paintings in the exhibition and a concise summary by Suzanne Harleman of the literature regarding the four compositions represented, namely *Adoration of the Magi*, *Winter Landscape with Bird Trap*, *Census at Bethlehem* and *Peasant Lawyer*.⁶⁵

The most recent body of research on Brueghel the Younger was presented in June 2002 at a symposium to mark the end of the *Brueghel Enterprises* exhibition. The proceedings will be published in the second half of 2003.⁶⁶ New information on Brueghel's family and social standing was presented by Natasja Peeters, technical research on Brueghel's copies of the *Adoration of the Magi* and *Winter Landscape with Bird Trap* was discussed by Catharina Van Daalen and Astrid Smeets respectively, the examination and restoration of a version of the *Census at Bethlehem* was described by Katya Lewerentz, the results of pigment analysis of seven versions of the latter composition were revealed by Robert Fuchs and Dorothy Oltrogge and the conclusions of dendrochronological analysis were presented by Pascale Fraiture.⁶⁷ Hélène Verougstraete and Roger Van Schoute also gave a joint communication on colour symbolism in Bruegel the Elder and Brueghel the Younger's works.⁶⁸ Philip Vermeylen and Bruno Blondé treated the market for Brueghel's type of paintings in sixteenth-eighteenth century Antwerp through an examination of genre painting as mentioned in probate inventories.⁶⁹ Key discoveries from these oral communications will be cited during the current thesis where relevant to the discussion. At the same symposium, the present author presented a summary of her latest findings on the *Census at Bethlehem*, *Battle between Carnival and Lent*, *Wedding Dance in the Open Air*, *Adoration of the Magi* and *Winter Landscape with Bird Trap* in two papers; these are discussed in more depth in the current thesis.⁷⁰

Finally, the present author's curious discovery that a version of Brueghel the Younger's *Massacre of the Innocents* was painted over a painting by another artist was published in the 2002 issue of the *Revue belge d'archéologie et d'histoire de l'art*, which appeared in January 2003.⁷¹

⁶⁰ VAN SCHOUTE and VEROUGSTRAETE 1999. This presentation was not published in the proceedings.

⁶¹ CURRIE 2001a.

⁶² CURRIE 2002a.

⁶³ MORI 2001.

⁶⁴ CAT. MAASTRICHT-BRUSSELS 2001-2.

⁶⁵ This catalogue has received favourable commentary in peer reviews, see for example, HONIG 2002, BILLINGE 2002, SEREBRENNIKOV n.d., BÜTTNER 2002, VÖHRINGER 2002.

⁶⁶ BRUEGHEL ENTERPRISES SYMPOSIUM 2002 (forthcoming).

⁶⁷ PEETERS 2002, VAN DAALLEN 2002, SMEETS 2002, LEWERENTZ 2002, FUCHS and OLTROGGE 2002, FRAITURE 2002 (all forthcoming).

⁶⁸ VAN SCHOUTE and VEROUGSTRAETE 2002 (forthcoming).

⁶⁹ VERMEYLEN and BLONDÉ 2002 (forthcoming). The economic and social conditions that favoured the development of large workshops mass-producing copies such as Brueghel's is a subject in its own right and is not treated in this thesis. The theme is treated elsewhere by Vermeylen (VERMEYLEN 2001) and by others including Elizabeth Honig (HONIG 1999) and Maryan Ainsworth (AINSWORTH 1998b).

⁷⁰ CURRIE 2002c-d (forthcoming).

⁷¹ CURRIE 2002b. See also Chapter IX, Section 15.2.2.

Pieter Brueghel the Younger's oeuvre

Marlier classified Brueghel the Younger's production, not only according to subject matter as in Ertz's monograph but into larger divisions according to the origin or inventor of the particular image. These categories still provide the most useful starting point for sorting the vast and varied output of Brueghel the Younger's workshop. Marlier himself was not always sure of his classifications, but lays out well-reasoned arguments for and against his final choices and cites the opinions of earlier authors such as Glück, Hulin de Loo and Friedländer.

4.1 Works after Bruegel the Elder

Marlier's first category comprises those works copied after extant paintings, drawings or engravings by Pieter Bruegel the Elder. This section is subdivided into smaller groups: Brueghel the Younger's first large compositions, comprising the *Sermon of Saint John the Baptist*, *Census at Bethlehem* and *Massacre of the Innocents*;⁷² the two different versions of the *Adoration of the Magi*;⁷³ small and large format biblical scenes, namely *Christ and the Adulterous Woman*, *Death of the Virgin*, *Tower of Babel* and *Conversion of Saint Paul*;⁷⁴ works with a philosophical inspiration, comprising the *Triumph of Death*, *Works of Charity*, *Parable of the Blind* and *Battle between Carnival and Lent*;⁷⁵ the *Flemish Proverbs*, including the large format version and the many small format roundels;⁷⁶ scenes of peasant weddings, including the *Bridal Procession*, *Wedding Feast*, *Peasant Wedding Dance*, *Wedding Dance in the Open Air* and *Wedding Dance in an Interior*;⁷⁷ landscapes and rustic scenes, namely *Kermis at Hoboken*, *Kermis of Saint Georges*, *Four Seasons* and *Winter Landscape with Bird Trap*.⁷⁸ In the case of the *Four Seasons*, only two, *Spring* and *Summer* are based on engravings by Pieter van der Heyden made after extant drawings by Bruegel the Elder; the other two, *Autumn* and *Winter*, are copied after engravings, probably by Pieter van der Heyden after Hans Bol.

4.2 Works after lost paintings by Bruegel the Elder

Marlier's second category includes paintings taken after known or presumed to be lost works by Pieter Bruegel the Elder. The first chapter treating this category is dedicated to paintings Marlier considers definitely taken after lost works by Bruegel the Elder and includes four compositions: *Visit to the Farm*, *Shepherd Fleeing the Wolf*, *Peasants Quarrelling over a Game of Cards* and *Couple Attacked by Bandits*.⁷⁹ The second chapter is given to works for which Marlier considered the possibilities of Bruegel the Elder, Brueghel the Younger and in the case of one work (a kermis scene), Pieter Balten as inventor of the image; works discussed are *Christ Carrying the Cross*, *Crucifixion*, *Kermis with Theatre and Procession* and the small format version of *Battle between Carnival and Lent*.⁸⁰

4.3 Works after other artists

Marlier's third category brings together paintings taken after the work of artists other than Bruegel the Elder and is subdivided into three further sections on the relationship of Brueghel with Pieter Balten, Martin van Cleve and David Vinckboons.⁸¹ Compositions considered by Marlier to be taken after Pieter Balten include the *Adoration of the Magi* (large format version), *Wine of Saint Martin* and *Conversion of Saint Paul*;⁸² several kermis scenes, plus a composition of peasants warming themselves in front of the hearth, were also to be included by Marlier in this section but he died before he could complete it.⁸³ Images considered taken after Van Cleve inventions comprise the medium format version of *Massacre of the Innocents*, a series of five small paintings treating the theme of a peasant wedding and *Feast of the Kings*.⁸⁴ David Vinckboons' ties to Brueghel the Younger could not be completed by Marlier but he had intended to treat the links between the two artists' works in their respective versions of the *Hurdy-Gurdy Player* and *Infant Wedding*.⁸⁵

⁷² MARLIER-FOLIE 1969, pp. 47-75.

⁷³ *Ibidem*, pp. 77-85.

⁷⁴ *Ibidem*, pp. 87-101.

⁷⁵ *Ibidem*, pp. 103-19.

⁷⁶ *Ibidem*, pp. 121-68.

⁷⁷ *Ibidem*, pp. 169-211.

⁷⁸ *Ibidem*, pp. 213-51.

⁷⁹ *Ibidem*, pp. 255-78.

⁸⁰ *Ibidem*, pp. 279-312.

⁸¹ Hulin de Loo was the first to point out that Pieter Brueghel the Younger copied models from artists other than his father (VAN BASTELAER and HULIN DE LOO 1907, p. 353).

⁸² MARLIER-FOLIE 1969, pp. 315-29.

⁸³ *Ibidem*, pp. 329-32.

⁸⁴ *Ibidem*, pp. 333-57.

⁸⁵ *Ibidem*, pp. 365-71.

4.4 Original inventions by Brueghel the Younger

Marlier's fourth category consists of a group of compositions he considered to be original inventions of Brueghel the Younger. This is also divided amongst smaller sections: weddings and kermises, including the *Village Scene with Wedding Feast in the Open Air*, *Kermis of Saint George*, *Kermis of Saint Sebastian*, *Peasants at Table in the Open Air*, *Return from the Kermis* and *Dance around the Maypole*⁸⁶ and other rustic scenes including *Inn of Saint Michael* and *Peasant's Meal*.⁸⁷ Marlier's manuscript finishes at this point; fortunately, Folie included Marlier's lists and figures of compositions he had intended for this final section which were to be part of a chapter on landscapes and another on assorted scenes and figures.⁸⁸ These compositions are discussed in Ertz's monograph.

4.5 Drawings

Marlier's intended chapter on drawings after Bruegel the Elder, of which several have been attributed to Brueghel the Younger was never written. Nonetheless, for the last chapter of his monograph, Folie assembled a list of drawings that Marlier was going to discuss, including brief commentaries gleaned from the latter's papers. Ertz does not dedicate a chapter to drawings either, but discusses and illustrates relevant drawings throughout his text.

Ertz's monograph of 2000 catalogues and comments upon large number of versions of the above paintings, including many not listed by Marlier. He also discusses copies of compositions that do not figure in Marlier's book, for instance, two previously unknown versions by of the *Magpie on the Gibbet*, after Bruegel the Elder's original version in the Hessisches Landesmuseum, Darmstadt.⁸⁹

⁸⁶ *Ibidem*, pp. 375-410.

⁸⁷ *Ibidem*, pp. 411-18.

⁸⁸ *Ibidem*, pp. 418-45.

⁸⁹ ERTZ 2000, cats. E1367 and F1374.

Status Quaestionis

There are a number of issues regarding Brueghel the Younger's work and workshop that have attracted the attention of researchers. Several amongst them are particularly pertinent for the present study. Although inevitably overlapping in places, it is clearest to treat each question one at a time.

5.1 Models for Brueghel's copies

The issue of models has always been an intrinsic part of any commentary on Brueghel the Younger's production, starting with Hulin de Loo in 1907. Indeed, it was the latter historian who first suggested that the model for Brueghel's medium format *Massacre of the Innocents* composition was not a painting by Bruegel the Elder, but a lost work by Martin van Cleve.⁹⁰ This hypothesis was proved correct in 1965 when a preparatory drawing for the composition was published, inscribed 'Van Cleef' in the lower left.⁹¹

Where Marlier's manuscript is incomplete and a particular composition untreated, later historians have taken up the search to identify the original model, for example in the case of the *Peasant Lawyer* series. That this strange image is clearly not based on a prototype by Bruegel the Elder is agreed upon by all researchers; the identification of its model has proved to be more elusive. Folie, Krueger and later Ertz have all proposed theories as to the school of painting responsible.⁹²

As well as paintings by Bruegel the Elder and other artists, Brueghel may also have copied drawings. Drawings by Bruegel the Elder, either in the form of preparatory studies, cartoons, or drawings specifically for engravings as well as tracings taken after his works have been variously suggested as the original models for certain compositions. Although Hulin de Loo already implied that drawings might have served as models for certain works,⁹³ Marlier was the first to hypothesise that Pieter and Jan Brueghel may have used tracings of their father's paintings: 'on peut se demander si les fils ne se sont pas servis de décalques. Ceci expliquerait l'identité des formats, de la composition, du dessin jusque dans les moindres détails et aussi que les seules différences se limitent à certaines couleurs, celles des vêtements entre autres. Il est probable que le copiste notait les couleurs sur son décalque, mais il va de soi qu'il pouvait omettre d'en noter certaines.'⁹⁴ In the case of the *Conversion of Saint Paul*, Marlier attributes differences in colour and motif between the copy he studied and the original version to the son's not having seen the original painting, relying instead on drawings.⁹⁵ In 1977, Van Hauwaert argued in favour of a lost drawing by Bruegel the Elder for Van der Heyden's engraving as model for Brueghel the Younger's *Wedding Dance in the Open Air*.⁹⁶ Van Hauwaert and Folie's 1995 study of various copies by Jan and Pieter Brueghel of the *Triumph of Death* concluded that both brothers probably copied a now-lost drawing of the original painting by Bruegel the Elder as model for their respective versions of the scene.⁹⁷ In 1997, Urbach tentatively suggested that Brueghel the Younger might have employed cartoons inherited from his father as model for the main figures in the *Sermon of Saint John the Baptist*, although she stressed that practical research on the original version and several copies would be needed to substantiate her theory.⁹⁸ Parallel research published in 2001 by Duckwitz and the current author on the *Flemish Proverbs* and *Census at Bethlehem* series' respectively reached very similar conclusions: for these two compositions, Brueghel the Younger most likely used preliminary drawings by Bruegel the Elder as models rather than the final paintings.⁹⁹

Engravings after works by Bruegel the Elder have also been proposed as the original models for several compositions. Various authors discuss a Van der Heyden engraving after Bruegel the Elder as the possible model or at least an influence on Brueghel's *Wedding Dance in the Open Air*,¹⁰⁰ Marlier describes how the *Works of Charity* is taken after an engraving after a design from the series of *Virtues* by Bruegel the Elder¹⁰¹ and Verougstraete and Van Schoute suggest that Brueghel the Younger's versions of the *Triumph of Death* also may

⁹⁰ VAN BASTELAER and HULIN DE LOO 1907, p. 244. Hulin de Loo suggests the original might possibly be a painting he saw briefly: 'il se pourrait que l'original fût le tableau du château de Beusdael, que nous n'avons vu que rapidement, au cours d'une visite' *Ibidem*, p. 378 [It is possible that the original is the painting in the Beusdael château that we only saw rapidly, during a visit].

⁹¹ Martin van Cleve, 22 x 35.7 cm, pen drawing, Göttingen, print room of the University (MARLIER-FOLIE 1969, pp. 333-4, fig. 200). The drawing was first published by Giorgio T. Faggini (FAGGIN 1965).

⁹² FOLIE 1993, no. 7; KRUEGER 1995, pp. 78-85; ERTZ 2000, pp. 493-500. This research is usefully summarised by Suzanne Harleman, in HARLEMAN 2001, pp. 173-5. See also Chapter VI.

⁹³ VAN BASTELAER and HULIN DE LOO 1907, p. 353.

⁹⁴ MARLIER-FOLIE 1969, p. 43 [one can wonder whether the sons didn't use tracings. This would explain the identical formats and the identical compositions down to the smallest details and also the fact that the only differences are limited to certain colours, for example in the draperies amongst others. It is probable that the copyist noted the colours on his tracing, but inevitably forgot to indicate some of them].

⁹⁵ MARLIER-FOLIE 1969, p. 101.

⁹⁶ VAN HAUWAERT 1977, 1978. See also Chapter VII for further discussion of this issue.

⁹⁷ VAN HAUWAERT-THOMAES and FOLIE 1995.

⁹⁸ URBACH 1999 (proceedings of oral communication in 1997). See Chapter III for full discussion of the issue.

⁹⁹ Duckwitz 2001, CURRIE 2001b. See Chapter I for in-depth discussion of this issue.

¹⁰⁰ See Chapter VII for discussion and literary references.

¹⁰¹ MARLIER-FOLIE 1969, pp. 107-111.

be based on a lost engraving by Bruegel the Elder.¹⁰² Saskia Beele also proposes that Brueghel the Younger's own invention, the *Kermis of Saint George*, was influenced by two engravings of kermis scenes after Bruegel the Elder.¹⁰³ Marlier cites engravings by Hans Bol as the models for two parts of Brueghel's *Seasons* series, *Autumn* and *Winter*.¹⁰⁴ Hulin de Loo also identifies an engraving by Hans Sebald Beham as the model for a complex, large format kermis composition.¹⁰⁵

As well as defining the type of original model used by Brueghel the Younger in his various copies, Marlier introduced the concept of the copy *princeps* in relation to compositions where he noticed fixed variants of motif between the original version and all the copies.¹⁰⁶ This implies that Brueghel would have made his first copy, or copy *princeps*, after the original painting or detailed drawing, and generated all the other copies in the series from the copy *princeps*.¹⁰⁷ He applies the theory of a copy *princeps* to a number of compositions, including the *Census at Bethlehem*,¹⁰⁸ *Bridal Procession*¹⁰⁹ and *Wedding Feast*.¹¹⁰ Ertz suggests a much more complex evolution for the paintings in the *Census* series, based on his observation of small differences in detail amongst the copies themselves: 'Beenden wir dieses 'Spiel', das sich natürlich noch weiter betreiben ließe, mit dem Fazit, daß Pieter II das Original des Vaters wahrscheinlich vor Augen hatte, daß er eine erste Kopie anfertigte und dann eine zweite, die teils auf dem Urbild und teils auf der ersten Kopie aufbaute, daß er dann eine dritte Kopie malte, etwas vom Urbild, von der ersten und zweiten nahm, um dann vielleicht seinem Atelier den Auftrag zu geben, eine vierte zu malen, die etwas vom Urbild, von der ersten, der zweiten und der dritten Kopie hatte usw. Irgendwann malte man auch einmal eine genaue Wiederholung. Vielleicht war das siebte Gemälde die Kopie der Kopie. So ähnlich wird man sich die Praxis vorstellen müssen.'¹¹¹ In neither the case of the *Bridal Procession*¹¹² nor the *Wedding Feast*¹¹³ does Ertz discuss the copy process or a possible evolution of the various versions.

5.2 Did Brueghel have access to his father's paintings?

Forming hypotheses on the models for Brueghel the Younger's copies would be much more straightforward if it were known for sure whether or not he had access to the original paintings.

Since Brueghel's copies of his father's work were made many years after the death of Bruegel the Elder, there is no guarantee he actually saw the original works. As Hulin de Loo points out, 'Il y a lieu de se demander aussi où Peeter II, qui travaillait à Anvers, trouvait les originaux de ses copies. Ceux-ci étaient déjà dispersés.'¹¹⁴ By the time the younger Brueghel started painting, most of his father's works were in private collections, some of them possibly abroad. Only one painting in colour, *Magpie on the Gallows*, 1568 (Darmstadt, Hessisches Landesmuseum) may still have been in the possession of the family, as Bruegel the Elder left it in his will to his wife.¹¹⁵ A small monochrome painting, *Christ and the Woman taken in Adultery*, 1565 (Courtauld Institute Galleries) was also owned by Jan Brueghel.¹¹⁶ It is likely that Brueghel the Younger had access to certain other works, but there is no documentary evidence to prove this for certain. The source documents that do exist relating to the possible whereabouts of Bruegel the Elder's paintings have been thoroughly re-examined for clues by Allart in her meticulous 2001 essay, 'Did Pieter Brueghel the Younger See his Father's Paintings? Some Methodological and Critical Reflections'.¹¹⁷

¹⁰² VEROUUGSTRAETE and VAN SCHOUTE 1995, p. 9.

¹⁰³ Siska Beele in ERTZ 1998, p. 408.

¹⁰⁴ MARLIER-FOLIE 1969, pp. 233-9.

¹⁰⁵ *Village Kermis*, signed, 'P. BRUEGHEL 1616' (Augsbourg, Gemäldegalerie, inv. 5012). On this painting, Hulin de Loo comments 'C'est une copie, peinte avec altération des proportions et changements dans le paysage, d'après la gravure de H. S. Beham (dont le 2ème état daté de 1535)' VAN BASTELAER and HULIN DE LOO 1907, p. 382 [It is a copy, painted with an alteration of the proportions and changes in the landscape, after the engraving of H. S. Beham (the 2nd state dating from 1535)]. Ertz also makes this link and illustrates Beham's woodcut from 1539 (ERTZ 2000, pp. 852-61, fig. 681).

¹⁰⁶ See Section 5.9, 'Variants and variations amongst copies'.

¹⁰⁷ MARLIER-FOLIE 1969, pp. 64-5.

¹⁰⁸ *Ibidem*, pp. 64-6.

¹⁰⁹ *Ibidem*, p. 175.

¹¹⁰ *Ibidem*, p. 180.

¹¹¹ ERTZ 2000, p. 292 [It is very possible that he traced the first copy from the work of the father, then made a second copy based partially on the first copy and partially on the original. It could then have painted a third copy, taking again elements from the original version, and from the first and second copies. Then he would have given the responsibility to his studio to execute the fourth copy, which would have reunited in its turn elements from the previous works, and so on and so forth. A copy *princeps* would have been painted at some point. It was probably the seventh painting, a copy of a copy. This is more or less the way to view the sequence of things].

¹¹² *Ibidem*, pp. 633-40.

¹¹³ *Ibidem*, pp. 646-58.

¹¹⁴ VAN BASTELAER and HULIN DE LOO 1907, p. 353 [It is worthwhile to consider as well whether Pieter II, who worked in Antwerp, found the originals of his copies. These were already dispersed].

¹¹⁵ MIEDEMA 1994-9, vol I (1994), pp. 193-4, fol. 234rv02.

¹¹⁶ MARLIER-FOLIE 1969, p. 42.

¹¹⁷ ALLART 2001.

5.3 Did Brueghel inherit drawings or other preparatory material from the paternal workshop?

No source documents mention whether or not Brueghel the Younger owned drawings by his father that may have guided him in the creation of the copies. Marlier suggests that Brueghel's artist grandmother, Mayken Verhulst probably retained drawings and other working documents from Bruegel's studio which she later gave to her two grandsons, Pieter and Jan.¹¹⁸ Allart, in her essay on whether or not Brueghel the Younger saw his father's paintings points out that as an artist herself, and widow of another successful painter (Pieter Coeck van Aelst), Verhulst would have appreciated the practical worth of such material to her grandsons if they were to earn a living continuing the Bruegel tradition.¹¹⁹ Lorne Campbell, discussing studio practice in the fifteenth century, emphasises how 'patterns' (designs and papers) were considered very precious documents and were passed down from father to son or childless master to favourite pupil; he cites the famous dispute between Ambrosius Benson and Gerard David of 1519-20, over the ownership of 'different projects of patterns (projectiën of patronen) pertaining to the painter's or illuminator's crafts; a small book full of heads and nude figures; various patterns (patronen) [...] and still other patterns (patroonen)...'.¹²⁰ It is unlikely that such attitudes towards workshop material would have changed much by Bruegel the Elder's time.

Unfortunately, no preparatory drawings for Bruegel the Elder's major compositions has survived and, as far as it is known, no detailed engravings were made after his large-scale works. The extent of the loss to Bruegel the Elder's drawn oeuvre is discussed in a sub-section of a recent essay on Bruegel's drawings by Martin Royalton-Kisch entitled 'The Corpus as Fragment'.¹²¹ He hypothesises that less than 1% of Bruegel's original corpus of drawings survives, suggesting that there must have been many more outdoor sketches, individual models from life and details of motifs for use in Bruegel's complex painted compositions.¹²² He cites the very few figure studies that have survived and laments the lack of a single extant sketch for any painting;¹²³ he does however, attribute a roughly executed landscape sketch to Bruegel which would represent a hitherto unknown side to Bruegel's drawn oeuvre.¹²⁴ He gives examples from the work of other artists such as Bosch, the Savery brothers and the Master of the Small Landscapes to illustrate the types of drawing Bruegel would have made himself but which have not survived. On the other hand, he points out that Bruegel the Elder's drawings made specifically for engravings have been preserved in considerable number; these would have passed directly to the engraver and would have been particularly prized by collectors.¹²⁵

It is possible that the majority of Bruegel's drawn oeuvre, rather than being sold off to collectors, passed down to his elder son Pieter Brueghel the Younger; for some unknown reason or event, this material has disappeared without trace. Allart rightly points out in her afore-mentioned essay that only the systematic technical examination of Brueghel the Younger's copies and the original versions can establish whether the son copied the original painted works or now-lost drawings left over from the paternal workshop.¹²⁶

5.4 Did Brueghel the Younger make drawings of his own?

As with Bruegel the Elder, it is almost certain that Brueghel the Younger had a large collection of drawings as part of his working stock. Again, it is useful to cite Campbell's comment on fifteenth century practice, equally applicable to the late sixteenth century: 'A valued and important part of any painter's equipment was his collection of patrons or drawn patterns. It is assumed that a young painter would have spent part of his apprenticeship and *compagnonnage* accumulating his own stock of patterns, perhaps mainly by copying his master's work. Many of the surviving Netherlandish drawings of the period, most of which are copies of paintings, may be from such collections of patterns. The patterns would have been used for reference and as samples to be shown to prospective clients.'¹²⁷ Brueghel the Younger may have made records of his presumed master Gillis van Coninxloo's work; however, in his self-appointed role as copyist of his father's paintings, he more likely concentrated on forming a personal collection of drawings of the paintings, drawings and graphical works of his father.

¹¹⁸ MARLIER-FOLIE 1969, pp. 41-2.

¹¹⁹ ALLART 2001, p. 55.

¹²⁰ CAMPBELL 1998, pp. 25, 27 and note 64. For this dispute, see also AINSWORTH 1998a, pp. 205-6.

¹²¹ ROYALTON-KISCH 2001, pp. 30-6.

¹²² *Ibidem*, p. 31.

¹²³ *Ibidem*, pp. 30-1.

¹²⁴ *Journey to Emmaus*, c. 1560, 24.4 x 37.3 cm, pen and grey and brown-grey ink, on permanent loan to Museum Boijmans Van Beuningen, Rotterdam, inv. N86 (CAT. ROTTERDAM-NEW YORK 2001, no. 83, p. 202).

¹²⁵ *Ibidem*, p. 31 and note 80.

¹²⁶ ALLART 2001, p. 55.

¹²⁷ CAMPBELL 1981, p. 53

Marlier's list of drawings in the final chapter in his monograph makes a useful starting point for a brief survey of the extant graphical material linked to Brueghel the Younger.¹²⁸ Ertz's illustrations are also useful in this respect; most of the drawings he attributes to Brueghel the Younger with a question mark.

Drawings attributed to Brueghel the Younger are even rarer than those given to his father, and their attribution is usually contested. Certain of them were previously considered to be by the hand of Bruegel the Elder, only to be later reinscribed to Brueghel the Younger.¹²⁹ The first drawing on Marlier's list is a *Study of the Chateau of Hoerzuylens, Utrecht* (fig. 735).¹³⁰ Marlier notes the signature and date in the lower right, 'P. BREVGHEL 1625' which he states appears genuine. On the image, he remarks, 'bon dessin, très lumineux. Technique pointilliste, économie de moyens.'¹³¹ The next four drawings on the list, *Adoring Shepherd* (fig. 738),¹³² *Beekeepers*,¹³³ *Three Pharisees*¹³⁴ and *Bagpipe Player*¹³⁵ carry no comments by Marlier as to their attribution. A *Study Sheet* appears next, which Marlier notes is a study for *Flemish Proverbs*, in the manner of Hieronymus Bosch; he does not give an opinion as to its attribution.¹³⁶ Three more drawings are listed without comment as regards attribution: *Group of Women*,¹³⁷ *Meal in the Open Air*¹³⁸ and *The Paralytic*.¹³⁹ Marlier's list finishes with a pen and watercolour drawing of *Dulle Griet (Mad Meg)*, (fig. 731).¹⁴⁰ He comments that the drawing is interesting but the attribution difficult.

Marlier also discusses and illustrates several drawings in other chapters of his book. For *Five Standing Men*, a drawing showing a group of figures that also feature in a painting of a *Wedding Dance* by Jan Brueghel the Elder and in a small *Village Scene* by Pieter Brueghel the Younger, Marlier considers an attribution to the latter plausible (fig. 741).¹⁴¹ Ertz on the other hand, thinks that *Five Standing Men* is too well-drawn to be by Pieter Brueghel the Younger, instead favouring his brother Jan's authorship.¹⁴² A complex compositional drawing depicting the *Adoration of the Magi* is firmly attributed to Brueghel the Younger by Marlier, who links it to the painting of the same theme on canvas from Philadelphia (fig. 729).¹⁴³ He also vouches for the authenticity of the drawing's inscription of 1595.¹⁴⁴ He links the drawing's style, particularly in regard to hatching to that of *Adoring Shepherd*. Ertz does not agree with this attribution, giving as his argument the somewhat dubious explanation the fact that Brueghel the Younger's painting of the same composition (Philadelphia version) was painted twenty years after the drawing, too long a time period to have stored a drawing without using it.¹⁴⁵

Marlier also mentions, but does not illustrate a drawing with colour inscriptions, showing three peasants at table in front of small theatre, part of the *Kermis with Theatre and Procession* composition.¹⁴⁶ Likewise, he describes a drawing of two houses, the motif forming part of the large-scale *Massacre of the Innocents*.¹⁴⁷ He muses that the latter drawing could be a working drawing by Bruegel the Elder or otherwise a notation by his son, in preparation for his copy.¹⁴⁸ He cites the opinion of Tolnay, who considered it a copy after a drawing by the elder

¹²⁸ MARLIER-FOLIE 1969, pp. 447-9.

¹²⁹ It is not the purpose here to give a thorough history of the changing attributions of drawings after Bruegel the Elder but to highlight the problem in relation to Brueghel the Younger through the commentaries of Marlier and Ertz. For further discussion on the attribution of drawings in the circle of Bruegel the Elder, the reader is referred to the accounts of René Van Bastelaer, Charles de Tolnay, Ludwig Münz, Roger H. Marijnissen, Hans Mielke, Martin Royaltton-Kisch and the 2001 Rotterdam-New York exhibition catalogue of Bruegel's drawings and prints (VAN BASTELAER and HULIN DE LOO 1907, TOLNAY 1952, MÜNZ 1961, MARIJNISSEN 1988, MIELKE 1996, ROYALTON-KISCH 2001, CAT. ROTTERDAM-NEW YORK 2001).

¹³⁰ 15.4 x 20 cm, pen and wash, Paris, Musée du Louvre, Cabinet des Dessins, inv. 19735.

¹³¹ MARLIER-FOLIE 1969, p. 227, fig. 291 [good drawing, full of light. 'Pointillist' technique, economy of style].

¹³² *Adoring Shepherd*, 29.2 x 19.5 cm, pen and brown ink, signed in lower left, 'BRVEGHEL', Budapest, Szépművészeti Múzeum, inv. 1309 (MARLIER-FOLIE 1969, p. 447, fig. 292). This drawing is discussed by Hans Mielke who considers it a work by a bad draftsman after a lost original by Bruegel the Elder (MIELKE 1996, p. 72).

¹³³ *The Beekeepers*, 20.3 x 31.5 cm, pen and brown ink, Düsseldorf, C. G. Boerner Gallery, 1966, no. 14 (MARLIER-FOLIE 1969, p. 447).

¹³⁴ *Three Pharisees*, 15.8 x 18.8 cm, Göttingen, Niedersächsische Staats- und Universitätsbibliothek (*Ibidem*, p. 448).

¹³⁵ *Bagpipe Player*, 20.5 x 14.5 cm, pen and brown ink, Paris, Drouot sale, 20 May 1966 (*Ibidem*, p. 448).

¹³⁶ *Study Sheet*, 20 x 32 cm, pen and wash, New York, Schaeffer Galleries, 1948 (*Ibidem*, p. 448).

¹³⁷ *Group of Women*, 39 x 70 cm, sepia, Amsterdam, sale at Mak van Waay Gallery, 14-16 September 1964, no. 28 (*Ibidem*, p. 448).

¹³⁸ *Meal in the Open Air*, pen and wash, Amsterdam, exhibition at P. de Boer Gallery, 1934, no. 373 (*Ibidem*, p. 449).

¹³⁹ *The Paralytic*, 17 x 22.5 cm, pen drawing, Cambridge, Fogg Art Museum, Harvard University, inv. 1965.220 (*Ibidem*, p. 449).

¹⁴⁰ *Dulle Griet*, 39.8 x 54.2 cm, pen and watercolour, Düsseldorf, Kunstmuseum, cat. no. 610 (*Ibidem*, p. 449).

¹⁴¹ *Five Standing Men*, 14.6 x 19.6 cm, pen drawing, Musée des Beaux-Arts et d'Archéologie, Besançon (*Ibidem*, p. 201, fig. 120). The paintings by Jan and Pieter Brueghel in which this motif appears are illustrated in *Ibidem*, figs. 116 and 122 respectively.

¹⁴² ERTZ 2000, p. 820.

¹⁴³ Marlier attributes the Philadelphia version of the *Adoration of the Magi* to Brueghel the Younger (*Ibidem*, p. 316, fig. 187-8).

¹⁴⁴ *Adoration of the Magi*, 30.5 x 40.1 cm, inscribed 1595, Lyon, coll. Dameron (*Ibidem*, pp. 320-1, fig. 190).

¹⁴⁵ ERTZ 2000, p. 309.

¹⁴⁶ 18 x 25 cm, sale in Berlin (Achenbach), 10 March 1937, no. 83. Regarding this sheet, Marlier relates: 'très intéressant est le fait que ce dessin porte des inscriptions indiquant les couleurs, comme le faisait le Vieux Bruegel pour ses dessins naer 't leven' (*Ibidem*, p. 303 [Very interesting is the fact that this drawing carries inscriptions indicating colours, as Bruegel the Elder did for his drawings 'naer 't leven']). It should be pointed out that these 'naer het leven' drawings have since been securely attributed to Roelandt Savery (see CAT. ROTTERDAM-NEW YORK 2001, pp. 284-8 for discussion and references).

¹⁴⁷ Kupferstichkabinett, Berlin-Dahlem (after MARLIER-FOLIE 1969, p. 75).

¹⁴⁸ *Ibidem*, p. 75. Marlier directs the reader towards an illustration of the drawing in 'Friedländer, 1921 p. 151'.

Bruegel. Marlier briefly mentions another drawing, showing certain male figures from the *Bridal Procession*, without discussing it.¹⁴⁹ He also notes another drawing, of peasants fighting, sold with an attribution of Brueghel the Younger in 1952, but does not offer commentary.¹⁵⁰ He gives a 'dessin aquarellé' as number 20 of his list of the medium format *Massacre of the Innocents* composition, and points out that as the motif is inversed as opposed to the painting, it could be a working drawing.¹⁵¹ The drawing, *Drunken Man led Home by his Wife*¹⁵² showing the central motif from a painting of the same name, the latter reproduced in paintings several times by Brueghel the Younger, is illustrated and subtitled in Marlier's book as by Brueghel the Younger (fig. 744a). For this drawing, Marlier cites the opinions of Münz, who considered it a study by Brueghel the Younger for the painted composition, and Tolnay and Glück, who favoured the hypothesis of a free copy after the painted composition.¹⁵³ Ertz does not agree with the attribution of the latter drawing to Brueghel the Younger, but does not give his reasons.¹⁵⁴

There are numerous surviving drawings illustrating single *Flemish Proverbs*, usually in the form of miniature roundels. Both Marlier and Ertz illustrates a small drawing of the proverb, *Every Merchant Vaunts his Merchandise* and both attribute it to Pieter Brueghel the Younger with a question mark (fig. 743).¹⁵⁵ Ertz hypothesises that Brueghel the Younger was the inventor of the composition as the motif appears in one of Brueghel the Younger's copies of the large format *Flemish Proverbs* composition but not in Bruegel the Elder's original version of the latter; Ertz also claims that as Brueghel the Younger copied the proverb four times for small roundels, each time with a different background, then he must have been the creator of the scene.¹⁵⁶ Ertz also illustrates a drawing of the proverb, *Shoot one Arrow after the Other (One Must not Shoot all One's Arrows)*, also attributing it to Brueghel the Younger (?) (fig. 743), as he sees it as being by the same hand as *Every Merchant Vaunts his Merchandise*.¹⁵⁷ Marlier mentions 'un fort beau dessin pour l'Homme comblant le puits', a proverb painted several times by Brueghel the Younger (fig. 737a). Both Marlier and Ertz attribute this exceptionally sketchy drawing, comprising large changes in the positions of the limbs of the figure to Pieter Brueghel the Younger (?).¹⁵⁸ Ertz considers the latter a preliminary study by the Younger Brueghel for his painted version.¹⁵⁹ Ertz reattributes a drawing of the proverb, *Fool sitting on an Empty Egg*, to 'Pieter Brueghel d. J. (?)' that Marlier gave to Bruegel the Elder; Ludwig Münz was the first to take it away from Bruegel the Elder's oeuvre and the drawing does not appear in Hans Mielke's seminal study on Bruegel the Elder's drawings (fig. 733).¹⁶⁰ Finally, Ertz attributes two separate drawings of *The Misanthropist*¹⁶¹ proverb to Pieter Brueghel the Younger (?), one of which Marlier referred to as the original drawing by Bruegel the Elder (coll. Masson, fig. 734a-b).¹⁶² Ertz suggests that Brueghel the Younger copied an image by Bruegel the Elder to make a drawing of the motif for his workshop stock of drawings.¹⁶³

Further drawings eliciting interest include a drawing cited by Folie showing a part of the *Crucifixion* composition (fig. 736).¹⁶⁴ She says that this much-debated drawing might be attributable to Bosch, as a study for a lost composition and that Bruegel the Elder or Brueghel the Younger could have borrowed the motif directly from Bosch's painting.¹⁶⁵ Ertz attributes the drawing to Pieter Brueghel the Younger; he does not agree that the drawing is by Bosch although thinks the horse might be by the latter artist as this motif he considers too well drawn for Pieter Brueghel the Younger.¹⁶⁶ Ertz feels the figures' hatchings are too thick and imprecise to be Pieter Bruegel the Elder's work; he suggests the drawing might be a sketch by Brueghel the Younger after a lost

¹⁴⁹ *Ibidem*, p. 176.

¹⁵⁰ *Ibidem*, p. 420.

¹⁵¹ *Massacre of the Innocents*, 24.8 x 39 cm, dated 1617, Stuttgart, sale, 29 November 1955, no. 394. *Ibidem*, p. 339.

¹⁵² *Man Led Home by his Wife*, 17.7 x 13.2 cm, pen drawing, Frankfurt, Städelsches Kunstinstitut.

¹⁵³ *Ibidem*, p. 420, fig. 266. The composition is part of the unfinished section of Marlier's manuscript that Folie discovered in the author's papers.

¹⁵⁴ ERTZ 2000, p. 804, fig. 649, captioned 'nach Pieter Breugel d. Ä' [after Bruegel the Elder].

¹⁵⁵ *Every Merchant Vaunts his Merchandise*, 16.3 cm diameter, pen drawing, Ghent, private collection 1969 (MARLIER-FOLIE 1969, p. 148, fig. 64; ERTZ 2000, p. 97, fig. 46).

¹⁵⁶ ERTZ 2000, p. 96, fig. 46. This argumentation is not convincing, especially in the light of Rebecca Duckwitz's recent findings on the original large format *Flemish Proverbs* composition by Bruegel the Elder (DUCKWITZ 2001).

¹⁵⁷ *Shoot One Arrow after the Other (One Must not Shoot all one's Arrows)*, 16.3 diameter, pen drawing, Ghent private collection 1969 (MARLIER-FOLIE 1969, p. 147, note 29; ERTZ 2000, p. 114, fig. 61).

¹⁵⁸ *L'homme comblant le puits [Block up the Well after the Calf is Drowned]*, 14.3 x 9.5 cm, pen and brown ink, Paris, Musée du Louvre, Cabinet des Dessins, inv. 19722 (MARLIER-FOLIE 1969, p. 153; ERTZ 2000, p. 123, fig. 81).

¹⁵⁹ ERTZ 2000, p. 123.

¹⁶⁰ *Fool Sitting on an Empty Egg*, inscribed 1569, London, British Museum (MARLIER-FOLIE 1969, p. 146, fig. 63; ERTZ 2000, p. 93, fig. 39; MÜNZ 1962, p. 238, not in MIELKE 1996).

¹⁶¹ The drawings reflect an engraving by H. Wierix after a painting on canvas by Bruegel the Elder in the Capodimonte museum in Naples.

¹⁶² Coll. Masson (ERTZ, fig. 19, p. 79); London, Sotheby's, lot 154, sold as 'circle of Pieter Bruegel the Elder', from F. Abbott, no further information regarding place or date of sale (ERTZ 2000, fig. 18, p. 79). See also MARLIER-FOLIE 1969, note 26.

¹⁶³ ERTZ 2000, p. 79.

¹⁶⁴ Drawing with part of *Crucifixion* composition, 17.2 x 10.1 cm, Paris, private collection (FOLIE 1980, p. 154, ERTZ 2000, p. 431, fig. 314).

¹⁶⁵ Folie cites Tolnay 1960, pp. 22-3 on this drawing (FOLIE 1980, p. 154).

¹⁶⁶ ERTZ 2000, pp. 431-2.

painting by his father.¹⁶⁷ Furthermore, Ertz sees this drawing as poor quality from an aesthetic point of view, but says this fits well with what is known of Brueghel's draftsmanship up until now.¹⁶⁸

Most recently, Mori attributed a newly-discovered drawing of the proverb, *Man Forging Iron* to 'Pieter Brueghel the Younger or to one of the painters in his circle' (figs. 739-40).¹⁶⁹ She proposes the drawing as a preparatory study by Brueghel the Younger for his painted versions of the same composition.¹⁷⁰

Folie, in her 1980 essay on Brueghel the Younger wonders whether the 'absence totale de dessins sur papier que l'on puisse raisonnablement attribuer à Pierre II est bien réelle' and concludes that the key to attribution within this diverse group of drawings is the study of his underdrawings, notwithstanding the difference in function between these two types of document.¹⁷¹ Mori reiterates this view in her 2001 catalogue essay.¹⁷²

5.5 Is the master's hand distinguishable?

On the whole, Marlier concentrates on discussing the inventor of each composition, rather than focusing on considerations of whether or not a particular painting is by the master's hand. He does however, discuss the master's style in general terms and sometimes emits a firm opinion on certain works: for example, in his listing of versions of *Village Scene with Wedding Feast in the Open Air*, he gives numbers 1 and 2 as 'entièrement de la main du maître'¹⁷³ and in his discussion on the *Flemish Proverbs*, he singles out the signed and dated Lier version (1607) as 'non seulement la plus belle, mais la plus caractéristique du talent de Pierre le Jeune. Nous y retrouvons ses types habituels, les visages aux joues rebondies, aux traits bien accentués et souvent plus individualisés que chez le père. La manière de peindre les feuillages lui est aussi tout à fait propre.'¹⁷⁴

Folie suggests that the master's hand can be seen in a group of paintings: 'Parmi la production innombrable de cet atelier, où des individualités distinctes se reconnaissent toutefois, un groupe d'oeuvres se détache, dont la qualité picturale trahit sans doute la main du maître lui-même; la plupart d'entre elles sont d'ailleurs signées et beaucoup, datées. [...] Ce n'est pas seulement les qualités picturales qui distinguent les meilleurs exemplaires: les formes y sont aussi mieux construites, mieux réparties dans l'espace et les attitudes plus naturelles que dans les versions médiocres, où l'expression des visages se fige souvent et devient même parfois caricaturale.'¹⁷⁵

As mentioned above, Ertz systematically categorises works as either by the hand of the master (E), doubtful (F) or executed outside of the Brueghel workshop (A). He does this on the basis of style and the assumption that the best works are by Brueghel the Younger. An example of this approach is seen in his remarks concerning a version of the *Nest Robber* exhibited in the 1998 Brueghel-Breughel exhibition: 'l'oeuvre exposée ici est tellement brillante du point de vue pictural qu'il ne fait pas l'ombre d'un doute qu'elle est de la main de Pieter le Jeune.'¹⁷⁶

Van Hauwaert, on the other hand is convinced that the hand of the master is more easily recognisable at the level of the underdrawing than the paint layer. The very title of her 1985 communication announces this hypothesis: 'La véritable signature de Pierre Brueghel le Jeune: son dessin sous-jacent'.¹⁷⁷ In her concluding remarks to this communication, she states: 'Le dessin surtout apparaît comme de la même main; c'est d'ailleurs celui qu'on

¹⁶⁷ *Ibidem*, p. 433.

¹⁶⁸ 'Warum sollte das nicht Pieter II gewesen sein, der diese Skizze nach dem verlorenen Bild des Vaters anfertigte? Er war nach allem, was wir bisher wissen, kein großer Zeichner. Im Niveau der Künstlerischen Ausführung paßt die Pariser Zeichnung durchaus zu dem, was wir bisher als von Pieter II entstanden ansehen'. ERTZ 2000, p. 433 [Why wouldn't it be Pieter II who made this sketch after a lost painting of his father? He was not a good draftsman after all that we know from him up until now. In respect of the level of the artistic execution, the drawing from Paris fits exactly to what we think to be from Pieter II].

¹⁶⁹ MORI 2001, p. 56, figs. 45-7.

¹⁷⁰ Mori cites three paintings attributed to Brueghel the Younger depicting exactly the same composition as the drawing, and illustrates two of them (*Ibidem*, p. 56, figs. 46-7).

¹⁷¹ FOLIE 1980, p. 142 [total absence of drawings on paper that can be reasonably attributed to Pieter II is in fact true].

¹⁷² MORI 2001, p. 56.

¹⁷³ MARLIER-FOLIE 1969, p. 379 [entirely by the hand of the master].

¹⁷⁴ *Ibidem*, pp. 128-9 [not only the most beautiful, but the most characteristic of the talent of Pieter the Younger. We find [in this painting] his typical figures, the faces with rounded cheeks, features well-accentuated and often more individualised than those of the father. The manner of painting leaves is also completely typical].

¹⁷⁵ FOLIE 1980, pp. 141-2 [Amongst the enormous production of this studio, where distinct personalities can be observed however, a group of works stands out, where the painting quality betrays most probably the hand of the master himself; most of them are signed, and many dated [...] It is not only the pictorial qualities that distinguish the better examples: the forms are also better constructed, better positioned in space and with more naturalistic poses than in the mediocre versions, where the expressions of the faces often become set and sometimes turn into caricature.].

¹⁷⁶ ERTZ 1998, p. 332 [the work exhibited here is so exceptional from a pictorial point of view that there is not the slightest doubt that it is not by the hand of Pieter the Younger].

¹⁷⁷ VAN HAUWAERT 1985 [The true signature of Pieter Brueghel the Younger: his underdrawing].

retrouve dans les compositions originales peintes par P. Brueghel le Jeune.¹⁷⁸ This assessment was based on the examination of a small selection of paintings in infrared.

5.6 Is Brueghel the Younger's painting style distinguishable from that of his father's?

In his introduction to the chapter on the younger master's original inventions, Marlier states that in these works, Brueghel 'nous révèle un artiste débordant de verve et d'invention malicieuse' and that 'sans doute, il y reste fidèle au style du Vieux Bruegel, mais il le modifie pour l'adapter à sa propre personnalité.'¹⁷⁹ Regarding the *Village Scene with Wedding Feast in the Open Air*, Marlier stresses how the son's painting of figures differs completely from that of his father: 'aux figures généralement statiques du Vieux Bruegel, le fils substitue des personnages dont les bras et les jambes se projettent en tous sens et suscitent une allègre animation. Le contraste avec le grand style du père est total. Les bonshommes de celui-ci, même lorsqu'ils sont en mouvement ou se livrent à une action violente, se présentent à nous comme arrêtés, figés pour l'éternité. D'où la grandeur de ce maître chez qui l'anecdote elle-même acquiert quelque chose de solennel et de monumental. C'est exactement le contraire chez son fils. Aucune de ses figures ne forme véritablement bloc, aucune n'est «fermée», malgré le recours à une facture qui est encore celle des Primitifs [...]. Les tuniques et les tabliers du fils se terminent souvent en pointe ou en triangle et l'artiste aime accentuer l'allure dégingandée de ses acteurs [...].'¹⁸⁰ Regarding a version of the same composition, Jacqueline Folie also points out that 'comme la *kermesse de la saint-Georges*, ce tableau révèle en Pierre II un observateur perspicace et plein d'humour des paysans, saisis dans les manifestations extérieures de leur comportement plutôt que dans la fatalité de leur destinée comme l'avait fait son père.'¹⁸¹

Comparing Brueghel's copies of his father's paintings with the original versions, most historians clearly recognise their different approaches to painting. Marlier is particularly struck by the differences between the two masters concerning their versions of *Christ and the Adulterous Woman*: 'C'est comme si Pierre le Jeune avait voulu extraire de l'ombre toutes les figures que Pierre Bruegel le Vieux n'avait fait que suggérer. La grande sobriété, qui avait permis à celui-ci d'atteindre à l'effet monumental, malgré le petit format, a fait place à un autre tableau, plus pittoresque et plus bariolé. Jamais peut-être la différence d'esprit des deux peintres ne s'est mieux affirmée qu'ici.'¹⁸² Comparing the copies with the original version of the *Census at Bethlehem*, Marlier also shows his appreciation of their different respective talents as painters: 'Le plus curieux, c'est que si l'aspect du tableau du Vieux Bruegel est plus net et plus précis, par contre sa facture est infiniment plus souple, son dessin moins serré et sa touche étonnamment légère.'¹⁸³ Folie's views are succinctly summarised in a catalogue entry to a copy by Brueghel the Younger of the *Winter Landscape with Bird Trap*: 'La fidélité même des meilleures répliques comme celle-ci fait percevoir l'essence de ce qui sépare une création de Bruegel de son interprétation par son fils. Le paysage original est la notation directe, frémissante de vie, d'un site saisi un jour d'hiver embrumé où les tons se fondent en fines modulations beiges et bistres sous un ciel chargé de neige. Pierre II, soixante ans plus tard, restitue ce paysage «à froid» – peut-être même plutôt d'après un dessin (Marlier, 1969, p. 243) – et il le fait selon sa tendance à décrire plus qu'à suggérer: le ciel devenu serein, les formes se détachent avec netteté dans l'atmosphère limpide, des couleurs animent tout ce que la neige a épargné, les ramures et les broussailles multiplient leurs réseaux sombres sur le fond clair. Mais cet aspect plus graphique, plus froid aussi, de la réplique crée un effet décoratif nouveau, que rehaussent encore la facture soignée et la belle matière lumineuse et émaillée.'¹⁸⁴ Ertz, referring to the *Census* series, is a lone voice in claiming that there

¹⁷⁸ *Ibidem*, p. 162 [The drawing above all appears to be by the same hand; furthermore, it is also the same hand that is found in original compositions by P. Brueghel the Younger].

¹⁷⁹ MARLIER-FOLIE 1969, p. 375 [reveals an artist overflowing with life and inventive maliciousness]... [without doubt, he remains faithful to the style of Bruegel the Elder, but he modifies it in order to adapt it to his own personality].

¹⁸⁰ *Ibidem*, pp. 377-8 [in place of the generally static figures of Bruegel the Elder, the son substitutes figures whose arms and legs project outwards in all directions and create a lively animation. The contrast with the style of the father is total. The figures of the latter, even if they are engaged in movement or participating in violent action, appear to us as if stopped, frozen for eternity. The latter explains the stature of this master for whom anecdote in itself acquires a solemn and monumental quality. It is the exact opposite in the son. None of his figures form a real block, none are «closed», despite the painting style which is still that of the [Flemish] Primitifs [...] The tunics and aprons of the son often terminate in a point or a triangle and the artist likes accentuating the disordered appearance of his protagonists.].

¹⁸¹ FOLIE 1980, p. 161 [like the *Kermis of Saint George*, this painting reveals in Pieter II an astute observer, concerned with the humorous down-to-earth activities of the peasants, rather than the ultimately fatal destiny of their existence, as his father had done].

¹⁸² MARLIER-FOLIE 1969, pp. 90-1 [It is as if Pieter the Younger had wanted to extract from the shadows all the figures that Pieter Bruegel the Elder had only wanted to hint at. The heavy sombre atmosphere, which had allowed the latter to achieve a monumental effect, in spite of the small format, is exchanged for another painting, more picturesque and gaudy in colour. The difference in spirit of these two painters is perhaps never better expressed than here].

¹⁸³ *Ibidem*, p. 67 [the most curious, it is that the appearance of the painting by the elder Bruegel is clearer and more precise, although at the same time his painterly style is infinitely more relaxed, his drawing less tight and his touch astonishingly light].

¹⁸⁴ FOLIE 1980, p. 151 [the faithfulness even of the best replicas such as this one does not conceal the core difference separating a creation by Bruegel the Elder from a copy by his son. The original landscape is a freshly drawn image, shaking with life, of a place on a misty day in winter where the beige and 'bistre' tones are softly and finely modelled under a snowy sky. Pieter II, sixty years later, brings back this landscape «cold» – perhaps even after a drawing (MARLIER-FOLIE, 1969, p. 243) – and he does it according to his manner of describing

is no difference in quality between Bruegel the Elder's original version and the copies whilst at the same time recognising their different approaches to painting: 'Anders, aber nicht a priori qualitativ schlechter, sondern eben völlig verschieden gedacht, empfunden, nachempfunden, stellt sich das in allen Kopien des Sohnes dar.'¹⁸⁵ He also sometimes downplays Bruegel the Elder's genius in order to promote the son, for example in his concluding remarks to the *Flemish Proverbs* entry in his 1998 catalogue: 'Nicht ganz abwegig ist es, vielleicht anzunehmen, daß der Betrachter sich in den freundlichen Typen des Sohnes eher wiederfinden konnte als in den für jedermann sofort erkennbar überspitzt gezeichneten Karikaturen des Vaters'.¹⁸⁶

On a more physical level, Van Hauwaert, in her analysis of a signed and dated copy by Brueghel the Younger of the *Wedding Feast*,¹⁸⁷ describes the differences between the manner in which father and son applied their paint: 'la mise en couleur de Pierre Brueghel le Jeune est particulière et se détache de son modèle de façon assez nette, non pas dans les différentes sortes de nuances qu'il emploie, mais surtout dans la manière de les disposer et de les utiliser: tout d'abord, il ne reproduit pas le subtil dégradé de tons qu'employait Bruegel l'Ancien pour suggérer la profondeur de l'espace, l'éloignement du spectateur [...] les visages, quelle que soit leur échelle, sont toujours aussi détaillés chez Pierre II, alors que le dessin et la couleur se faisaient de plus en plus indistincts à mesure qu'on avançait vers le fond dans le tableau original. Pierre le Jeune n'a pas le sens de l'espace, et ce trait est encore plus visible dans ses interprétations d'après des gravures ou des grisailles de son père: il démonte totalement l'effet de clair-obscur en mettant tous les personnages en lumière (et en couleurs) [...] différence aussi dans l'application des couleurs: si Bruegel l'Ancien utilisait ses fonds qu'il laissait deviner sous la couleur et qu'il épargnait pour ses blancs, Brueghel le Jeune remplit les contours d'une tache unie, et rapporte ses blancs, sans employer la couleur de la préparation; il colorie plus qu'il ne modèle ses formes; il affectionne les tons vifs et clairs, qu'il multiplie au détriment de la fidélité de la copie'.¹⁸⁸

5.7 What's in a signature?

Brueghel's signature can be spelt in two different ways, either 'BRVEGHEL' or 'BREVGHEL'; both are clearly authentic. In 1907, Hulin de Loo already proposed that these two types of signature were by the artist himself: 'nous nous sommes persuadés que c'est lui-même qui a modernisé son nom, et nous croyons avoir trouvé une meilleure explication des divergences de facture et de qualité'.¹⁸⁹ However, in 1948, A. J. J. Delen suggested that the 'BREVGHEL' spelling might be attributable to Brueghel's son, Pieter III Brueghel. Marlier rejected this idea and since his monograph was published, no other writers have considered Delen's view credible.¹⁹⁰ Most recently, Ertz has worked out, based on a survey of dated paintings, that Brueghel signed his works 'P. BRVEGHEL' until 1616, during which year he changed the spelling definitively to 'P. BREVGHEL'.¹⁹¹ Up to the present, no signed and dated work has countered this 'rule' and the spelling of a signature in an undated painting is particularly useful for situating the work before or after 1616.

Folie points out that although Brueghel's better quality works are usually signed, this is not the key to attribution: 'Les signatures, à elles seules, ne constituent pas un critère absolu, bien qu'elles figurent le plus souvent sur les meilleurs exemplaires. Ce sont plutôt les tableaux eux-mêmes qui parlent'.¹⁹² Ertz feels that the presence of a signature has nothing to do with the quality of a painting. In relation to a discussion on the various

rather than suggesting: the sky becomes clear, the forms are clearly separated from the background, colours enliven everything that is not covered by snow, the tree branches multiply their dark network on a light background. But this linear approach, colder too, of the copy creates a new decorative appearance, which complements the careful modelling of forms and the luminous and enamelled appearance of the paint.]

¹⁸⁵ ERTZ 2000, p. 286 [all is thought out, felt and interpreted in a completely different way in all the copies of the son, but the quality is not inferior].

¹⁸⁶ *Ibidem*, p. 66 [We are probably not wrong in supposing that the people of the period recognised themselves more easily in the type of pleasant figures of the son rather than the somewhat forced caricatures of the father].

¹⁸⁷ *Wedding Feast*, 75 x 105 cm, signed and dated on the lower left, 'P. BREVGHEL 1622.' Brussels, private collection (VAN HAUWAERT 1977, p. 109).

¹⁸⁸ *Ibidem*, pp. 119-20 [the application of colour in Pieter Brueghel the Younger is idiosyncratic and distinguishes itself clearly from the original model, not in the types of 'nuances' he uses, but above all in the manner in which he locates and uses these 'nuances': first of all, he does not reproduce the subtle gradations of tone that Bruegel the Elder employs to suggest the depth of space and the distance of the viewer [...] the faces, whatever their scale, are always highly detailed in Pieter II, whereas the drawing and colour in the original work become increasingly indistinct towards the background. Pieter the Younger does not have an understanding of space, and this characteristic is even more clear in his interpretations of engravings or *grisailles* of his father: he ignores totally the effect of *chiaroscuro* by placing all his figures in the light (and in colour) [...] [There is a difference also in the application of colours: where Bruegel the Elder left his backgrounds slightly visible under his colours and reserved [spaces] for his whites, Brueghel the Younger filled up his forms with a unified tone, and brought forward his whites, without using the colour of the ground; he colours more than he models his forms; he likes bright and light colours, that he multiplies to the detriment of the fidelity of the copy (to the original work)]].

¹⁸⁹ VAN BASTELAER and HULIN DE LOO 1907, p. 352 [We are convinced that he himself modernised his name, and we believe we have found a better explanation for the divergences of style and quality].

¹⁹⁰ Delen's opinion appears in the 1948 edition of the catalogue of the Koninklijk Museum voor Schone Kunsten in Antwerp and is cited in MARLIER-FOLIE 1969, pp. 79-81 and 375.

¹⁹¹ ERTZ 1998, p. 19.

¹⁹² FOLIE 1980, p. 141 [The signatures alone do not constitute an absolute criteria [for attribution], although they mostly feature on the best examples. It is rather the paintings themselves that speak].

versions of *Village Scene with Wedding Feast in the Open Air*, he states: ‘Vier dieser acht Originale sind P. BREVGHEL, also spat, bezeichnet, nur eines noch, außer dem Maastrichter Exemplar [...] befindet sich mit der Version des Hallwylska Museet in Stockholm [...] in öffentlichem Besitz, alle anderen sind auf dem Kunstmarkt der letzten Jahrzehnte aufgetaucht und wieder in Privatsammlungen ‘abgetaucht’. Das unsignierte Maastrichter Bild bester handwerklicher Ausführung ist wieder einmal Beispiel dafür, daß das Vorhandensein oder Fehlen einer Signatur nichts aussagt über Qualitätsfragen’.¹⁹³

Most recently, the issue of quality, the master’s hand and the presence of a signature was raised by the present author in three publications.¹⁹⁴

5.8 Was Brueghel the Younger creative?

In 1907, Hulin de Loo categorically stated: ‘Peeter II n’était donc qu’un copiste de profession: nous ne connaissons sous sa signature aucune peinture que nous soyons autorisé à regarder comme étant de sa composition’.¹⁹⁵

Since Glück’s introduction in the Pieter de Boer Gallery exhibition catalogue, *De Helsche en de Fluweelen Brueghel* in 1934, where Brueghel the Younger was credited as the inventor of several compositions of rural scenes, and especially since Marlier’s account in 1969, most art historians have recognised that Brueghel did produce new images of his own, starting around 1619. These paintings are nonetheless ‘Bruegelian’ in style and subject matter, and sometimes import motifs directly from the Elder Bruegel’s work; for example, Marlier points out that the background of the *Dance around the Maypole* is directly borrowed from the landscape in Bruegel the Elder’s *Sermon of Saint John the Baptist*.¹⁹⁶ However, other scenes, in particular the *Inn of Saint Michael* are seen as wholly the invention of Brueghel the Younger. On the latter, Ertz relates: ‘Mit dieser Komposition, von der bisher kein Exemplar in Museumsbesitz gelangte, haben wir eine der originärsten Schöpfungen Pieters d. J., in der er uns als selbständiger, erfindungsreicher Maler begegnet, ohne jeden Rückbezug auf das Werk des Vaters.’¹⁹⁷ Ertz even goes as far as to assert that the changed spelling for his signature during the year 1616 was a deliberate attempt on the part of Brueghel to distinguish himself from his father and to promote his status as a painter in his own right.¹⁹⁸

There is also an on-going debate on whether Brueghel was a creative copyist or whether he simply aimed to reproduce his original models – either works by his father or other artists – as precisely as possible. Interest has focused on the fact that in certain compositions, there are a significant number of fixed variations in colour and motif between the original version and Brueghel’s copies, pointed out by a number of researchers including Marlier, Ertz, Folie, Van Hauwaert, Duckwitz and the present author. Explanations range from the practical and logistic to the philosophical. For the *Census at Bethlehem*, for example, Marlier suggests that Brueghel either made his first copy after the original painting or after a very complete drawing and that changes were wrought by Brueghel the Younger ‘pour des raisons que nous ignorons et probablement sans raison’.¹⁹⁹ Ertz, on the other hand, interprets the fixed variations in the copies of the *Census* as a sign of the son’s creativity and desire for independence from his more famous father, made with full knowledge of the original painting.²⁰⁰ For the *Triumph of Death*, Folie and Van Hauwaert list a number of fixed variations in motif and detail between the original version and the respective copies by Pieter and Jan which they suggest may be due to the sons’ relying on a now-lost drawing, rather than the original painting; they do mention, however, Pieter’s ‘creative imagination’ and that ‘Pieter II was not a slave to the original painting of his father, which he interpreted in his own way in several respects whilst remaining faithful in overall mood and tone’.²⁰¹ In the case of the *Flemish Proverbs*, Duckwitz stresses that the fixed variants in the copies were not owing to any conscious desire on the part of Brueghel to distinguish himself from his father’s original but rather due to the fact that ‘the copies were not painted directly from the original, but after another prototype – one that either omitted the details in question or which was visually ambiguous in those instances’.²⁰² The present author argued a similar case for the *Census* series.²⁰³ Duckwitz does however, suggest that Brueghel the Younger’s introduction of meaningful new

¹⁹³ ERTZ 2000, p. 659 [Four of the eight originals are signed ‘P. BREVGHEL’ [...] . The unsigned Maastricht painting, which presents the best artistic quality, is one more example of where the presence or absence of a signature has nothing to do with questions of quality].

¹⁹⁴ CURRIE 2001b, CURRIE 2002a, 2002d. This theme will be elaborated on in the current thesis.

¹⁹⁵ VAN BASTELAER and HULIN DE LOO 1907, p. 352 [Pieter II was therefore only a copyist by profession: we do not know any painting signed by him that we could consider his own invention].

¹⁹⁶ GLUCK 1965, no 54; MARLIER-FOLIE 1969, p. 401-3.

¹⁹⁷ ERTZ 2000, p. 832 [With this composition, one of the most original works of Pieter the Younger. It shows him as a creative and independent artist, who has got over his father’s influence].

¹⁹⁸ ERTZ 1998, p. 19.

¹⁹⁹ MARLIER-FOLIE 1969, p. 66 [for reasons that we do not know and probably without reason].

²⁰⁰ On the *Census*, Ertz concludes: ‘il semble malgré tout fort probable que le fils a eu connaissance de l’oeuvre du père’ ERTZ 1998, p. 298 [It appears that despite everything, it is highly probable that the son had knowledge of his father’s work].

²⁰¹ VAN HAUWAERT-THOMAES and FOLIE 1995, pp. 16 and 21.

²⁰² DUCKWITZ 2001, p. 70.

²⁰³ CURRIE 2001, pp. 103-5. See Chapter I for in-depth development of this argument.

proverbs in certain copies, ‘show[s] that Pieter Brueghel the Younger was not merely a precise and faithful copyist of his father’s work, but that he also had the ability to modify or expand Pieter the Elder’s themes in a fitting manner’.²⁰⁴ For the small format *Adoration of the Magi*, the set of fixed variations between the copies and the original lead Marlier to conclude that Brueghel the Younger cannot have seen the original and must have relied on a drawing;²⁰⁵ Ertz’s views on the *Adoration* are more ambivalent, as he does not consider the Winterthur version the original painting, proposing instead a complex web of hypotheses regarding the original model for the copies.²⁰⁶

5.9 Variants and variations amongst copies

In addition to examples of fixed variants of motif and colour between all copies of a series and the original version, certain compositions show variable elements amongst the copies themselves. These variables include format, the choice of background, orientation of the composition, the paintings’ supports and differences in motif and colour, the latter ranging from moderately important to almost insignificant.

Marlier points out that a few of Brueghel the Younger’s frequently reproduced compositions exist in more than one format. This applies as equally to copies after his father’s work as to his own inventions. Examples in the former category include the *Wedding Feast*²⁰⁷ and *Peasants Quarrelling over a Game of Cards*²⁰⁸ and examples in the latter include the *Kermis of Saint George*²⁰⁹ and *Return from the Kermis*.²¹⁰ Ertz also discusses in detail one example of a composition existing in two different formats copied after a model by an unknown artist: the *Peasant Lawyer*.²¹¹

Marlier also draws attention to the fact that certain compositions have varying backgrounds, such as the *Wedding Feast*, *Crucifixion*²¹² and *Return from the Kermis* and that others exist in two different orientations, in which the protagonists are right-handed or left-handed, such as the *Wedding Dance in the Open Air*.²¹³

An odd variation in the copies of *Sermon of Saint John the Baptist* is remarked upon by Marlier and Ertz: the man having his fortune read is sometimes present and sometimes absent.²¹⁴ Although admitting he finds this difficult to explain, Marlier proposes that the heretical practice of fortune telling might have been shocking for certain clients in a scene where Saint John the Baptist was preaching.²¹⁵ Ertz does not agree, stating that as Jan Brueghel, a devout man, includes the figure in his copies, then it cannot have been shocking to contemporary audiences, but offers no interpretation in place of Marlier’s.²¹⁶

For the *Flemish Proverbs* series, Marlier noted a number of differences in motif amongst copies, and singles out three versions for comparison: the Lier, Harlem and Simon-Lévy copies.²¹⁷ Mund suggests there are two prototypes, one on canvas, represented by the signed Haarlem version and one on wood, represented by the signed and dated Lier version but finds similarities between versions from different supports, likening a newly discovered work on canvas to the Lier model.²¹⁸ Duckwitz, confining herself to ten copies considered by Ertz to be by the master’s hand, divides them into two groups (A and B) according to motif and colour and not by support; she places Mund’s new version together with the Lier version in her Group A.²¹⁹ She proposes a series of possible explanations for the existence of these groupings, but does not come to any firm conclusions.²²⁰ For the *Census at Bethlehem*, the present author also identifies a number of groupings of similar copies, each based on a different model, divided by motif and colour.²²¹ For the *Inn of Saint Michael*, Marlier also suggests that there may have been two models within Brueghel’s studio: ‘D’un exemplaire à l’autre, les variantes sont insignifiantes. Mais il semble pourtant qu’il y ait eu deux modèles dans l’atelier de Pierre le Jeune. La

²⁰⁴ *Ibidem*, p. 78.

²⁰⁵ MARLIER-FOLIE 1969, p. 82.

²⁰⁶ ERTZ 2000, pp. 299-305.

²⁰⁷ MARLIER-FOLIE 1969, pp. 177-83.

²⁰⁸ *Ibidem*, pp. 264-74.

²⁰⁹ *Ibidem*, pp. 381-6.

²¹⁰ *Ibidem*, pp. 393-9.

²¹¹ ERTZ 2000, pp. 487-522.

²¹² MARLIER-FOLIE 1969, pp. 285-94.

²¹³ *Ibidem*, pp. 186-203.

²¹⁴ See Chapter III for discussion of this issue.

²¹⁵ *Ibidem*, p. 54.

²¹⁶ ERTZ 2000, p. 371.

²¹⁷ *Ibidem*, pp. 123-37.

²¹⁸ MUND 1976.

²¹⁹ DUCKWITZ 2001, p. 61.

²²⁰ *Ibidem*, p. 70.

²²¹ CURRIE 2001b. For full analysis, see Chapter I, Section 7.2.8.c

différence concerne uniquement la mare aux canards [...]. Cette différence, pour infime qu'elle soit, apporte la preuve qu'il existait deux modèles qui ont été utilisés soit en même temps, soit à deux époques différentes.²²²

Very minor differences in colour and motif amongst copies of the same composition are hardly commented on in Marlier's book; Ertz, on the other hand, often lists minor differences between individual works of the same subject, for example in the copies of the small format *Adoration of the Magi*.²²³ For these copies, Ertz notices small differences in the positions of birds, the forms of tree branches and leaves, the shape of holes in the roof in the lower left and suggests that Brueghel intentionally wished each of his copies to be unique in some small way, adding to the evidence for his firmly held view that Brueghel the Younger was a creative artist rather than a servile copyist. Likewise, numerous variable motifs and colours amongst the copies of the *Peasant Lawyer* series are, according to Ertz, Brueghel's way of introducing some small original features into each version.²²⁴ He also notes several small points of divergence amongst the copies of the *Census at Bethlehem*; for this series', he suggests these minor variations can be used as tools to construct a chronology for their execution.²²⁵

5.10 Studio practice and collaboration

There is a distinction to be made between the collaboration of two different independent masters on a painting and collaboration within the same workshop. Regarding the former category, there are only two recognised examples in Brueghel the Younger's work, both spotted by Ertz. The first concerns a version of Brueghel's *Crucifixion*,²²⁶ signed and dated, 'P. BREVGHEL. 1617' for which Brueghel was responsible for the main scene but for which Ertz suggests Joos de Momper the Younger (1564-1635) painted the bluish townscape background.²²⁷ The second painting that Ertz interprets as a collaborative effort is *Village Landscape with Pilgrims of Emmaus*, Brueghel painting the landscape and Frans Franken the Younger (1581-1642) the figures.²²⁸ He gives two possible explanations for this rare inclusion of three pilgrims by another artist in a landscape usually depicting a *Return from the Kermis*: either the patron of the work had expressly requested Francken's participation, not comfortable with the relatively immoral figures typical of Brueghel the Younger, or the painting had remained unfinished at the death of Brueghel and Francken was called upon to finish it off.²²⁹

The type of artistic collaboration more difficult to identify is that within the workshop itself. Almost a hundred years ago, Hulin de Loo remarked that Brueghel 'dirigeait un véritable atelier de copies, ce qui suffit à expliquer, et l'extrême abondance de sa production, et, en même temps, la diversité de facture et surtout de qualité entre ses copies, dont certaines sont fort belles comme *le couple villageois attaqué par des routiers*, de l'université de Stockholm, tandis que d'autres sont d'une exécution rude et grossière.'²³⁰ The *Brueghel Enterprises* exhibition of 2001-2 sought to emphasise the fact that Brueghel's enormous oeuvre could not possibly be the result of a single labouring artist, but was the issue of a busy commercial workshop composed of many members. The fact that Brueghel took on numerous apprentices is well-documented, and it is probable that several of those stayed on in the studio as journeyman painters. There may also have been other totally unknown and unrecorded journeymen from time to time in the workshop.²³¹

Within Brueghel's studio, it is unknown whether members were responsible for a particular stage of the painting process, whether there were collaborations during underdrawing and/or during painting or whether single artists were responsible for individual works from beginning to end.²³² It is also perfectly conceivable that two or all of

²²² *Ibidem*, p. 413 [From one example to another, the variations are insignificant. But it appears however, that there were two models in Pieter the Younger's studio. The difference concerns uniquely the duck pond [...]. This difference, however small, proves that there were two models which were used, either at the same time or at two different periods].

²²³ For example, Ertz uses this argument to explain the small variations in the details of the *Adoration of the Magi* copies (ERTZ 2000, p. 299).

²²⁴ *Ibidem*, p. 487.

²²⁵ See Section 5.1.

²²⁶ *Crucifixion*, 82 x 123 cm, Budapest, Szépművészeti Múzeum, inv. 1038 (*Ibidem*, cat. E415, p. 417, fig. 293).

²²⁷ Joos de Momper the Younger also collaborated with Jan Brueghel the Elder on numerous paintings, for example, he filled in the landscape background to Jan's *Flemish Market and Watering Place*, 1620-22 (Madrid, Museo del Prado).

²²⁸ *Village Landscape with Pilgrims of Emmaus*, 40 x 53.3 cm, private collection (*Ibidem*, cat. E437, p. 443, fig. 328).

²²⁹ *Ibidem*, pp. 443-45.

²³⁰ VAN BASTELAER and HULIN DE LOO 1907, p. 353 [directed a formidable studio for copies, which explains both the extreme abundance of his production and the diversity of painting style and above all of quality between the copies, some of which are very beautiful, such as the *Village Couple Attacked by Bandits*, from the University of Stockholm, whereas others are crudely executed].

²³¹ On the issue of journeymen painters, or 'compagnons', see CAMPBELL 1981, p. 46.

²³² 'Vertical collaboration' is a term used to imply that different artists were responsible for different stages in the execution of a painting; 'horizontal collaboration' means that different artists collaborated on a particular stage of execution, for example at the underdrawing or painting stages. Molly Faries recently cited various types of collaboration on a single work from Rogier van der Weyden's workshop: 'The Columba Altarpiece, not authenticated but never doubted, was found to have been underdrawn by an assistant [...]. The authors of the study [VAN ASPEREN DE BOER *et al.* 1990] proposed as many as five hands in the Beaune *Last Judgment* polyptych, although they did not imply that any could be given a name (such as Memling) or even be located again in other works; their identity simply indicated the extent of the collaboration. In this polyptych, master and assistants worked in schemes of horizontal and vertical collaboration, which connotes that collaboration occurred at all levels of the painting process and in all areas of the painting's surface. By virtue of systematic infrared

these scenarios co-existed, depending on the particular status of the studio member, journeymen perhaps given more responsibility than apprentices. Opinions on the subject are few as they depend on infrared examination of the paintings. Van Hauwaert, after examining a limited number of paintings, concludes: ‘Après un examen plus attentif, toutes ces copies bonnes ou mauvaises, offrent certaines constantes: notre opinion est que la plupart d’entre elles ont été dessinées et retouchées par le maître.’²³³ Faries, referring to a signed and dated (1626) version of the *Triumph of Death*,²³⁴ remarks: ‘In handling, the underdrawn contours are quite similar to the surface outlining with dark brown paint. This might very well imply that only one artist was responsible for the work at all stages of execution.’²³⁵ The issue is also treated by the present author in relation to the *Census* series in the *Brueghel Enterprises* catalogue, in a paper comparing two signed versions of the *Census at Bethlehem* presented at Liège University and in one of two papers given at the *Brueghel Enterprises* symposium.²³⁶

5.11 Pieter Brueghel III

There is not much concrete fact regarding the mysterious figure of Pieter Brueghel III, elder son of Pieter Brueghel II and also a painter. He is registered at the Antwerp guild of Saint Luke as master’s son in 1608, presumably passing his apprenticeship in his father’s studio, but after this date nothing is heard of him, and there are no signed paintings to his name.

Marlier considered certain paintings to be by the hand of Pieter III on account of their style. These include versions of the *Egg Dance*, *Wedding Presents* and *Dance of the Catherinettes*.²³⁷ Folie also gives a version of the *Peasant Lawyer* to Pieter III: ‘Cette version nous paraît caractéristique du style de Pierre Brueghel III, plus incisif et plus caricatural que celui de son père Pierre le Jeune’.²³⁸

Ertz feels it is presumptuous to attribute any work to Pieter III, given that there is no signed work by him.²³⁹ In his 1998 exhibition catalogue, he firmly attributes a version of the *Egg Dance* to the hand of Pieter Brueghel II himself.²⁴⁰

5.12 Techniques and materials

5.12.1 Artists’ materials and paint layer structure

There is very little in the published literature concerning the sorts of materials used by Brueghel the Younger in his paintings. Van Hauwaert is the first to comment on such matters in her *mémoire de licence* on the artist in 1977. Referring to a privately owned version of the *Wedding Feast*, signed and dated, ‘P. BREVGHEL 1622’ she states that examination with the binocular microscopic reveals the drawing layer as ‘formé de traits aux particules de matière grises et brillantes comme des particules de métal.’²⁴¹ Later on, in relation to a privately owned version of the *Wedding Dance in the Open Air*, signed and dated, ‘[...]REVGHEL 1607’ (signature read by K. Ertz as ‘VGHEL 16.[8?]’),²⁴² she describes how the underdrawing ‘se révèle à nouveau par des traces brillantes, comme des traînées de métal: il ne s’agit certainement pas de traits au pinceau, mais plutôt à la pointe d’argent ou à la mine de plomb, comme pour le “Repas de Noces”’.²⁴³ In 1985, in a short publication specifically dedicated to Brueghel’s underdrawing, Van Hauwaert reiterates her hypothesis that Brueghel’s underdrawing tool is metal-point.²⁴⁴ Jacqueline Folie also cites this opinion in her account of the artist in the catalogue for the 1980 exhibition, ‘Bruegel. Une dynastie de peintres’.²⁴⁵

investigation, this survey made it apparent that the visible traces of collaboration in the works of the Rogier van der Weyden group were of a varied and complex nature’ (FARIES 2001, p. 96, see also p. 83).

²³³ VAN HAUWAERT 1985, p. 162 [after a more attentive examination, (it can be seen that) all these copies, good or bad, offer certain constants [qualities]: our opinion is that most of them were drawn and touched up by the master].

²³⁴ *Triumph of Death*, 117 x 167 cm, canvas, signed and dated, ‘P. BREVGHEL, 1626’, Cleveland, The Mildred Andrews Fund, Robert C. Bouhall, Trustee (ERTZ 2000, cat. E200).

²³⁵ FARIES, SHEPHERD and EASTAUGH 1995, p. 12.

²³⁶ CURRIE 2001b, CURRIE 2002a, 2002d. This issue is treated in more depth in the thesis.

²³⁷ MARLIER-FOLIE 1969, pp. 440-2. Unfortunately, Marlier’s untimely death prevented the completion of the parts of his manuscript where he was going to address the issue of Pieter Brueghel III.

²³⁸ Jacqueline Folie, in *Ibidem*, p. 440 [this version appears characteristic of the style of Pieter Brueghel III, more incisive and more caricatured than that of his father, Pieter the Younger].

²³⁹ ERTZ 1998, p. 397.

²⁴⁰ *Ibidem*.

²⁴¹ VAN HAUWAERT 1977, p. 114 [composed of lines of grey shiny particles, like metal particles].

²⁴² *Wedding Dance in the Open Air*, 35 x 49.2 cm, private collection (*ibidem*, pp. 145-55; VAN HAUWAERT 1978, pp. 97-100; VAN HAUWAERT 1985, pp. 160-2, fig. 1, ERTZ 2000, cat. E920).

²⁴³ VAN HAUWAERT 1977, p. 150 [reveals itself again as shiny lines, like smears of metal: it certainly does not consist of painted lines, but rather silver-point or lead-point, as for the “Wedding Feast”].

²⁴⁴ VAN HAUWAERT 1985.

²⁴⁵ FOLIE 1980, p. 141.

Nicholas Eastaugh in 1995 gives a useful short account of the technical analysis of paint samples from a rare canvas painting by Brueghel the Younger, a version of the *Triumph of Death*.²⁴⁶ The painting's signature and date of 1626 were discovered during cleaning by Robert Shepherd in 1991.²⁴⁷ Eastaugh states the painting has a double ground, consisting of grey-coloured layer applied over an orange-red layer. He suggests this is a particularly early example of such a ground, and probably attributable to Italian influence. He also relates that the pigments in the paint layer are typical for their period, and include smalt.

Faries' infrared study of the above-mentioned version of the *Triumph of Death* state that 'the underdrawn lines are fine and dry, probably executed with a chalk or graphite sharpened to a fine point.'²⁴⁸

In the proceedings of a talk given at the biennial underdrawings conference in 1985, Verougstraete and Van Schoute point out the use of a 'streaky' *imprimatura* layer in a *Winter Landscape* by Brueghel as part of a survey on this type of layer in the fifteenth to the seventeenth centuries in Flemish painting.²⁴⁹ The present author also highlights the use of streaky *imprimatura* in Brueghel's paintings, particularly in relation to a version of the *Wedding Dance in the Open Air* in the proceedings of the 1999 conference in the same series.²⁵⁰

Several authors and auction catalogues over the years have mentioned panels by Brueghel stamped on the reverse with the brand marks of the Antwerp guild of Saint Luke and occasionally the maker's mark.²⁵¹ These examples prove that at least in certain instances, Brueghel used the services of a professional panel-maker.

In September 2001, the present author published an account of the technical examination of ten versions of the *Census at Bethlehem* in the *Brueghel Enterprises* exhibition catalogue, including selected cross-sectional analysis of paint samples.²⁵²

5.12.2 Underdrawing style

Folie relates in her essay on the artist in 1980 that 'Pierre II dessine les formes à la pointe métallique (pointe de plomb?) d'un trait sûr, expressif et souple, en un véritable croquis, cependant déjà achevé, de toute la composition.'²⁵³

Van Hauwaert, describing the underdrawing style in a signed and dated version of the *Wedding Dance in the Open Air*,²⁵⁴ notes that 'tous les éléments des visages et des vêtements sont déjà définis au stade du dessin et à peine modifiés à celui de la couleur. Des traits curvilignes légers soulignent les aspérités du visage (arête du nez, narines). Les mentons sont toujours délimités par une courbe qui empiète sur le contour général de la mâchoire; les cernes, les rides, les fossettes sont indiqués. Les mains également ont leur forme achevée et ne présentent pratiquement pas de reprise de contour.' She also describes the type of underdrawing notations: 'Pour les vêtements, Pierre II procède par traits isolés, le plus souvent courbes; il souligne l'arête ou le creux des plis, dans la région des coutures et dans le mouvement des articulations (des bras surtout). Il existe parfois des indications de zones d'ombre: deux ou trois traits parallèles et serrés (à la manche et au mollet).'²⁵⁵

Faries, in her infrared examination report for a signed version of the *Triumph of Death*,²⁵⁶ writes that the painting 'is a large, fully underdrawn painting on canvas [...]. All elements of the surface composition are predicted in outline form in the underdrawing [...]. Although the contours sometimes repeat or double up in the underdrawing, no true hatching was detected anywhere in the painting [...]. Still, it can be assumed that the underdrawing was very complete, and accurate down to the smallest detail.'²⁵⁷

Both Van Hauwaert and Faries express their belief that the underdrawing lines they visualised in infrared reflectography are not the results of tracing. Van Hauwaert, in her comparison of two versions of the *Wedding*

²⁴⁶ Painting cited note 234. FARIES, SHEPHERD and EASTAUGH 1995, p. 14.

²⁴⁷ *Ibidem*.

²⁴⁸ Painting cited note 234. *Ibidem*, p. 12.

²⁴⁹ VEROUGSTRAETE-MARCQ and VAN SCHOUTE 1987, p. 24, figs. 24a, 25.

²⁵⁰ CURRIE 2001a.

²⁵¹ See note 435.

²⁵² CURRIE 2001b. Since the publication of this research, further practical research and analysis of the evidence has been undertaken by the author on this series of copies (see Chapter I).

²⁵³ FOLIE 1980, p. 141.

²⁵⁴ Cited note 242.

²⁵⁵ VAN HAUWAERT 1978, p. 98 [all the features of the faces and draperies are already defined at the drawing stage and hardly modified at all during painting. Curved, light lines outline the features of the face (bridge of nose, nostrils). The chins are often delineated by a curve which forms part of the general contour of the jaw; bags under the eyes, wrinkles and hollows in the cheeks are indicated. Hands too have their form described and present almost no going-over of the lines]...[For draperies, Pieter II proceeds by isolated lines, usually curved; he outlines the upper part or the dips of folds, the area of seams and the movement of the limbs (arms above all). There are sometimes indications of shadow zones: two or three parallel lines (sleeves and calves).

²⁵⁶ Cited note 234.

²⁵⁷ FARIES, SHEPHERD and EASTAUGH 1995, p. 12.

Dance in the Open Air, concludes that ‘la possibilité de l’emploi de calques ou de poncifs est écartée...’²⁵⁸ and Faries, likewise remarks on the *Triumph of Death* that ‘although the preparatory stage was clearly based on a knowledge of Pieter the Elder’s painting, it still cannot be a mechanical tracing from the original or some surviving cartoon.’²⁵⁹

During the *Brueghel Enterprises* symposium, the proceedings of which are to be published at the end of 2003, Catharina van Daalen, Astrid Smeets and the present author independently discussed the underdrawings in various paintings from Brueghel’s workshop.²⁶⁰

5.12.3 Painterly brushwork

Van Hauwaert and Folie both characterise Brueghel’s painting style as essentially linear.

Van Hauwaert details Brueghel’s the Younger’s brushwork style in certain signed works, for example in a version of the *Wedding Feast*:²⁶¹ ‘les traits du pinceau sont visibles, serrés et riches en matière pour les couleurs des vêtements, assez couvrants par rapport à des carnations et des fonds; les étoffes sont faiblement modelées, de quelques ombres ou de quelques touches de lumière qui soulignent les plis. Il procède objet par objet, sans superposer les couleurs les unes sur les autres, ce qui l’oblige parfois à contourner une partie pour colorer un fond sur lequel elle se détache: par exemple, la nappe blanche a été enduite de sa couleur après les objets qui la jonchent ...’²⁶² She goes on to relate how the underlying ground is not allowed to show: ‘...Pierre le Jeune rapportait ses blancs comme les autres couleurs, avec une épaisseur suffisante pour couvrir la couche précédente et ne plus la laisser apparaître. Les tons clairs contenant du blanc de couverture sont employés en couches assez épaisses par rapport aux ombres et aux tons sombres, jusqu’au plus fort empâtement pour les lumières éclatantes.’²⁶³

Folie, describing the painterly style in a group of paintings of superior quality that she considers may well represent the hand of the master, relates, ‘Exploitant la luminosité du fond, il applique les couleurs en une matière picturale fluide et peu couvrante, où dominent les rouges sonores, les bleus turquoise, les verts frais des arbres ponctués de touches claires et le sol raviné de coulées de terre ocrée. Il lui suffit ensuite de quelques frottis, souvent dans le frais, pour ombrer les tons et de quelques traits empâtés pour indiquer les lumières. C’est dans les visages que la facture graphique de l’artiste se révèle le mieux: sur un ton de fond ocre, les traits se modèlent en un jeu de frottis rouge brique, rehaussés de fines stries sombres et de petites touches blanches. Des traits foncés soulignent encore çà et là les formes et dégagent les volumes, conférant à l’ensemble un effet particulièrement décoratif.’²⁶⁴

Marlier, although not commenting in specific terms on Brueghel’s brushwork, points out that his painting of leaves, ‘qui se détachent sur le ciel lumineux, sont si typiques de la manière de Pierre le Jeune qu’ils ont la valeur d’une signature.’²⁶⁵

5.12.4 Copying technique

Although Marlier raises the possibility that Brueghel the Younger may have used tracings of his father’s works he does not discuss the actual transfer process.²⁶⁶ Ertz does not treat the subject of transfer techniques either but occasionally alludes to the question, for example in the case of the small format *Adoration of the Magi* series, he says that the fact there are small differences in detail amongst the various copies excludes the use of a cartoon.²⁶⁷

²⁵⁸ VAN HAUWAERT 1985, p. 161 [the possibility of the use of cartoons or perforated cartoons is eliminated].

²⁵⁹ FARIES, SHEPHERD and EASTAUGH 1995, p. 13.

²⁶⁰ This material will be discussed or referred to in Chapters I, II, IV, V and VII.

²⁶¹ Cited note 187.

²⁶² VAN HAUWAERT 1977, p. 121 [the brushstrokes are visible, tight and thickly-loaded for the colours of the clothes, [the latter] quite thick in relation to flesh-tones and backgrounds; fabrics are hardly modelled, [only] using a few shadows or touches of light to highlight the folds. He proceeds object by object, without superposing colours on one another, which sometimes forces him to paint around a form in order to colour a background on which the form stands out: for example, the white table cloth was given its colour after the objects which juxtapose it].

²⁶³ *Ibidem* [Pieter the Younger brought forward his whites as with the other colours, in a sufficient thickness to cover the underlying layer and to not allow the latter to remain visible. The light tones containing opaque whites are employed in thick layers in relation to the shadows and dark tones, and are heavily impasted for the brightest highlights].

²⁶⁴ FOLIE 1980, p. 141 [Exploiting the luminosity of the ground, he applies his colours fluidly and thinly, dominated by singing reds, turquoise blues, fresh greens and trees punctuated by light touches and the soil spread with long liquid strokes of earth colours. Then he only needs several touches, often wet-in-wet, to give shadow tones and several impasted strokes for highlights. It is in the faces that the linear style of the artist reveals itself best: on an ochre layer, the brushstrokes model [the form] in a play of brick-red touches, reinforced by fine dark lines and small white touches. Dark strokes underline forms here and there allowing the volumes to stand out, giving a particularly decorative effect to the whole].

²⁶⁵ MARLIER-FOLIE 1969, p. 378, in his discussion of the *Wedding Feast on the Ground*, part of his chapter on original inventions by Brueghel the Younger [which stand out from the luminous sky, are so typical of the manner of Pieter the Younger that they have the value of a signature].

²⁶⁶ See note 94.

²⁶⁷ ERTZ 2000, p. 299.

The first to consider the issue was Van Hauwaert in 1977. Her study of the underdrawings of two versions of the *Wedding Dance in the Open Air* led her to the conclusion that the two paintings are freehand copies, and certainly not based on the same cartoon. She bases this assessment on a superposition of the underdrawn outlines of two corresponding dancers in each copy, which she concludes did not match precisely enough to suggest the use of a common cartoon.²⁶⁸

In April 2001, Mori published her views on Brueghel's transfer technique in a catalogue for an exhibition in Japan, 'Masterpieces of Flanders' Golden Age' under the subtitle, 'Methods of copy production'.²⁶⁹ She writes that 'we can presume that some kind of mechanical process must have been employed' and goes on to hypothesise 'that while he [Bruegel the Elder] was still alive, whenever he completed a work, he or his apprentices would lay over the original a piece of paper of the same size, made transparent possibly by applying oil and drying, and trace the overall composition and the contours of such motifs as human figures, animals, buildings, and trees fairly mechanically and rapidly before delivery to the commissioning party. Such pattern-like papers must have remained as part of his legacy. Or the act of tracing could have been done even after Bruegel the Elder's death by assistants of Pieter the Younger. The contours on this paper could be traced again over a type of charcoal paper attached to a new panel or a canvas. With this method, even untrained apprentices could have done the tracing procedure very quickly, and then assistants with superior technique could have completed the panels according to the contours on the panel or canvas.' She goes on to describe an alternative technique: 'Another possible method would have been to pierce countless fine holes along the outlines of the pattern-drawing and then tap along the holes with a cloth bag filled with charcoal powder.' Mori states that her experiments with OHP transparencies, although not proving the actual process, enable her to 'ascertain that he [Brueghel] definitely had the help of pattern-like drawings in mass-producing his copies'.²⁷⁰

In September 2001, the author's essay in the *Brueghel Enterprises* exhibition catalogue considered the issue of the copy process for the *Census at Bethlehem* series in some detail, although further insights on the matter were made in the light of further practical research on additional copies during the Brussels leg of the exhibition. These new ideas, together with evidence for the use of cartoons in the *Adoration of the Magi*, *Winter Landscape with Bird Trap*, *Wedding Dance in the Open Air* and *Battle between Carnival and Lent* series' were communicated at the *Brueghel Enterprises* symposium in June 2002.²⁷¹

The *Brueghel Enterprises* exhibition itself was partly dedicated to the active research into Brueghel's copying methods. During the Maastricht leg of the show, Van Daalen and Smeets examined the *Adoration of the Magi* and *Winter Landscape with Bird Trap* compositions. Their findings on the probable use of cartoons in Brueghel's workshop were presented at the above-mentioned *Brueghel Enterprises* symposium.²⁷²

Finally, also at the *Brueghel Enterprises* symposium, Verougstraete and Van Schoute presented the idea that a pantograph may have been used to transfer the underdrawing for the Basel version of the *Triumph of Death*.²⁷³

5.13 Aims of current analysis in regard to the status quaestionis

The *status quaestionis* covers a number of complex and interrelated themes, many of which remain unresolved. Opinions by researchers are sometimes founded on astute observations and technical examination whilst others lean more on the comparison of photographs and intuition.

One of the central aims of the current thesis is to provide a new assessment of some of the issues discussed, based on a study of the techniques and materials used in Brueghel's workshop and using a wider sample of paintings than previously attempted. In combination with the classic approach of comparing images, the new technical evidence will be exploited to reconsider such themes as the question of original models, the issue of variants amongst copies of the same composition, workshop practice, collaboration within the studio and the copy process. Finally, there will be a personal assessment of more subjective matters, such as the identification of the hand of the master and the case for Brueghel's creativity.

²⁶⁸ VAN HAUWAERT 1985, p. 98.

²⁶⁹ MORI 2001, pp. 49-51.

²⁷⁰ *Ibidem*, pp. 49-50.

²⁷¹ CURRIE 2002c-d (forthcoming). See Chapters I, II, IV, V and VII for elaboration of this research.

²⁷² VAN DAALEN 2002 (forthcoming), SMEETS 2002 (forthcoming).

²⁷³ VAN SCHOUTE and VEROUGSTRAETE 2002 (forthcoming). The pantograph as a possible means of transfer in Brueghel's workshop was suggested, but not elaborated upon in the present author's *Brueghel Enterprises* catalogue essay regarding the *Census at Bethlehem* series (CURRIE 2001b). The technique is fully explored in Appendix 1 of this thesis and is referred to in 'Historical copying techniques', See Section 6.6.

Historical copying techniques

Given the role of Pieter Brueghel the Younger as copyist *par excellence*, it is useful to give a brief overview of the range of copying methods practiced by artists before and during the period in which he was painting. Most of these techniques are also described through a series of practical tests and illustrated in Appendix 1.

Transfer techniques for the copying of designs from one support to another identified in European paintings from the fifteenth to seventeenth centuries include tracing, pouncing and squaring-up.²⁷⁴ The proportional compasses were another possibility from around the late sixteenth century, although they have rarely been discussed by art historians in the context of painting as their use is difficult to qualify. The pantograph's invention and publication in 1631 also merits consideration although no convincing examples of its use have ever been identified in painting.²⁷⁵ These copying methods were used by artists not only to make copies, but also to transfer original compositions from a preliminary study to the final support.²⁷⁶

6.1 Squaring

Squaring-up to transfer designs is a technique going back to the ancient Egyptians, appearing on papyri, wood drawing boards and stone slabs for relief sculpture.²⁷⁷ The method has been used in Western art right up to modern times, a recent example given by Graham Sutherland's drawing of Sir Charles Clore, 1967 (London, National Portrait Gallery), which is squared for transfer.²⁷⁸ Squaring can be used to increase or reduce images as well as to produce 1:1 copies, although for the latter tracing or pouncing would be a more obvious choice. It was normally done by marking a proportional grid on the image to be copied and creating a corresponding grid, either the same size, larger or smaller on a new surface. A variation of the method was to use a stringed frame or *Graticola*, as recommended by Gian Battista Volpato (*Modo del tener nel dipinger*, 1670-1700), a device to avoid marking the original painting or drawing from which the design is to be copied: 'The Graticola, being made on a frame, is applied over the picture [to be copied], and the same number of squares are to be struck on the primed canvas, which, whether it is larger or smaller than the painting, is to be divided in the same proportion'.²⁷⁹

An early example of the use of squaring in Italian wall painting is Masaccio's fresco, *Trinity*, 1425-1427 (Florence, Santa Maria Novella) that has an incised grid for the figure of the Virgin; the incisions are visible with the naked eye.²⁸⁰ In fifteenth and sixteenth century Venice, squaring was frequently used to enlarge small designs to make large-scale cartoons for subsequent transfer to paintings, for example Giulio Romano's full-scale cartoon, *The Stoning of St. Stephen*, 1519-1521 (Vatican Museums), which is clearly squared; the cartoon was made in preparation for an altarpiece on panel (Genoa, Church of St. Stefano).²⁸¹ An example of a squared-up design made in preparation for a painted portrait is Titian's sketch for the *Portrait of Francesco Maria della Rovere, Duke of Urbino, in Armour* (sketch: Florence, Gabinetto Disegni e Stampe degli Uffizi; painting: Florence, Galleria degli Uffizi, 1536-8).²⁸²

In Northern Netherlandish painting the earliest examples of squaring date from the sixteenth century. Since few preparatory drawings survive and the fact that it usually takes infrared reflectography to detect squaring lines in paintings, published examples probably only represent a tiny sample of extant works whose design was transferred in this way. An early example was identified on Jan van Scorel's altarpiece of the *Holy Kinship*, 1519 (Austria, Obervellach), where a grid was noted in the left exterior wing with the *Flagellation of Christ*;²⁸³ another case is Scorel's *Presentation in the Temple* (Vienna, Kunsthistorisches Museum).²⁸⁴ Of the artists in the

²⁷⁴ Only transfer from two-dimensional to other two-dimensional supports will be considered here; mechanical methods for the copying of three-dimensional scenes or objects onto two-dimensional supports is another subject and not relevant in the context of Brueghel the Younger, for example the use of the *camera obscura*.

²⁷⁵ The use of the pantograph in certain paintings of nineteenth century French artist, le Douanier Rousseau was proposed in VALLIER 1970 but based on no technical analysis of the paintings under discussion and the belief that the painter was a bad draftsman and would have needed to use this instrument for enlarging certain images.

²⁷⁶ For an overview of copying practice in the sixteenth and seventeenth centuries, as well as further bibliographic references, see VAN DEN BRINK 2001b. For Renaissance Italy, Carmen Bambach's outstanding and comprehensive study on copy techniques in Italian workshops from 1300-1600 is the best source, as well as an extremely useful aid for the interpretation of observations regarding transfer techniques in Flemish painting (BAMBACH 1999).

²⁷⁷ BAMBACH 1999, p. 19, note 83. A specific example of a squaring grid on an Egyptian wall painting from the Chapel of Amenophis 1st at the Open Air Museum at Karnak was recently brought to my attention by Jacques Debergh. In this painting the squares have 4.5 cm sides (LE FUR 1994, figs. 32a-b, p. 87).

²⁷⁸ NATIONAL PORTRAIT GALLERY 2003a (website).

²⁷⁹ Translation of the Volpato manuscript by M. P. Merrifield, in MERRIFIELD (1849) 1967, p. 736.

²⁸⁰ BAMBACH 1999, pp. 130, 189-94 and figs. 171-4.

²⁸¹ *Ibidem*, p. 51, fig. 230-1.

²⁸² *Ibidem*, fig. 20.

²⁸³ FARIAS 1975, pp. 102-3 and fig. 10.

²⁸⁴ *Ibidem*, p. 103, fig. 11.

next generation, grid lines have sometimes been spotted in the works of Pieter Aertsen (1508-1575), his son Pieter Pietersz (1540-1603) and Aertsen's pupil and nephew Joachim Beuckelaer²⁸⁵ (c. 1534-1574); an example is Aertsen's *Wing of an Altarpiece with King Balthazar* (Amsterdam, Rijksmuseum) and a large fragment with the *Adoration of the Magi*, c. 1560 (Amsterdam, Rijksmuseum) both probably part of a single altarpiece for a Delft church;²⁸⁶ another identified case of squaring is in Aertsen's Jan van der Biest altarpiece, 1546 (Antwerp, Openbaar Centrum voor Maatschappelijk Welzijn, Maagdenhuis) where squaring lines were detected in the central panel.²⁸⁷

In the Southern Netherlands, Bruegel the Elder's father-in-law Pieter Coeck van Aelst (1502-1550) sometimes squared-up drawings for transfer to panels, an example being a design for a lost or never-executed painting, *Mercury Sacrificing bulls*, undated (Paris, Musée du Louvre, Cabinet des Dessins).²⁸⁸ A *modello* drawing for the Joos Van Belle triptych (Paris, École nationale supérieure des Beaux-Arts) by Bruges artist Pieter Pourbus is marked with a series of horizontal and vertical ruled lines of reference, some of which are found in the underdrawing of the final painting.²⁸⁹ Squaring lines have also been identified in paintings and drawings by Marten van Heemskerck (1498-1574), for example in the wings of an altarpiece, *The Donor and Saint Mary Magdalene*, c. 1540 (London, National Gallery).²⁹⁰ A small pen and ink drawing of a single male standing figure in the Arenberg album from the studio of Liège artist Lambert Lombard (1505-1566) is squared for transfer²⁹¹ as well as his designs for engravings, such as *Meal at Simon the Pharisee*, 1545 (London, private collection).²⁹² The practice of squaring for transfer continues into the seventeenth century, for example in the work of Antwerp painter Antony Van Dyck (1599-1641) where numerous drawings and oil sketches by the artist reveal the use of the method for compositional transfer, for example, *Carlo and Ubaldo conquered by love for Armida*, 1634-5 (London, National Gallery), a monochrome oil sketch on oak panel, squared for transfer to an engraving plate.²⁹³ Although there are almost no grids on Rubens' drawings and oil sketches for paintings, squaring has been suggested as the method used for transfer of the images, achieved through the placement of the *graticola* over the drawing or sketch, thus saving them from being marked.²⁹⁴

Squaring was also used to transfer designs for mediums other than painting. Michiel Coxcie's *Triumph of Time* drawing, undated (Budapest, Szépművészeti Múzeum), in reddish brown ink and squared with red chalk has been suggested as one of a series of designs for tapestries; it is believed that Coxcie probably executed tapestry designs a few years after his return from Rome, and just after his move to Brussels in 1543.²⁹⁵

6.2 Pouncing

The pricking and pouncing of cartoons is a transfer technique first described in the late 1390's in 'The Craftsman's Handbook' by Italian writer Cennino Cennini, regarding the transferral of decorative motifs from a cartoon onto panel paintings to imitate gold brocade cloth.²⁹⁶ Cennini extols the reader to 'prepare your pounce patterns according to the cloths which you want to make; that is, first draw them on parchment; and then prick them carefully with a needle, holding a piece of canvas or cloth under the paper...When you have got them pricked, take dry colors according to the colors of the cloths upon which you have to pounce. If it is a white cloth, pounce with charcoal dust wrapped up in a bit of rag...'.²⁹⁷ The holes on the reverse of the pounced sheet might be sanded with a pumice stone prior to use according to Paganino (c. 1532).²⁹⁸ After the design was transferred, many artists reinforced the ephemeral dots with another medium; in the context of the preparation of

²⁸⁵ KLOEK 1989. Margreet Wolters (RKD, The Hague) is preparing a doctoral dissertation on the workshop practices of Joachim Beuckelaer.

²⁸⁶ BIJL *et al.* 1989 and BOREEL and VAN ZON-CHRISTOFFELS 1989, particularly figs. 10 and 30. See also VAN ASPEREN DE BOER *et al.* 1986, pp. 110-11, figs. 36-7 and notes 87 and 89.

²⁸⁷ GOETGHEBEUR and KOCKAERT 1988/89, pp. 9-11, note 3 and fig. 6.

²⁸⁸ MARLIER 1966, p. 296-7, fig. 239.

²⁸⁹ DE VOS 1999, p. 150, fig. 221; HUVENNE 1998, pp. 129-9, figs. 99a-g.

²⁹⁰ DUNKERTON *et al.* 1988, pp. 26-7 and note 15.

²⁹¹ Denh n° 308, Album d'Arenberg, Cabinet des estampes de la ville de Liège. Cécile Oger's forthcoming doctoral dissertation on the techniques of Lambert Lombard will discuss his transfer techniques in more detail (OGER [forthcoming]).

²⁹² DENHAENE 1990, fig. 94.

²⁹³ ROY 1999, p. 68, fig. 26.

²⁹⁴ This possibility was suggested recently in an oral presentation by Nico Van Hout (VAN HOUT 2002).

²⁹⁵ HAND *et al.* 1986, pp. 128-9, cat. 43.

²⁹⁶ Carmen Bambach relates that the earliest known pricked patterns date from 10th century China, discovered in the 'Caves of the Thousand Buddhas' in Duhnuang, China (BAMBACH 1999, p. 12).

²⁹⁷ CENNINI (Thompson transl. 1933, ed. 1960), Chapter CXLI, p. 87. For references to the various opinions on the dating of Cennino's Cennini's book see BAMBACH 1999, p. 373, note 7. Bambach also cites Paganino's 'De Rechami', c. 1532 (Proemio, "Alessandro Paganino al Letore") in which the latter recommends that the holes are made closely-spaced and that only the tip of the needle need pass through the paper (BAMBACH 1999, p. 57).

²⁹⁸ Paganino, c. 1532, 'De rechami', cited in BAMBACH 1999, p. 58.

a panel painting, Leonardo da Vinci advises artists to finely outline the pouncing marks²⁹⁹ and in relation to embroidery, sources suggest joining-up the dots with a brush and liquid medium.³⁰⁰

In Italian wall painting, the pouncing technique, known as *spolvero* was first in use in the 1340's for the transfer of ornamental designs,³⁰¹ an example given by Masolino's ornamental borders behind the altar in the Brancacci Chapel, dated 1425-27 (Florence, S. Maria del Carmine).³⁰² In the mid-fifteenth and up to the mid-sixteenth centuries the technique was also adopted for figural scenes in both Italian mural and panel painting, after which time its use declined in importance although it continued to be used. A famous example of pouncing for large figurative scenes in wall painting is provided by Michelangelo's Pauline Chapel frescos in the Vatican, painted in the 1540's, where evidence of pouncing is seen on both the surviving cartoon fragments and the frescoes themselves;³⁰³ a later case is the Carracci brothers' Farnese ceiling, 1597-1602 (Rome, Palazzo Farnese), for which two pricked cartoons survive.³⁰⁴ Early examples in Italian panel painting include the portrait of *Ginevra de' Benci* by Leonardo da Vinci, 1474-6 (Washington, National Gallery of Art)³⁰⁵ and 'Portrait of a Young Man' by Lorenzo Costa, c. 1500 (Berlin, Gemäldegalerie); in both cases pouncing was detected with infrared.³⁰⁶ Recently, pouncing has been found in original works by Venetian artist Giovanni Bellini (c. 1426-1516).³⁰⁷ A large number of pricked cartoons survive for panel paintings; the earliest known case is the *Mystical Marriage of St. Catherine* by Francesco di Stefano 'Il Pesellino', dated 1450-57, for a lost work.³⁰⁸

Van Mander, in his Italian *Lives*, relates in rather a derogatory fashion how 'the Netherlanders' used the pouncing technique 'for the sorts of figures of Mary or other saints that have always to be done in the same manner or style: the faces must have the nose and mouth drawn thus, and the sleeves must have just so many folds or creases, and each is always exactly like the next. For this one has one's pouncing patterns, for one makes various of these by the dozen at the same time.'³⁰⁹ In late fifteenth and particularly sixteenth century Southern Netherlandish painting, numerous cases of pouncing have been detected with infrared photography and reflectography, either for parts of or entire compositions. Pouncing is particularly frequently in anonymous copies after famous works. As in Italy, early examples are mainly for the transfer of decorative patternwork or architectural forms, for example, pouncing was observed under the architectural motifs on the reverses of the upper parts of wing panels of an altarpiece placed in the church of St Bertin at St. Omer in 1459 (London, National Gallery), most probably by Simon Marmion, who was working in Valenciennes in 1458.³¹⁰ Pouncing was also used by Justus of Ghent and workshop for the transfer of the design of the patterned cloth on the stairs in the painting *Rhetoric*, from the Liberal Arts series (London, National Gallery), probably made whilst the artist was working in Urbino, Italy in 1473-4.³¹¹ There are also a few examples of drawings following pounced layouts, for example, *Portrait of Gérard David*, c. 1565-1574 by J. De Boucq (Recueil d'Arras, fol. 277. Arras, Municipal Library)³¹² and an *Adoration of the Magi*, c. 1580-1600 by an unknown Flemish master (New Haven, Yale University Art Gallery)³¹³ and rare surviving cases of drawings pricked for transfer, for example *Saint Elizabeth of Hungary*, c. 1470 (Vienna, Graphische Sammlung Albertina) and *Voyage at Sea*, c. 1520 (Berlin, Staatl. Museen Preussischer Kulturbesitz, Kupferstichkabinett), both attributed to anonymous Flemish masters.³¹⁴

Pouncing is especially common in paintings of the Bruges school around the turn of the sixteenth century. Notable occurrences are seen in the work of Gérard David (1460-1523), who moved to Bruges from the

²⁹⁹ Leonardo's note from 1490-1492 in Paris MS. A (from Jean Paul Richter, 'The Literary Works of Leonardo da Vinci: Compiled and Edited from the Original Manuscripts...' (1st edition., Oxford, 1883; 2nd ed., 1939), cited in BAMBACH 1999, p. 78 and notes 286-7).

³⁰⁰ *Ibidem*, p. 78 and notes 288-90.

³⁰¹ *Ibidem*, p. 137.

³⁰² *Ibidem*, p. 165 and note 131.

³⁰³ *Ibidem*, p. 2, figs. 1-5.

³⁰⁴ Two of the three surviving cartoons for the Farnese painted ceiling in the Palazzo Farnese in Rome are in the National Gallery London. Both are dated 1599-1600 and are discussed in FINALDI *et al.* 1995. One of these is pounced for transfer; the third surviving cartoon, in Urbino, is also pricked for transfer, see *ibidem*, p. 32 and note 2.

³⁰⁵ GIBSON 1991.

³⁰⁶ TAUBERT 1975, p. 397, fig. 3. This pouncing was later found to have been directly incised into the gesso surface according to JENNINGS 1993, p. 243, fig. 101b and note 8, p. 249.

³⁰⁷ This research was presented by Andrea M. Golden and Cinzia Mancuso at the *Brueghel Enterprises* symposium (GOLDEN and MANCUSO 2002 [forthcoming]).

³⁰⁸ BAMBACH 1999, p. 235, fig. 209 and note 240.

³⁰⁹ *Lives of the Modern, or Present-day, Illustrious Italian Painters*, fol. 252v09 de pons (cartoons), translated in MIEDEMA 1994-7, vol. IV, 1997, p. 125 (original text in note 121, p. 125).

³¹⁰ CAMPBELL 1998, p. 304, figs. 3-4.

³¹¹ *Ibidem*, pp. 26, 276 and fig. 12.

³¹² PÉRIER-D'ETEREN 1982-3, p. 76, figs. 1-2.

³¹³ BAMBACH 1999, p. 77, note 275.

³¹⁴ Both cases identified in PÉRIER-D'ETEREN 1982-3, pp. 78-81, figs. 5-6.

Northern Netherlands in 1484 and include an *Adoration of the Magi*, c. 1500-1505 (Munich, Alte Pinakothek)³¹⁵ and four versions of the *Virgin and Child with the Milk Soup*, (Brussels, Musées Royaux des Beaux-Arts de Belgique; New York, Aurora Trust; Genoa, Palazzo Bianco; San Diego, Deutz Collection).³¹⁶ From the succeeding generation, the Adriaen Isenbrant (1481-1551) group provides many examples of this technique, for example in the small scenes surrounding *The Madonna of the Seven Sorrows* from the right wing of the Joris van de Velde Diptych, 1521 (Bruges, Onze-Lieve-Vrouwekerk, figs. 259a-b, 265)³¹⁷ and in the portrait of *Paul the Negro*, 1518 (Bruges, Groeningemuseum).³¹⁸ Traces of pouncing were also noted in the mouth of Saint Elizabeth of Hungary on the right wing of a triptych attributed to Jan Provoost, first quarter of 16th century (c. 1465-1529) (Geneva, Palazzo Bianco).³¹⁹ Lancelot Blondeel (1498-1561) used the technique for at least one figure in his *Virgin and Child with Saint Luke and Saint Eloi*, 1545 (Bruges, Onze-Lieve-Vrouwekerk)³²⁰ as did Peter Pourbus (1523/4–1584) in the centre panel of the Joos van Belle triptych, 1556 (Bruges, Sint Jakobskerk) where the decorative frames of the tondi have been transferred through pouncing.³²¹

Examples of pouncing from copies after paintings of the Brussels school have also been identified, for example on a copy after Robert Campin's *Virgin and Child in an Apse*, undated (Toledo, Ohio, Toledo Art Museum),³²² a *Virgin and Child* (Maria Lactans) by a follower of Rogier van de Weyden, undated (sold Sotheby's, London, 12 July 2001, lot. 4)³²³ and a *Holy Family*, undated (Brussels, Musées Royaux des Beaux-Arts de Belgique) after Bernaert van Orley (c. 1488-1541).³²⁴

Turning to Antwerp, from an anonymous master, the composition of the central panel from the large-scale triptych of the *Adoration of the Magi*, c. 1515-20 (Diest, Sint-Sulpitiuskerk) was found to be entirely transferred by pouncing, the pouncemarks serving as indicators of outline, drapery folds and light and shade, with no subsequent underdrawing (fig. 262a-c).³²⁵ From the workshop of Joos van Cleve (c. 1486-1540) pouncing has been revealed for the whole composition of *The Holy Family*, c. 1512/13 (New York, Metropolitan Museum of Art)³²⁶ and pounce marks have been identified under some of the architectural elements in another copy from the workshop of van Cleve, *Two Children Embracing* or *The Infants Christ and John Embracing*, undated (The Hague, Mauritshuis).³²⁷ A copy after Hieronymus Bosch (c. 1450-1516), *The Temptation of Saint Anthony*, undated (Maastricht, Bonnefantenmuseum, on extended loan from Rijksmuseum, Amsterdam) is also clearly transferred by pouncing (fig. 263).³²⁸ A further example is a copy after Marinus van Reymerswaele's (c. 1490-c. 1567) *St. Jerome*, undated (Belgian private collection) which has visible pounce marks for most of the composition including the face, hand and drapery of St. Jerome, the skull and the still life elements; the dots are carefully joined up with a liquid medium (fig. 260).³²⁹ In the seventeenth century the practice of pouncing to transfer compositions has rarely been observed although there are a few identified cases in copies, for example in the *Fall of Icarus*, on canvas, after Pieter Bruegel the Elder (Brussels, Musées Royaux des Beaux-Arts de Belgique, fig. 261).³³⁰

Outside Italy and the Netherlands, the German artist Hans Holbein the Younger (1497-1543), who worked in Switzerland and England, used pouncing to transfer images for both wall paintings and portrait panel paintings, evidenced by the survival of a full-scale pricked cartoon, made of several sheets glued together, c. 1536-1637 (London, National Portrait Gallery) for a wall painting for the Privy Chamber of Whitehall Palace in London (destroyed by fire in 1698)³³¹ and the presence of pouncing in various portraits, such as *Erasmus of Rotterdam*,

³¹⁵ See TAUBERT 1975, pp. 387-401 and AINSWORTH 1993, pp. 20-2 and the latter's 1998 book on Gerard David (AINSWORTH 1998a, pp. 47-50).

³¹⁶ TAUBERT 1975; COMBLEN-SONKES 1974-80, pp. 29-42; AINSWORTH 1993, pp. 22-3 and AINSWORTH 1998a, pp. 295-301.

³¹⁷ For an analysis of the underdrawing of this painting see BORCHERT 1998, p. 68-71, plates 40a-g and BORCHERT 2001. For a thorough discussion of pouncing in the Isenbrant group, see WILSON 1990, pp. 523-7.

³¹⁸ BORCHERT 1998, pp. 62-3.

³¹⁹ SPRONK 1998, pp. 42-3.

³²⁰ L. JANSEN 1998, pp. 113-4, fig. 83e.

³²¹ HUVENNE 1998, pp. 128-31, fig. 99a-c. Unfortunately, these illustrations are not large enough to see the actual pouncing described in the accompanying text.

³²² Maryan Ainsworth described Molly Faries' discovery of pouncing in the Virgin's robe near her proper right foot and in the white cloth over her shoulder in the Toledo version of this painting, in AINSWORTH 1996, p. 153 and note 27.

³²³ DIJKSTRA 1990, p. 127 and MUND 1991-2, p. 88, cited in VAN DEN BRINK 2001b, p. 15, and figs. 4-5.

³²⁴ PÉRIER-D'ETEREN 1976-7, p. 101, note 12.

³²⁵ *Ibidem*.

³²⁶ AINSWORTH 1983, pp. 164-5. For the use of cartoons in Van Cleve's workshop, see also Micha Leeftang's contribution to the *Brueghel Enterprises* symposium (LEEFLANG 2002 [forthcoming]). The latter author said that pouncing was detected in only 2 out of 68 works studied from Van Cleve's workshop, although cartoons were clearly used in at least 21 panels.

³²⁷ TRAVERSI and WADUM 1999, p. 105 and fig. 7.

³²⁸ VAN DEN BRINK 2001b, pp. 36-7 and figs. 33-5.

³²⁹ Anon., 51.5 cm x 66.5 cm, appears to be sixteenth century. The painting was examined with infrared reflectography at IRPA by the author and Simon Egan. I would like to thank Egan for drawing this work to my attention.

³³⁰ ALLART 2002b, p. 41, fig. 11. For discussion of the history of attribution of this painting, see ALLART 2002a.

³³¹ NATIONAL PORTRAIT GALLERY 2002b (website).

undated, probably before 1532 (New York, Metropolitan Museum of Art, fig. 264).³³² Pouncing has also been identified in early paintings by German artists, for example in the *Annunciation* panel of the Grosser Albrechtsaltar, 1439-40 (Austria, Klosterneuburg museum)³³³ where pouncing has been identified for the outlines of the decorative motifs in the textile draped over the lectern and in portraits by the workshop of Cranach the Elder.³³⁴

Pouncing was not only used in painting; the technique was also employed for transferring designs for manuscripts,³³⁵ inlaid furniture,³³⁶ embroidery and silk weaving³³⁷ and ceramics.³³⁸

In addition to proven cases of pouncing, researchers often conclude that pouncing may have been used to transfer the design, even when no traces can be discerned in infrared, for example in the case of Raphael's *St. Catherine of Alexandria*, c. 1507-8 (London, National Gallery).³³⁹ If an artist used the 'erasive' method whereby the unfixed powdery dots were joined up in a permanent medium, the pounce marks would probably have been partially obscured during the drawing process. Any remaining powder would have been intentionally wiped away to prevent dirtying the paint layer and further traces would have been obliterated during painting. Advice on cleaning away pouncing dust is found in source documents on pouncing; one example is Catherine Perrot's *Traité de la Miniature* (Paris 1625), which recommends removing pouncing marks from silverpoint drawings on vellum with a piece of bread.³⁴⁰

6.3 Tracing

Transferring a design by tracing appears to have been a common method in the fifteenth to seventeenth centuries as it is referred to in most sources and manuals on painting from this period. The word 'tracing' in English refers to two distinct processes:³⁴¹ the first, the recording of an image by laying a sheet of transparent paper onto the image to be transferred and marking on the outlines; the second, the transferring of a design to another surface. The latter process entails either directly incising the outlines of a cartoon through to another support³⁴² or the 'carbon copy' method, whereby a cartoon is rubbed with a dark pigment on its verso, laid face-up onto a new support, and the outlines gone over with a hard point.

Various Italian authors give instructions for the preparation of transparent sheets, or *carta lucida* for the recording of images by tracing, including Cennino Cennini (end 14th to early 15th c.),³⁴³ Jehan Le Bègue (1431),³⁴⁴ Raffaele Borghini (1584), Giovanni Battista Armenini (1586), the Paduan manuscript (late 16th c.) and the Volpato manuscript (1670 or later).³⁴⁵ Cennini's first suggestion is to 'take a kid parchment and give it to a parchment worker; and have it scraped so much that it barely holds together. And have him take care to scrape it evenly. It is transparent of itself. If you want it more transparent, take some clear and fine linseed oil; and smear it with some of this oil on a piece of cotton. Let it dry thoroughly, for the space of several days; and it will be perfect and good.'³⁴⁶ He goes on to describe the making of a transparent sheet from glue and then relates how to prepare tracing paper out of paper: 'the paper, to begin with, being made very thin, smooth, and quite white. Then grease this paper with linseed oil, as described above. It becomes transparent, and it is good.'³⁴⁷ Likewise, Le Bègue advises: 'Grease thinly with mutton suet a smooth and polished stone of the breadth and

³³² AINSWORTH 1990, pp. 177-8.

³³³ KOLLER 1973, pp. 43-7, figs. 48-9.

³³⁴ SANDNER and RITSCHER 1994.

³³⁵ WILSON 1990, p. 523, note 5.

³³⁶ Charles Indekeu, personal communication.

³³⁷ For example, a sheet from a now-dismantled pattern book for embroidery and silk weaving motifs by an unidentified Venetian artist, brown ink and brown wash on cream parchment pricked for transfer, 262 x 192 mm, 14th century (Harvard University Art Museums, bequest of Charles A. Loeser 1932.291), discussed in CAT. CAMBRIDGE 1998, p. 7 and fig. 1.

³³⁸ PLOMP 1999. Plomp describes ten pricked drawings: four drawings by Delft artist Leonaert Bramer (1596-1674), two pricked repeats of the composition and four pricked stencils, dated on the basis of style to the late 1650's.

³³⁹ HILLER VON GAERTRINGEN 1999, p. 198 and notes 18-19.

³⁴⁰ BAMBACH 1999, p. 80, note 298. Bambach also cites Paganino (c. 1532) and Saint-Aubin (1770) who advised artisans to get rid of excess pouncing dust as it dirtied the working surface (BAMBACH 1999, p. 80). See fig. 253 of the current thesis for reproduction from Bambach of an illustration in Paganino's *Libro Primo: De Rechami (Il Burato)* showing the act of pouncing.

³⁴¹ In French, these processes are given two different words: 'calquer' and 'décalquer'.

³⁴² This technique is common in 15th c. Italian fresco painting, for example, Ghirlandaio's *Visitation* (Florence, chancel of S. Maria Novella), cited in BAMBACH 1999, pp. 344-5, fig. 287.

³⁴³ See note 297.

³⁴⁴ According to M. P. Merrifield, the 1431 manuscripts of Le Bègue were compiled from a collection of manuscripts compiled from 1398-1411 by Jehan Alcherius or Alcerius (MERRIFIELD [1849] 1967).

³⁴⁵ Borghini, Armenini and the Paduan manuscript are cited in relation to this issue in GALASSI 1999, p. 207, notes 8-9. For Cennini, see CENNINI, Chapters XXIII-XXVI, pp. 13-14, for Le Bègue, see MERRIFIELD (1849) 1967, pp. 292-4 and for the Volpato manuscript, see also MERRIFIELD (1849) 1967, pp. 734-5. Carmen Bambach gives an original source reference regarding Lorenzo Lotto's request for a 'lucido' (BAMBACH 1999, p. 388, note 35).

³⁴⁶ CENNINI, Chapter XXIII, p. 13.

³⁴⁷ *Ibidem*, Chapter XXVI, p. 14.

length you wish your tracing paper to be. Then, with a broad brush, spread clear and transparent melted glue over the stone, and let it dry. Afterwards lift up from one of the corners of the stone a little of this skin of dried glue, which will be as thin as paper, but transparent; and see whether it is thick enough, that is, whether it is not too thin; if so, do not pull it off, but leave it there and give it another coat of the same glue, and let it dry; and then again, as before, try whether it is thick enough. And repeat this until it is sufficiently thick. Afterwards take it off the stone, because the above-mentioned greasing with mutton fat will enable you to take off the said coat of glue easily, for it will not allow it to fasten or stick to the stone; and so you will have tracing paper for the purposes aforesaid'.³⁴⁸ Once the model painting, fresco or drawing had been traced onto transparent film, the latter was either used directly to transfer the design to its final support or it was transferred to make another drawing or cartoon. The faint traced lines were often reinforced.³⁴⁹ Tracings on transparent or translucent films rarely survive. This is partly due to their obvious fragility and unattractiveness to collectors but in some cases they may have been sponged clean after use.³⁵⁰ It has been suggested that transparent sheets or *carta lucida* were routinely used in sixteenth century Italian workshops for transferring designs directly onto panels, frescoes and engravings, for example, Andrea Mantegna's workshop has been shown to use them to produce engravings directly traced after paintings.³⁵¹

The nature of cartoons used to transfer images to new supports has been described by authors including Giorgio Vasari and the author of the Volpato manuscript.³⁵² In his introduction to the 1568 edition of his *Lives*, Vasari describes cartoons as 'sheets of paper, I mean square sheets...fastened together with paste made of flour and water cooked on the fire' for use in mural painting.³⁵³ Regarding panel and canvas painting, he recommends: 'in this case the cartoon is all in one piece, the only difference being that it is necessary to rub the back of the cartoon with charcoal or black powder, so that when marked afterwards with the instrument it may transmit the outlines and tracings to the canvas or panel. The cartoons are made in order to secure that the work shall be carried out exactly and in due proportion'.³⁵⁴ Vasari further proposes the use of an intermediary sheet of carbon paper so as to preserve the original cartoon from damage: 'under this cartoon [put] another sheet of paper covered with black on one side, that is, on that part that lies on the priming. Having fixed both the one and other with little nails, take an iron point or else one of ivory or hard wood and go over the outlines of the cartoons, marking them firmly. In so doing the cartoon is not spoiled and all the figures and other details on the cartoon become very well outlined on the panel or framed canvas'.³⁵⁵

In the Netherlands, Karel Van Mander, in his *Grondt der Schilder-Const* [*Foundation of the Painter's Art*], published in his *Schilder-Boeck* [*Painter's Treatise*] of 1603-4, describes how 'our more recent ancestors used to cover their panels with thicker white grounds and to scrape them as smooth as possible. They also employed cartoons which they transferred upon that fine even white layer; these they were in the habit of tracing through after having rubbed something black on the reverse, and then they redrew the design neatly with black chalks or pencils'.³⁵⁶

Confirming the use of tracing using the 'carbon copy' method for the transfer of a design to a panel from a cartoon is not straightforward as the possibility of erasive pouncing, followed by joining up of the dots in a permanent drawing medium is always difficult to exclude. Infrared reflectography and superposition of tracings of different versions of the same composition can at least test whether the same cartoon was used for the transfer of the image to two or more works, as in the case of two versions of Andrea del Sarto's *Virgin and Child with Saint Elizabeth and Saint John the Baptist*, c. 1513 (London, National Gallery) whose underdrawings have been proposed as the result of tracing from the same cartoon.³⁵⁷ The use of the technique of tracing in Sarto's workshop is nonetheless established by the evidence of Sarto's *St. Francis* cartoon (Florence, Gabinetto Disegni e Stampe degli Uffizi), preparatory for an altarpiece, whose outlines have been gone over with a sharp stylus.³⁵⁸ Popular images such as the *Mater Dolorosa* and *Christ Crowned with Thorns* diptych from Dirk Bouts'

³⁴⁸ MERRIFIELD (1849) 1967, p. 305.

³⁴⁹ Cennino Cennini, in his instructions on painting, states: 'and then, lifting off the paper, you may touch it up with any high lights and reliefs, as you please.' CENNINI, p. 13.

³⁵⁰ GALASSI 1999, p. 206 and note 5.

³⁵¹ *Ibidem*, 1999, p. 206 and note 6.

³⁵² On the instructions regarding tracing given in the Volpato manuscript, see MERRIFIELD (1849) 1967, p. 734.

³⁵³ VASARI, Chapter II. (XVI). 77. Sketches, Drawings, and Cartoons of different kinds, p. 213

³⁵⁴ *Ibidem*, Chapter II. (XVI). 78. The Use of Cartoons in Mural and Panel Painting, p. 215.

³⁵⁵ *Ibidem*, Chapter VII. (XXI). 85. Drawing, by transfer or directly, p. 231. Vasari was not the only author to suggest the use of an intermediary sheet of carbon paper. Carmen Bambach also discusses similar recommendations in treatises on painting by R. Borghini (Florence, 1584), G. B. Armenini (1586), Claude Boutet (Paris, 1676) and on etching and engraving by Abraham Bosse (Paris, 1645) in BAMBACH 1999, pp. 285-6.

³⁵⁶ STECHOW 1966, XII, 16, p. 66.

³⁵⁷ KEITH 2001, p. 47.

³⁵⁸ BAMBACH 1999, p. 66 and figs. 59-60.

workshop may also have been reproduced by tracing.³⁵⁹ Pieter Coeck van Aelst's (1502-1550) wings for the Sint Truiden altarpiece show traced outlines gone over with a brush³⁶⁰ and one of the many versions of Jan de Beer's (active 1490-1515) *Adoration of the Magi* (Munich, Alte Pinakothek) reveals what appears to be a traced underdrawing.³⁶¹ Most recently, the use of tracing to transfer cartoons has been suggested for two versions of the popular image, *Madonna with the Veil*, after Antwerp artist Jan Gossaert (c. 1478-1532), based on the detection with infrared of rigid and interrupted contour lines in the underdrawing.³⁶² Tracing has also been established with a high degree of certainty as the means of transfer for certain portrait drawings by Hans Holbein the Younger to the final panels, such as that of Margaret, Lady Butts (drawing: Windsor, Royal Library; painting: 1543, Boston, Isabella Stewart Gardner Museum).³⁶³ In the latter case, lines reinforced with metal-point in the drawing correspond to precise brushstrokes in the underdrawing of the portrait panel, the brushstrokes serving to reinforce faint traced outlines.

6.4 The counterproof method

The counterproof method, whereby an artist lays a clean sheet of paper over another drawing in a chalk medium and presses the two together has occasionally been discovered for the transferral of drawings to another similar support. The outlines of the former would impress on those of the latter, leaving a faint image, the counterproof. Evidence of this has been found in the drawings of sixteenth century Liège artist, Lambert Lombard³⁶⁴ and later, in the work of seventeenth century Italian artist, Salvator Rosa (1615-1673). In Rosa's case, there are two examples of a drawing transferred in this manner, both in red chalk. The sheets containing the counterproofs have been glued to the reverse sides of sheets containing two freehand red chalk drawings, (*Standing Female Nude Leaning on a Pedestal* [recto], *Sleeping Soldier* [verso], c. 1662 and *Two Soldiers Stripping Corpses* [recto], *Soldier Discovering a Corpse* [verso], c. 1662).³⁶⁵ The method has not been detected for the transferral of cartoons to paintings.

6.5 Proportional Compasses

A simple tool to increase or reduce images in size, the proportional compasses were first illustrated in a sketch of Leonardo da Vinci from the end of the 15th century.³⁶⁶ The early models showed compasses with a single fixed geometric ratio, as in Leonardo's drawing. Jost Bürgi (1552-1632), a Swiss manufacturer working at the court of Cassel in Germany is considered the inventor of proportional compasses including geometric and trigonometric scales, adjustable according to several fixed ratios.³⁶⁷

Fixed proportional compasses, or alternatively, a ruler, square and ordinary compasses were suggested as the method used to transfer the images in two copies after Rogier van der Weyden's *Triptych of the Virgin* and *Altarpiece of Saint John*.³⁶⁸ Proportional compasses were also recently proposed as the method used in Rubens' studio to transfer designs in certain cases.³⁶⁹

6.6 Pantograph

Christophorus Scheiner published his invention of the pantograph in Rome in 1631 in his *Pantographice seu ars delineandi res quaslibet per parallelogrammum lineare*.³⁷⁰ The device illustrated in this publication differs little from the modern-day pantograph. It consists of a parallelogram of levers, also known as rulers, originally in wood, with a drawing point attached to one and a pointer to another. It can accurately enlarge, reduce or create a 1:1 line drawing of a flat image. By adjusting the positions of the pointer and drawing material, the degree of enlargement or reduction can be changed.³⁷¹

³⁵⁹ Lorne Campbell relates how a comparison of the National Gallery examples of this diptych with the Louvre diptych of the same subject show they are exactly the same size and were therefore probably painted using tracings of the same pattern drawings, in CAMPBELL 1998, p. 63 and note 18.

³⁶⁰ VAN DEN BRINK 2001b, p. 33 and note 138.

³⁶¹ *Ibidem*, pp. 21-2 and fig. 13.

³⁶² This was suggested in an oral presentation at the *Brueghel Enterprises* symposium on the production method of a series of copies of Gossaert's *Madonna with the Veil*, (see L. JANSEN 2002 [forthcoming]).

³⁶³ AINSWORTH 1990 and AINSWORTH and FARIES 1986, pp. 25-7.

³⁶⁴ See Cecile Oger's forthcoming doctorate on the techniques of Lambert Lombard (OGER, forthcoming).

³⁶⁵ From the website of Harvard University (www.artmuseums.harvard.edu/exhibitions/featured/verso/rentotwentil.html), based on a catalogue written by James. G. Harper for the exhibition, *Verso. The Flip Side of Master Drawings, 2001* at the Fogg Art Museum, Harvard University Art Museums, May 19, 2001-August 12 2001.

³⁶⁶ HAMBLY 1991, p. 128.

³⁶⁷ *Ibidem*, p. 128, fig. 122.

³⁶⁸ DIJKSTRA 1991, pp. 69-75.

³⁶⁹ NICO VAN HOUT 2002, unpublished.

³⁷⁰ A copy of this book is held in the British Library manuscripts section (SCHEINER 1631).

³⁷¹ For more details regarding Scheiner and his invention, see KEMP 1990, pp. 180-1, note 28, figs. 353 and 355; HAMBLY 1991, pp. 130-2.

Although there is no known precedent for the use of the pantograph in seventeenth century painting,³⁷² the instrument may possibly have existed in some primitive form before Scheiner's publication so it is relevant for consideration in the context of Brueghel the Younger.³⁷³ An instrument resembling a pantograph was identified in a small sketch by Leonardo de Vinci, dated around 1515.³⁷⁴

6.7 Mixed methods of transfer

Various methods of transfer are often practised by artists throughout their careers. Furthermore, the division between techniques of transfer given here is somewhat artificial as artists frequently used more than one method within a single painting or altarpiece, as in the Isenbrant group's *Rest on the Flight to Egypt* (Ghent, Museum voor Schone Kunsten), where pouncing, tracing and freehand drawing appear to coexist.³⁷⁵

³⁷² See note 273.

³⁷³ In an oral presentation at the *Brueghel Enterprises* symposium in June 2002, Roger Van Schoute and Hélène Verougstraete briefly discussed the possible use of the pantograph in a version of the *Triumph of Death* by Pieter Brueghel the Younger. They suggested that in the underdrawing, clumsily drawn, hesitant outlines, often starting and stopping along the way and the presence of little hooks at the beginning and ends of strokes betray a mechanical process and not a freehand touch (see VAN SCHOUTE and VEROUGSTRAETE 2002, forthcoming). See Chapter I, Section 7.2.8.g.i for discussion of the possible use of the pantograph in Brueghel's work and Appendix 1 for the present author's practical tests with this instrument.

³⁷⁴ VELTMAN and KEELE 1986, p. 112, fig. 181, cited in BAMBACH 1999, p. 420, note 14.

³⁷⁵ FARIES 2001, pp. 97-8 and note 73.

**PART I: ANALYSIS OF PIETER BRUEGHEL
THE YOUNGER'S PAINTINGS – KEY WORKS**

CHAPTER I

Census at Bethlehem

7.1 The original version by Pieter Bruegel the Elder

Pieter Bruegel the Elder's original version of the *Census at Bethlehem*,³⁷⁶ signed and dated 'BRVEGEL/ 1566' (Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 3637, fig. 1a-b),³⁷⁷ was examined in conjunction with the copies so as to explore more closely the similarities and differences between them and to search for clues regarding the copying process and the nature of the original model. The painting had already been the subject of a technical study at IRPA prior to a large Bruegel exhibition at the Brussels Musées Royaux des Beaux-Arts de Belgique in 1969³⁷⁸ and the work discussed as part of a short survey of Bruegel's painting techniques by Catheline Périer-D'Ieteren in 1979.³⁷⁹ The painting's technique was treated more recently in two publications by Dominique Allart.³⁸⁰

The original painting was cleaned and restored at IRPA in 1968–9 by Albert Philippot. The conservation report published by René Sneyers at the time states that despite minor losses due to flaking, the paint layer was relatively intact.³⁸¹ The cleaning process did not seek to remove every trace of old varnish; hence the painting still retains a slight 'patina' of previous varnish and dirt³⁸² rendering the blues a little greenish in places. A recent examination of the painting has shown that the paint layer is still in good condition and the new varnish applied in 1969 is not significantly yellowed. The influence of the thin patina of older varnish and dirt is so minimal that comparisons of colour and composition can be made between the original and the copies without much danger of misinterpretation.

7.1.1 Support

The original version's support is an oak panel comprising four false-quarter cut horizontal boards, roughly thinned on the reverse with a curved draw-knife or roughening plane,³⁸³ measuring 115.3 cm in height, 164.5 cm in width and approximately 1 cm in thickness (fig. 2). These measurements do not include the two thin battens added along the upper and lower edges during the 1968–9 restoration. The planks are joined with the aid of wooden dowels, visible in the x-radiograph (fig 3). With the exception of the Lille and a privately owned version,³⁸⁴ which are on canvas, the copies are all painted on oak panels composed of four to six horizontally joined oak planks of similar dimensions to the original, joined likewise with wooden dowels.

7.1.2 Ground

The panel is primed with a calcium carbonate (white chalk) ground layer.³⁸⁵ This would have concealed any irregularities or accidental damages in the wood panel and provided a smooth surface on which to paint. The same type of ground was also identified by scientific analysis in several of the copies by Bruegel the Younger.

White chalk grounds were traditionally used in Flemish panel painting from the fourteenth to the seventeenth century. They were valued for their ability to reflect the light from the ground through thin paint layers, imparting a jewel-like luminosity.

7.1.3 Barbes and unpainted edges

In the original version there are *barbes* (ridges of ground material) and ungrounded and unpainted borders along the right and left edges, whereas the ground and paint extend right up to the panel edges on the upper and lower sides. On the left side the *barbe* and unprepared edge is visible all the way along as the frame, not the original,

³⁷⁶ A full technical analysis of the original version is being prepared for publication by Dominique Allart and the author and will be published in ALLART and CURRIE 2003 (forthcoming).

³⁷⁷ The painting was acquired by the museum at the Edmond Huybrechts sale, which took place in Antwerp on 12–15 May 1902. It had previously formed part of the van Colen de Bouchout collection in Antwerp, prior to which its provenance is unknown.

³⁷⁸ Musées Royaux des Beaux-Arts de Belgique, *Bruegel, le peintre et son monde*, Brussels, 1969. The posters explaining Bruegel the Elder's painting technique, made for this exhibition by Régine Guislain-Wittermann and Jacqueline Folie with the aid of Albert Philippot, were never published. Some brief remarks on the *Census at Bethlehem*'s painting technique, based on the technical study during the restoration of the painting at IRPA were published as part of the conservation report by René Sneyers in SNEYERS 1969, p. 16.

³⁷⁹ PÉRIER-D'ETEREN 1979, pp. 51 and 53. For a comparison between Bruegel and Van Eyck's respective techniques, see PÉRIER-D'ETEREN 1996.

³⁸⁰ ALLART 1993a; ALLART 1993b.

³⁸¹ SNEYERS 1969.

³⁸² Old residues in the form of brown speckles are observed over certain areas, e.g. the blue water in the upper right.

³⁸³ A draw-knife or roughening plane ('plane' in French) is illustrated in MARETTE 1961, p. 326. A 1769 delftware plate decoration showing such a tool actively employed in a woodworker's workshop is illustrated in WALKER 1998, p. 181.

³⁸⁴ Christie's, New York, 10 January 1990, lot. 217.

³⁸⁵ Cross-sections taken by Léopold Kockaert. SEM analysis of several of these samples carried out at IRPA by Janka Sanyova.

is slightly too large. There is no evidence to suggest that the upper and lower edges of the panel have been cut down. No other large format paintings by Bruegel the Elder were examined by the author. However, published photographs and unpublished material in the IRPA dossiers provide information regarding some of his other works: in the *Fall of the Rebel Angels*, where the wood grain runs horizontally, there are ungrounded and unpainted borders on the lateral edges but not on the upper and lower edges; in the *Sermon of Saint John the Baptist*, an unusual case of a horizontal format painting where the wood grain runs vertically, there are ungrounded and unpainted borders along the upper and lower edges, possibly along the right lateral edge and not along the left edge and in both the *Tower of Babel* (Vienna version) and the *Wheat Harvest*, the wood grain running horizontally in both cases, there are ungrounded and unpainted borders along the left edges but not along any of the other sides.³⁸⁶

Pieter Brueghel the Younger's larger format panels also frequently display *barbes* and ungrounded and unpainted borders along the lateral sides (never along the top and bottom edges).³⁸⁷

7.1.4 Imprimatura

The ground is overlain by a thin, roughly applied white *imprimatura* layer, principally composed of lead white.³⁸⁸ Although the binding medium has not been identified, it is highly probable that the *imprimatura* is bound in oil, the lead white acting as a dryer. In certain cross-sections, this layer also revealed scattered black particles and in some samples the scanning electron microscope identified significant quantities of calcium carbonate. The *imprimatura* is most evident in the x-radiographs where its wide, randomly applied brushmarks can be observed over most of the painted surface (fig 4). The presence of a layer of this type in Bruegel the Elder's work is not unusual and not confined to his winter scenes or paintings of a large format, for example, *Hunters in the Snow*, where the x-radiograph reveals roughly applied lead white based strokes in many of the reserves (fig. 5).³⁸⁹ The purpose of the *imprimatura* was both functional – to render the ground less permeable – and aesthetic, extending the white ground's luminous tonality. In many places the *imprimatura* is left unpainted to represent snow. In other areas, the coarsely applied brushstrokes may also have provided a slight 'tooth' for painting.

An *imprimatura* is also noted in many of Brueghel the Younger's copies of the *Census at Bethlehem*; however, it is generally slightly tinted, more medium-rich and with only a low lead white content, therefore barely, if at all, registering in x-radiography.³⁹⁰

7.1.5 Underdrawing

In the original version, as with the copies, an underdrawing was detected with infrared reflectography and in places with the naked eye.³⁹¹ It was probably applied directly on top of the *imprimatura* as it appears to skip the ridges of an underlying layer in some areas (fig. 6) and in others is directly exposed without overlying paint, for example in the rooftop of the ruined castle in the upper right, where the underdrawing of two 'v' shapes lies above the unpainted white *imprimatura* (fig. 7). A dry, carbon-based drawing material has clearly been used, which has not been identified but is likely to be black chalk or possibly charcoal.

³⁸⁶ *Fall of the Rebel Angels*, 117 x 162.5 cm, signed and dated 'M.D.LXII BRVEGEL', Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 584; *Sermon of Saint John the Baptist*, 95 x 160.5 cm, signed and dated 'BRVEGEL.M.D.LXVI', Budapest, Szépművészeti Múzeum, inv. 51.2829; *Tower of Babel*, 114 x 155 cm, signed and dated, 'BRVEGEL FE.M.CCCCC.LXIII', Vienna, Kunsthistorisches Museum, inv. 1026; *Wheat Harvest*, 116.5 x 159.5 cm, signed and dated 'BRVEGEL [...]LXV', New York, The Metropolitan Museum of Art, inv. 19.164.

³⁸⁷ The probable explanation for this phenomenon is explored in relation to Brueghel the Younger's panel supports for his *Census* copies, see Section 7.2.3.

³⁸⁸ SEM analysis carried out on certain of the cross-sections in the presence of the author.

³⁸⁹ *Hunters in the Snow (Winter)*, 117 x 162 cm, signed and dated 'BRVEGEL. M.D. LXV', Vienna, Kunsthistorisches Museum, inv. 1838. X-radiographs also reveal the presence of a coarsely-applied, overall lead white layer in the following works by Bruegel the Elder: *Fall of the Rebel Angels* [cited note 386], *Christ Carrying the Cross*, 124 x 170 cm, signed and dated 'BRVEGEL.MD.LXIII', Vienna, Kunsthistorisches Museum, inv. 1017; *Peasant Wedding*, 114 x 164 cm, unsigned, Vienna, Kunsthistorisches Museum, inv. 1027; *Peasant Dance*, 114 x 164 cm, signed 'BRVEGEL', not dated, Vienna, Kunsthistorisches Museum, inv. 1059; *Conversion of Paul*, 108 x 156 cm, signed and dated 'BRVEGEL.M.D.LXVII', Vienna, Kunsthistorisches Museum, inv. 3690 and *Peasant and the Nest Robber*, 59.3 x 68.3 cm, signed and dated 'BRVEGEL.M.D.LXVIII', Vienna, Kunsthistorisches Museum, inv. 1020. Several unpublished x-ray plates from paintings by Bruegel outside Belgium were consulted from the IRPA dossiers. I would like to thank the director, Dr. Wilfred Seipel and his assistant, Ms. Pichler of the Kunsthistorisches Museum for kindly showing me x-rays from their technical files.

³⁹⁰ For a brief account of *imprimatura* and tinted isolation layers in Flemish painting in the sixteenth and early seventeenth centuries, see Section 7.2.4.

³⁹¹ Not many studies have been published on Bruegel the Elder's underdrawing. These include a description by Hélène Verougstraete and Roger Van Schoute in the underdrawing in the *Adoration of the Magi* at the National Gallery, London (VEROUGSTRAETE-MARCO and VAN SCHOUTE 1975), a discussion by Susan Urbach of the underdrawing in the Budapest *Sermon of St. John the Baptist* (URBACH 1999), Roger Van Schoute and Hélène Verougstraete's technical and art historical study of their recent discovery of a painted wooden roundel by Pieter Bruegel the Elder (VAN SCHOUTE and VEROUGSTRAETE 2000) and most recently, Rebecca Duckwitz's technical essay on the Berlin *Flemish Proverbs* (DUCKWITZ 2001).

The vast majority of the painted composition appears to have been laid out in the underdrawing.³⁹² Drawing can be detected for the main figures (fig. 8a-b) and animals (fig. 9a-b), for architecture (fig. 10), carts, trees and landscape contours. It is mostly an outline drawing, with occasional short lines to indicate creases or folds in draperies; all hatching lines for tone in draperies on closer inspection have proven to be part of the paint stage (figs 11a-b). The underdrawing, all of which appears to be freehand, varies from tight and schematic, for example in the couple in the lower right corner (fig. 12a-b), to quite animated and somewhat sketchy, with several adjustments during execution, for example in the architecture (figs. 10), certain faces (fig. 13) and small still life details (fig. 14). For some forms, the artist is clearly feeling his way around, making minor adjustments where necessary as he went. The drawing line varies in thickness and density and often tapers at the ends of strokes.

It is difficult to assess whether certain small-scale background figures are underdrawn as these are usually outlined during painting in a dark black tone. These black painted outlines absorb infrared in the same way as the underdrawing, thus concealing any underdrawn lines; nonetheless, as no traces of underdrawing are visible beyond the painted edges of the figures, it is unlikely that they were underdrawn (fig. 15a-b, 16a-b). Large figures are underdrawn, but their outlines are often concealed by the paint layer and visible only where draperies are light in tone or where the paint layer is slightly adjusted in relation to the underdrawing (fig. 12a-b). Details such as ‘The Swan’ inn sign³⁹³ (fig. 17), the post with a bowl to collect alms to the left of the leper’s house³⁹⁴ (fig 18), the small posts just below the upper left pond and the houses on the distant horizon in the upper left (fig 19) are indicated in the drawing stage. Even some very minor details, for example the footprints of the leper in the snow, are suggested by sketchy markings (fig. 18).

The figure putting on his skates in the lower right is absent in all the copies but evidently not a last-minute addition to the original, as underdrawing lines were detected for the crease of the figure’s right knee, the outline of the left knee and the mittens (figs 20a-b).

Curiously, the sun does not appear to be underdrawn; however, it is traversed by diagonal drawing lines from the small branches of a tree, the latter not carried through to the paint layer (figs. 21a-b).

7.1.5.a *Adjustments during underdrawing*

One of the criteria to determine whether the actual model for the copies was the original painting or a drawing of some kind is the answer to the question of whether or not Bruegel the Elder included any motifs in the underdrawing of the original version that he subsequently changed significantly or dropped during painting.³⁹⁵ Only one significant adjustment appears to have been made to the composition during the underdrawing stage. This concerns the roof and gable of the ruined castle in the upper right (fig. 22a-b). Sketchy drawing lines above the two blind windows with pigeon holes suggest additional arches and the windows also appear to extend further downwards. A ‘v’ shape above the windows indicates a different profile for the roof gable to the twinned pinnacles. Probably connected to this stage are two, loosely drawn, upside down ‘v’ shapes, possibly dormer windows, in the slope of the snowy roof itself, which have not been followed through to the paint. The copies do not show any forms that might be inspired by the two small upside down ‘v’ shapes; however, the two windows corresponding to the blind windows in the original are more elongated in the copies, as in the underdrawing of the original.

Minor modifications during drawing include the position of a woman’s foot in the lower right, adjusted several times (fig 23a-b), one of the Virgin’s mule’s hooves, outlined at least twice and shifted downwards during painting (fig 24a-b), the diagonal roof line of the small wooden lean-to shed to the left of the gatepost in the upper left which appears to have been moved to the right during drawing or possibly painting (fig 25a-b) and the lowermost drawn haunch of the ox which has two positions in the underdrawing (fig 9). There are also some sketchy lines below the belly of the ox which might have extended it but these were not followed in the paint layer.

7.1.5.b *Adjustments in outline during painting*

The drawn outlines are mostly followed closely in the paint layer, except for small branches of trees, which are only loosely indicated in the underdrawing, if at all.

Minor adjustments in positioning of motifs do occur; for example, the small branches of a pollarded tree profiled against the leper’s house, moved to the left during painting (fig. 26a-b), (unless these branches represent

³⁹² The network of age cracks in the paint layer sometimes disturbs the reading of the underdrawing.

³⁹³ In the original version the lettering on the inn sign is illegible; in the copies, ‘In de Swaen’ can clearly be made out.

³⁹⁴ The identification of the leper’s house and the various associated attributes was made in GENAILLE 1981, pp. 92-3.

³⁹⁵ The detection of elements in the underdrawing of Bruegel the Elder’s *Flemish Proverbs*, dropped during painting, but present in the copies by Brueghel the Younger, was a key argument used by Rebecca Duckwitz to show that Brueghel the Younger did not use the original painting as his model, but based his copies on a preliminary drawing by Bruegel the Elder, see DUCKWITZ 2001.

a separate tree, dropped during painting) and the legs and feet of the bird on the sunken barrel in the lower right (figs. 27a-b). Parts of the trunk and the leading left branch of the large tree to the left of the painting also appears to have been shifted to the right slightly during painting, the underdrawing for the left profile of the tree is now found to the left of the painted outline and the right painted edge of the trunk and left branch overlaps the paint on their right by an equivalent amount (fig. 28a-b). Finally, fine tree branches in the upper left sky, represented by fine, scallop-like, loose drawing lines are present to the left of the painted tree (fig. 29a-b). In most of the copies, the latter tree does seem to be painted further to the left than the corresponding tree in the original, more in accordance with the underdrawing of the original than its final paint layer; however, the position of the tree varies from copy to copy.

7.1.5.c *Omission of underdrawn motifs during painting*

In addition to the small ‘v’ shapes in the roof of the castle in the upper right, several further dropped motifs can be observed: the beginning of a form, possibly a tree trunk, located on the edge of the roof of the inn on the far left (fig. 30); a thick side branch coming from the right edge of the tree trunk of the large tree crossing the upper left pond (fig. 28); a left side branch profiled against the sky of the tree with ‘The Swan’ inn (fig 31)³⁹⁶; a small tree and side branch profiled against the snowy roof of a house just behind and to the right of the tree with ‘The Swan’ inn (fig. 32); a side branch and possible small tree profiled against a rooftop to the left of the sun; a ring, probably from a barrel, propped up at an angle against a tree in front of the central house (fig. 33) and a basket carried by a figure in the lower left group around the ‘Save Garde’ inn (fig. 34a-b). None of these elements are observed in the copies, neither at the level of underdrawing nor the paint layer.

The underdrawing in the copies is also a linear outline drawing, although the forms are more clearly delineated and in general the drawing lines less animated, show little or no reworking and are applied in a more methodical and formulaic manner.

7.1.5.d *The place of the underdrawing in the evolution of the composition*

Unfortunately, no preparatory sketches, studies or compositional drawings for the *Census at Bethlehem* have survived. Nonetheless, the fact that the underdrawing is fairly complete, does not betray any large changes in motif and is often fairly tight in the case of certain foreground motifs (figs. 9, 12) may suggest that Bruegel may have relied on a detailed compositional drawing as well as separate studies or cartoons for important motifs.³⁹⁷ Indeed the precise, simple contour lines of the underdrawing of the couple in the lower right (fig. 12) recall those in one of Bruegel’s four surviving figure studies, the *Standing Shepherd*.³⁹⁸ The latter drawing is dated around 1565,³⁹⁹ the year before the *Census* was painted and was probably made in preparation for a composition (fig. 36). Assuming the existence of such models, no sure clues are revealed in either infrared reflectography or x-radiography of the original painting as to how Bruegel transferred them to panel. Signs of pouncing dots were searched for but only ambiguous findings were made and the vast majority of ‘dots’ are too small to be pouncing and probably due to irregularities in the surface layer or pigment from the drawing line itself (fig. 12); many suspected pouncing dots proved on close inspection of the painting to be markings due to the paint layer or the paint surface (fig. 35a-b). Certain motifs that do not appear to be underdrawn, such as the small background figures in the upper left and the sun were probably copied by eye from a preliminary drawing during painting.

The closest published underdrawing to the *Census at Bethlehem* by Bruegel the Elder is that of the *Flemish Proverbs*,⁴⁰⁰ which Rebecca Duckwitz described in a recent article as economical and limited to the outlines of figures, faces, architecture and landscape, with virtually no hatching for tone and the folds of draperies indicated only exceptionally.⁴⁰¹ Like the underdrawing in the *Census*, Duckwitz also noted differences in the drawing

³⁹⁶ This dropped branch would have balanced the tree; it was perhaps omitted in the final paint layer to intentionally push the tree off balance and give an additional negative connotation to the motif, which contains ‘The Swan’ inn. For an interpretation of ‘The Swan’ inn as a house of easy virtues, see GENAILLE 1981, pp. 91-2.

³⁹⁷ Dominique Allart recently published various hypotheses as to the likely preparatory material from Bruegel the Elder’s studio inherited by Brueghel the Younger. She suggests this might have included large-scale cartoons, plus more detailed, partial models, possibly including instructions on colour and hatching, see ALLART 2001, pp. 55-6. The issue of Jan and Pieter Brueghel’s models for their copies is treated by almost all the authors discussing their work, including MARLIER-FOLIE 1969, VAN HAUWAERT 1978, VAN HAUWAERT-THOMAS and FOLIE 1995, VAN SCHOUTE and VEROUGSTRAETE 1995, URBACH 1999, ERTZ 2000, VAN SCHOUTE and VEROUGSTRAETE 2000, CURRIE 2001, DUCKWITZ 2001 and MORI 2001.

³⁹⁸ *Standing Shepherd* (also known as *The Geese Herdsman* and *The Gozzard*), 24.6 x 14.8 cm, pen and brown ink, traces of black chalk, Dresden, Staatliche Kunstsammlungen, Kupferstich-Kabinett, inv. C2128. The only other single figure studies by Bruegel the Elder, also dated around 1565, comprise: *The Bagpipe Player*, 20.5 x 14.5 cm, pen and brown ink, The Woodner collections, on deposit at the National Gallery of Art, Washington; *The Painter and the Connoisseur*, 25.5 x 21.5 cm, Vienna, Graphische Sammlung Albertina, inv. 7.500 and *Four Men in Conversation*, 21.2 x 15.2 cm, Paris, Musée du Louvre, Cabinet des Dessins, inv. 19.740.

³⁹⁹ CAT. WASHINGTON 1986, cat. 30, pp. 103-4.

⁴⁰⁰ *Flemish Proverbs*, 117 x 163.5 cm, signed and dated ‘BRVEGEL 1559’, Berlin, Staatliche Museen zu Berlin, Preussischer Kulturbesitz, Gemäldegalerie, inv. 1720.

⁴⁰¹ DUCKWITZ 2001, pp. 73-8.

style depending on the importance of the motif, key motifs often rendered with a sure touch without adjustments to the line (fig. 37), smaller and background motifs drawn more sketchily and with a number of minor shifts during drawing. She concludes that the lack of changes in the drawing of important motifs, together with the evidence of Brueghel the Younger's copies suggest Bruegel the Elder made a detailed, possibly full-sized drawing or cartoon in preparation for the painting. Another underdrawing for a large scale composition with stylistic similarities to the *Census* and the *Proverbs* is the *Sermon of Saint John the Baptist*,⁴⁰² details of which were published by Susan Urbach in 1999. Like the *Census* and the *Proverbs*, the main outlines of the figures and major folds in the *Sermon of Saint John the Baptist* are carefully and clearly rendered freehand in a dry drawing medium (fig. 38). There are small adjustments during drawing and small shifts likewise during painting. Urbach concludes that Bruegel may have used cartoons to transfer the main figures and raises the possibility that his sons' copies may have been made after these self-same documents.⁴⁰³ Similar observations in the underdrawing of the *Census* point towards a similar hypothesis to Duckwitz and Urbach, namely that the underdrawing stage relied heavily on a prior detailed compositional study and that certain key foreground motifs, underdrawn with simple outline drawings devoid of hatching or indications of tone may have been based on cartoons; furthermore, superposition of the author's tracings of the compositions of the copies of the *Census* with the original version supports the idea that Brueghel the Younger may indeed have re-used cartoons originally created by his father (see below, 'The source of the cartoons: Brueghel the Younger or his father's legacy?', Section 7.2.8.g.vii).

Photographic and infrared documentation from other works by Bruegel the Elder shows that the style of underdrawing in the *Flemish Proverbs*, *Sermon of Saint John the Baptist* and *Census at Bethlehem* is not the rule and that neither format nor date of execution appear to be determining factors. The underdrawing detected in the small format *Winter Landscape with Bird Trap* recalls the more sketchy elements in the former two works and encompasses both minor and major adjustments in motif, both during drawing and painting (see figs. 392-7), suggesting that the final composition was worked out during the underdrawing and painting stages, rather than in a preparatory drawing or cartoon. Other, larger format paintings show loose, sketchy, searching contours in faces and draperies as for example in the *Wheat Harvest* (fig. 39)⁴⁰⁴ and others encompass large amounts of lavish hatching for tone, as for instance in the larger format *Adoration of the Magi* (fig. 40a-b) and the *Peasant Wedding Dance* (fig. 41a-b).⁴⁰⁵ We could hypothesise that the degree of sketchiness, presence of hatching for tone and number and scale of the changes in the underdrawings may be influenced by the level of finish in the preparatory studies – more finished preparatory studies and/or cartoons resulting in underdrawings or parts of underdrawings as seen in the *Census*, *Sermon of Saint John the Baptist* and *Proverbs* whereas paintings for which preparatory studies were more sketchy and unresolved resulting in further reworking and finalisation in the underdrawings and/or during painting, as in the *Winter Landscape with Bird Trap*, larger format *Adoration*, *Wheat Harvest* and *Peasant Wedding Dance*.⁴⁰⁶ If this is indeed the case, the question of why Bruegel varied the extent of his preparatory work for complex figural compositions such as the *Census* and the *Peasant Wedding Dance* remains open.⁴⁰⁷ In the absence of any surviving preparatory work for paintings by Bruegel, the full

⁴⁰² *Sermon of Saint John the Baptist* [cited note 386].

⁴⁰³ Susan Urbach recommends measuring key motifs in the foreground of the original and copies to prove this hypothesis, see URBACH 1999, p. 133.

⁴⁰⁴ *Adoration of the Magi*, 111.1 x 83.5 cm, signed and dated 1564, London, National Gallery (Davis 1968, cat. 3556); *Wheat Harvest* [cited note 386].

⁴⁰⁵ *Peasant Wedding Dance*, 119 x 157 cm, dated 'M.D.LXVI.', Detroit, Institute of Arts, inv. 30.374. Philippe and Françoise Roberts-Jones summarise the conflicting opinions as to the attribution of this painting to Bruegel since its discovery in 1930 in a chart in their book on Bruegel the Elder and Georges Marlier cites several more in his book on Brueghel the Younger. Those who question its attribution include Tolnay, Jedlica and Vanbeselaere; however, the painting is accepted by most, including Friedländer, Glück, Grossmann, Genaille, Denis, Gibson, Marijnissen, Delevoey, Roberts-Jones and Marlier (MARLIER-FOLIE 1969, p. 183; ROBERTS-JONES 1997, pp. 326-7). Most recently, Klaus Ertz categorically excluded the painting from the Elder Bruegel's oeuvre, but in the current author's opinion, his arguments are weak: he says that the painter of this work used a lot of browns to make the main colours to shine out, suggesting that the latter was a technique of Brueghel the Younger but not Bruegel the Elder, that in pictures by Bruegel the Elder, red does not dominate as much as it does in the Detroit image and that the Detroit painting does not have the same style and technique as Bruegel's paintings in the Kunsthistorisches Museum in Vienna; furthermore, he states that the Detroit image is partially based on Van der Heyden's engraving of the *Wedding Dance in the Open Air* (ERTZ 2000, p. 665). The current author refutes Ertz's arguments on all levels: Bruegel the Elder often uses a darker background as a foil for drapery colours, for example, in the *Fall of the Rebel Angels* [cited note 386], red is frequently used as a key element in his compositions, for example, in the *Peasant Dance* (Vienna, Kunsthistorisches Museum) and the loose and thinly painted execution in the Detroit *Peasant Wedding Dance* does indeed recall certain paintings in the Kunsthistorisches Museum, such as the *Return of the Hunters*; furthermore Nadine Orenstein recently dated Van der Heyden's engraving to after 1570, well after the Detroit work was executed (1566) (ORENSTEIN 2000, p. 248). For further underdrawings in Bruegel the Elder's work, see also infrared details of foreground figures from *Christ Carrying the Cross* [cited note 389] in VEROUGSTRAETE and VAN SCHOUTE 1975, fig. 5a-b; these underdrawings show bold, loose outlines and hatching for folds in a dry drawing medium.

⁴⁰⁶ Other possible explanations for the very different underdrawing styles in Bruegel the Elder's paintings will be discussed in ALLART and CURRIE 2003 (forthcoming).

⁴⁰⁷ Lorne Campbell recently suggested that Bruegel would have used cartoons for complex compositions such as the *Flemish Proverbs* but would have not needed them for less complicated images such as the National Gallery, London version of the *Adoration of the Magi* (CAMPBELL 2002, p. 180); countering this albeit logical viewpoint is the fact that the Detroit *Wedding Dance*, sketchily underdrawn and

picture can never be completely known; nonetheless, the study of the copies and where possible, comparison with the originals on a case-by-case basis can help answer certain questions.

7.1.6 Paint Layer

7.1.6.a *Use of reserves and evolution of the paint layer*

Although Bruegel the Elder⁴⁰⁸ and later on, Brueghel the Younger both used reserves to some extent during the painting process – leaving unpainted spaces in the background paint for the forms to come – the evolution of the paint layers in the father's original version was infinitely more subtle and complex than in the copies of his son, leading to a more nuanced final result.

Close examination of the x-radiographs and infrared reflectograms in conjunction with macro- and micro-photographs help build a picture of the possible sequence in which the various motifs and background paint were applied (figs. 42 a-e).⁴⁰⁹

The opaque, lead white *imprimatura* layer served in many places as the final snow paint layer, for example in certain snow-clad rooftops (fig. 26), the midground in between the central house and the foreground figures and the snowy floor of the flat bottomed boat in the upper left pond.

The first coloured paint to be applied was most likely the first layer of sky (fig. 42a). This appears to have been followed by a thick layer of white snow paint on most of the cart-loads and many of the rooftops, in which reserves were sometimes left for tree trunks (fig. 42a-c) and other motifs, for example, 'The Swan' inn sign (fig. 44a-b). Spaces were not retained for smaller trees and tree branches (fig. 43b).

The next stage may have been the application of the cool blue ice hues of the upper left and upper right ponds, leaving rough reserves for the trunk of the large tree on the left (fig. 45), the small, half-sunken boat to the upper left, the large flat boat but not the figures (fig. 42b). It is clear from the x-radiograph that this bluish ice paint was applied before the brick sides of the central house as the rough edges of brushstrokes from the blue layer pass under the reddish brick paint of the left edge of the house (fig. 45). The lower right pond was also painted during a similar period, leaving reserves for the figures, probably to ensure the latter retained a bright appearance rather than merging into the cool bluish landscape like their distant counterparts (fig. 46a-b, 47a-b).⁴¹⁰ In the foreground and midground, a thin layer of lead white based paint was added in places at around this stage, leaving reserves for major forms; the extent of this white layer is difficult to gauge – however, the x-radiograph reveals clear reserves in the latter for the figures grouped around the 'Save Garde' inn and for the small boy or dwarf staring at the pond in the lower right (fig. 48a-b).

The next motifs to be treated were most likely the major figures in the foreground as well as those in the midground (fig. 49) and background (fig. 42d, 50). At this point the animals and hens in the foreground were also probably painted as well as the brickwork and chimneys of the various buildings, the large icicles hanging from the right eave of the 'Save Garde' inn and possibly the distant trees in the upper left and the setting sun. The major trees were likely painted at this time and another layer of blue paint applied to the sky in some areas. This must have been quickly followed by the application of the smaller tree branches on the horizon, as they are painted wet-in-wet into the blue sky colour (fig. 51).

The artist next appears to have applied an additional layer of thick white snow paint to the foreground and parts of the midground, turning carefully around the forms and overlapping them slightly in places (fig. 42e). This layer can be seen turning around the hens in the lower centre (fig. 52a-c), the Virgin, the ox and ass, the group of figures above and to the right of the Virgin (fig. 53), the bottom of the tree with the Swan inn and the tree to the right of it, the barrel and straw sheaves in the lower left and the icicles on the 'Save Garde' inn (fig. 54a-b). Extra white paint has also been added to the apron of the woman holding the pan in the lower left. During this stage, the artist probably applied thick dabs of paint to suggest accumulations of snow on forms such as carts (fig. 55), the house in construction, snowballs and the kicked-up snow around people's feet (fig. 56) and possibly around the sun (fig. 21), although the latter may have been applied earlier. The dark sleeves of the lady with the pan in the lower left were painted at a very late stage and possibly the man at the extreme right edge of the composition coming out from in between the trees. Final touches include tiny blue icicles, birds (fig. 57, 58),

with certain modifications during drawing – therefore unlikely to have been transferred with the aid of a cartoon or cartoons – is also a highly complex, large-scale figural composition.

⁴⁰⁸ Reserves in Bruegel the Elder's work are common [various cases cited in note 389].

⁴⁰⁹ Interpretation of the x-radiographs proved to be more difficult than for the copies by Brueghel the Younger, mainly due to the dominant presence of the lead-white based *imprimatura* layer but also due to irregularities in the wood support resembling brushwork.

⁴¹⁰ These two examples illustrate clearly the two different ways in which reserves can be identified with scientific techniques of examination. In fig 46b, the x-radiograph shows that the lead white-rich layer of the ice paint overlaps slightly into the space reserved for the little girl. In the case of the lady pulling the sled (fig. 47a-b), infrared reflectography is more useful at showing the reserve; an infrared-absorbing pigment in the ice paint, probably a carbon black, overlaps slightly into the space reserved for the figure, the latter painted in pigments that do not absorb infrared.

fine tree branches, glazes (fig. 59) and scumbles, all applied on a dried underlayer. In one instance, at the corner of a snowy roof gable, the artist used his thumb or fingers to modify and give texture to a dark glaze whilst still wet (fig. 60); this technique is seen in other paintings by Bruegel the Elder (see fig. 389a-e) but not in Brueghel the Younger.

In the copies of the *Census*, most motifs are systematically reserved in the surrounding paint, including certain minor details.

7.1.6.b *Palette*

The colour scheme in the original version of the *Census* is totally different from that of the copies. The scene is dominated by a generally cool palette of white, blues and greens. Far background figures are painted in browns and blacks, figures in the midground are picked out in muted reds, browns and greens, whilst foreground figures show solid blocks of more contrasted colours and textiles are sometimes striped.

The subtle colour scheme is punctuated by red in places, the setting sun representing the most forceful and dominant motif in the entire composition. Prior to their partial discolouration to mauve, the red draperies in the foreground would have been more prominent and balanced the impact of the sun somewhat (see below, ‘Paint layer structure and pigment analysis’, Section 7.1.6.c).

7.1.6.c *Paint layer structure and pigment analysis*

Cross-sectional analysis of selected samples shows a relatively simple layer structure and the use of traditional pigments.⁴¹¹

In the sky, two cross-sections reveal a lead white *imprimatura* above the ground, followed by one or two paint layers containing smalt and lead white (fig. 61 a-b).⁴¹²

A cross-section from a brown branch (fig. 61 c) has two white layers above the ground, both containing lead white and calcium carbonate, the lower one probably the *imprimatura*, the upper one probably a extra layer to reinforce the white sky.⁴¹³ A single transparent brown layer is present above the white layers and contains black, small red particles and one large yellow particle. Elemental analysis of one grain of black detected phosphorus, indicating bone black. Iron was detected in large quantities, probably due to the presence of iron oxide red (no mercury, aluminium or umber detected).

A sample from a dark green apron (fig. 61d) reveals that the green coloration was obtained by a mixture of azurite, some yellow ochre and another yellow pigment.⁴¹⁴ An *imprimatura* layer was not identified in this cross-section.⁴¹⁵ In another green apron, analysis revealed two paint layers (fig. 61e).⁴¹⁶ The lowermost layer is dark in tone and contains black carbon based particles of different sizes, an iron oxide pigment, chalk and lead, the latter probably added as a drier as it is very finely dispersed and does not contribute to the colour of the layer. The uppermost layer is green and consists of azurite mixed with yellow ochre and perhaps a yellow lake. In this sample there was also a thin white layer directly above the ground consisting of lead white and chalk, most likely the *imprimatura*.

Another green sample was examined from a hat with a dark shadow (fig. 61f).⁴¹⁷ The main colouring matter of the hat is azurite, yellow lake and ochre; one particle of lead tin yellow is also present. This coloured layer is surmounted by a darker layer to create the shadow, consisting of many black particles. No *imprimatura* was observed in this sample.

Although not analysed by scientific means, it is clear that many of the reds draperies in the painting are based on the pigment vermilion, owing to their characteristic hue as well as the typical discolouration of the pigment to a

⁴¹¹ A limited number of cross-sections of the painting were taken by Léopold Kockaert. Unfortunately, their exact locations were not always noted. These were recently re-examined by the author, analysed with the scanning electron microscope by Janka Sanyova, photographed by the author and the results interpreted by the author and Janka Sanyova.

⁴¹² Pigment identification of fig. 61b with the optical and scanning electrical microscopes, including elemental mapping; fig. 61a examined with the optical microscope only. The junction between the *imprimatura* and the smalt-containing sky paint is difficult to make out with the optical microscope.

⁴¹³ Scanning electron microscopy, including elemental mapping, was carried out on this sample.

⁴¹⁴ Pigment identification with the optical microscope only.

⁴¹⁵ Although in the x-radiograph an *imprimatura* layer can be identified in the vast majority of areas, it is possible that small areas of ground escaped full coverage or that the sample was taken from a depression in the *imprimatura*'s coarse brushwork.

⁴¹⁶ This sample was analysed by scanning electron microscopy. The lead white particles in the dark paint layer (layer 3) are extremely finely dispersed and do not contribute to the tone of the layer. The lead white in this case was probably added to act a dryer, rather than as a pigment.

⁴¹⁷ Pigment identification with the optical microscope only.

mauve colour in places (fig. 62a-b). Interestingly, the transformation of vermilion to mauve is one of the defining characteristics of the work of Pieter Brueghel the Younger.⁴¹⁸

In Brueghel the Younger's work, a simple paint layer structure was also identified in the versions of the *Census* analysed, consisting of one or two layers of paint above the *imprimatura* and ground. Likewise, smalt was identified in the copies as the main colouring matter in the sky (fig. 157a-f).⁴¹⁹

7.1.6.d *Handling of paint and characterisation of motifs in comparison to the copies*

Apart from its more muted colour scheme, the original version stands out from the copies for its very different style of brushwork and characterisation of figures. Nonetheless, certain brushwork is similar and points to Brueghel the Younger's knowledge of his father's painting style, although not necessarily through the example of the *Census at Bethlehem*.⁴²⁰

7.1.6.d.i *Figures and faces*

In Bruegel the Elder's version, the small child on the ox-jaw sled in the lower right demonstrates how with the deft positioning of the child's arms and sled and the focused vision of the eyes on the ice, the little girl appears to move rapidly forward with a certain anticipatory glee (fig. 63a). None of this sense of movement and excitement is conveyed in the copies (fig. 63b-c). In terms of brushwork, the copyist(s) outlined the little girl in a dark colour, as in the original, although the child's red cap is outlined in a red glaze (faded today), whereas in the original version the blue cap is outlined with the same black strokes as the rest of the figure. In the original, the pale *imprimatura* is allowed to shine through the thinly applied black paint of the arms of the figure to imply the play of light on the fabric; in the copies, curved, opaque, light-toned strokes are placed on top of the dress material for the same purpose. Clearly, 'less is more' in Bruegel the Elder's version of the motif.

In depicting a small figure being pushed over in the snow, the elder Bruegel makes it clear that the child's arms and hands are in a position ready to break his inevitable fall (fig. 64a). Small changes in the position of the hands in the copies lead to this meaning being lost, the child's right hand turned up, rather than down to save himself (fig. 64b-c). Outlining is more subtle in the original version than the copies, serving a dual purpose of defining the figure against the snow and indicating the shadow areas. In the copies, particularly in the KMSK version, the outlining is less discriminate, giving the figure a 'cardboard cut-out' quality. In the latter copy however, the artist has used the same technique as his father in the brown paint of the coat, employing brushy strokes to allow the underlying layer to show through; however, the elder Bruegel supplemented his brown layer with a further reddish layer in parts of the figure, unlike in the KMSK copy where there only appears to be one layer.

The figures struggling across the pond with large baskets on their backs are a good example of the difference in characterisation between the original and copies (fig. 65a-c). In the original version, the figures are bowed down forwards against what appears to be a bitterly cold wind; furthermore, the leading figure seems barely able to support the heavy weight on his back, and uses his stick to help him. In the copies the figures do indeed muffle their hands from the cold in their sleeves, but their faces are more exposed and they do not convey the weight on their shoulders so convincingly, except perhaps the leading figure of the Brussels version. Both original and copies define the motif with dark outlines, although these are better integrated in the original version.

The fur-coated official accepting the tithes at the 'Save Garde' inn is painted with more detail and expression in the copies than in the original (fig. 66a-c). In the original, he appears as an anonymous functionary, going about his job without much ado; in certain of the copies, as in the two versions illustrated, the official wears a rather benevolent expression and his rounded face, decorative fur collar and fashionably slashed pink cap suggest he is comfortably well-off, in contrast to the some of the people paying their tithes. The figures behind are also more clearly defined in the copies in terms of facial features, although they are not necessarily more expressive than their counterparts in the original version. This detail also shows clearly the thin black, brushy paint strokes Bruegel the Elder typically uses for figures in dark interiors, in marked contrast to the vibrant, more thickly painted, colourful faces in equivalent spaces in Brueghel the Younger's work (fig. 67a-c).

A further comparison of characterisation can be seen in the form of a figure leaning against the trunk of the large tree on the left, apparently in conversation with the person with his back to the viewer (fig. 68a-c). For this

⁴¹⁸ For a discussion of this phenomenon in the *Census* copies, see Section 7.2.6.c, for discussion of the possible reasons for it, see Chapter VII, Section 13.1.5.d; see also Appendix 2 for list of works affected by this discolouration.

⁴¹⁹ No comparative material is available for draperies as there was no sampling from these areas in the copies for ethical reasons. The results of x-ray fluorescence analysis by Robert Fuchs on the *Census* copies were presented at the *Brueghel Enterprises* symposium (FUCHS and OLTROGGE 2002 [forthcoming]), see Section 7.2.6.c.

⁴²⁰ Brueghel the Younger almost certainly had access to other original works by his father, for example the *Battle between Carnival and Lent* (see Chapter II). Chapter II also discusses the similarities and differences between the painterly brushwork in the original version and the newly-acquired Brussels museum copy.

motif, the Brussels copy instils more intrigue into the expression of the face than either the original version or the privately owned copy. The blue paint of the cape in the left figure appears slightly more thickly applied in the copies, the hairs of the stiff brush leaving small ridges.

In the blue cap of a figure above and to the left of the Virgin, Bruegel the Elder has used a sharp instrument, probably the back of his brush, to make small swirls in the wet paint which reveal the lighter underlayer (fig. 69a-c). Bruegel the Younger also manipulated his blue paint in interesting ways whilst it was wet, for example in the cap of a figure to the lower left in the KMSK version; it is not clear how he achieved this effect.

Faces in copies by Bruegel the Younger's workshop are often characterised by small vertical strokes of white paint below the eye sockets; Bruegel the Elder never seems to employ this technique, his flesh tones applied more thinly and in a more brushy manner, with occasional dabs of opaque paint for skin and highlights.⁴²¹

7.1.6.d.ii *Trees*

For the larger scale trees, both Bruegels painted them in thin dark paint and once dry, applied thicker white paint on top for snow (fig. 70a-c). Occasionally, Bruegel the Elder's more liquid paint beads up on the dried underlayer (fig. 71a). Although a similar technique is used, the trees in the original version are painted with an ease and spontaneity not seen in any copy. The same can be said for the more distant trees, the copies showing a somewhat formulaic approach, the trunks carefully outlined and their roundness emphasised by dark contour lines (fig 72a-c). The distant trees in the Brussels version are looser in style than the others, but still more intensively worked and not as naturalistically painted as in the original.

7.1.6.d.iii *Inanimate objects*

The half-sunken boat motif on the upper left pond reveals clearly the difference in draughtsmanship between the two Bruegels (fig. 73a-c). The earlier master clearly understands the form and perspective of the motif; it is not portrayed convincingly in any of the copies.

These sets of comparisons reveal a few similarities in brushwork technique between the elder and younger Bruegel, such as the use of outlining for figures, but mainly highlight their stylistic differences. Bruegel the Elder generally paints with thinner, more fluid paint strokes than his son and with a much more reduced palette. In terms of characterisation, Bruegel the Elder conveys infinitely better the gesture and sense of movement in figures, the slightest nuance in a paint stroke conveying a wealth of meaning that the son cannot achieve with his greater definition of detail. On the other hand, in the better copies, Bruegel the Younger develops more individual and meaningful facial expressions than his father.

⁴²¹ See further discussion of Bruegel the Elder's technique in Chapters IV and V on the *Winter Landscape with Bird Trap* and *Adoration of the Magi* respectively.

7.2 The copies by Pieter Brueghel the Younger

Of the thirteen known versions of the *Census at Bethlehem*⁴²² (figs. 73-85), only three are signed and dated, the Vaduz version, dated 1607, the Brussels Musées Royaux des Beaux-Arts version, 1610 and a privately owned version, 1604 (figs 86a, 86c). Also signed, but not dated, are the copies from the Koninklijk Museum voor Schone Kunsten (KMSK) in Antwerp (fig. 86b) and another privately owned version sold at Sotheby's in 1980. Since these signatures all carry the 'Brueghel' rather than the 'Breughel' spelling, it can be assumed the paintings were executed in or before 1616.⁴²³ The Caen version is also signed, but the signature is not in the style of Brueghel the Younger and was clearly added later (fig. 85c).

The three copies in Belgian public collections, plus a copy in a former Belgian private collection (now in Sardinia) were personally studied by the author. Technical documentation was also examined from a further six copies and the results published in the catalogue of the 2001-2 'Brueghel Enterprises' exhibition.⁴²⁴ During the Brussels leg of the exhibition, the Arras and Caen versions were also examined in detail by the author. These recent examinations, plus new information on other paintings by Brueghel the Younger led to further insights on the copy process in the *Census* series. The main conclusions were presented at the Brueghel symposium at the Brussels Musées Royaux des Beaux-Arts de Belgique in June 2002.⁴²⁵

This chapter explores the *Census* copies in depth, integrating the latest research and paying particular attention to the three versions located in Belgian public collections and the 1604 privately owned version.⁴²⁶

7.2.1 Panel support

Like the original painting by Bruegel the Elder, eleven of the thirteen known copies of the *Census* are painted on oak panel, the standard support for paintings by Brueghel the Younger. Only the Lille version and a privately owned copy (sale Christie's 1990) are on canvas, which is quite unusual for the artist, and may point to a production specifically for export.⁴²⁷

All the panels are of a similar format, varying from approximately 114-122 cm in height to 165-174 in width,⁴²⁸ close to the dimensions of the original panel by Bruegel the Elder. It is also one of Brueghel the Younger's most common panel formats for larger-scale works. The Lille canvas measures 112 cm in height by 163 cm in width.

The *Census* series' format corresponds to 4 x 6 Antwerp feet, or 114.7 cm x 172 cm, the Antwerp foot measuring 11 inches or 28.68 cm.⁴²⁹ Whether this was a standard size during the period is not known. New regulations regarding the manufacture of panels issued on 11 December 1617 by the Joiners Guild include the obligation to conform to a certain range of named standard panel formats, models of which were kept at the

⁴²² Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 776, 113.6 x 165 cm, signed on a fallen door in the centre foreground to the left, 'P. BRVEGHEL.' (MARLIER-FOLIE 1969, no. 4; ERTZ 2000, cat. E213; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 1); Antwerp, Museum Mayer van den Bergh, inv. 54, 121.4 x 171.5 cm, (MARLIER-FOLIE 1969, no. 5; ERTZ 2000, cat. E214; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 2); Arras, Musée des Beaux-Arts d'Arras, inv. 934.2, 118.7 x 168.1 cm (MARLIER-FOLIE 1969, no. 6; ERTZ 2000, cat. E215; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 3); Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 2903, 121.8 x 167.5 cm, signed and dated on the left-hand barrel in the centre foreground, '1610./P. BRVEGHEL' (MARLIER-FOLIE 1969, no. 2; ERTZ 2000, cat. E212; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 4); Caen, Musée des Beaux-Arts, inv. 22, 108.5 x 160.5 cm (MARLIER-FOLIE 1969, no. 8; ERTZ 2000, cat. E217; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 5); Lille, Palais des Beaux-Arts, inv. P.863, canvas, 112 x 163 cm (MARLIER-FOLIE 1969, no. 9; ERTZ 2000, cat. E218; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 6); Lons-le-Saunier, Musée des Beaux-Arts, inv. 5, 117.7 x 170.4 cm (MARLIER-FOLIE 1969, no. 10; ERTZ 2000, cat. E220; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 7); Maastricht, Bonnefantenmuseum, inv. 677, 122 x 174 cm (MARLIER-FOLIE 1969, no. 11; ERTZ 2000, cat. E221; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 8); Vaduz, Sammlungen des Fürsten von Liechtenstein, inv. G720, 122.5 x 169.5 cm, signed and dated on the right-hand barrel in the centre foreground, 'P. BRVEGHEL. 16.7' (1607) (MARLIER-FOLIE 1969, no. 3; ERTZ 2000, cat. E211; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 9); Private collection, Sardinia, 118 x 168.4 cm, signed and dated on the left-hand barrel in the centre foreground (as in Brussels version), 'P. BRVEGHEL./1604' (most probably the same painting as MARLIER-FOLIE 1969, no. 1 [as collection F. de Meester de Heyndonck, Brussels] and ERTZ 2000, cat. F223; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 10); Private collection, formerly coll. Baron François Empain, Sotheby's London, 10 December 1980, lot. 133, 117.6 x 167.5 cm, signed 'P. BRVEGHEL' (MARLIER-FOLIE 1969, no. 7; ERTZ 2000, cat. E219; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 11); Private collection, Christie's New York, 10 January 1990, lot. 217, canvas, 117.5 x 166 cm (ERTZ 2000, cat. E222; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 12); Private collection, Galerie Robert Finck 1981, no. 6, 121 x 170 (ERTZ 2000, no. E216; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 13).

⁴²³ ERTZ 1998, p. 19.

⁴²⁴ CURRIE 2001.

⁴²⁵ CURRIE 2002c-d (forthcoming). The papers of this conference will be published in a future volume of the *Bulletin des Musées royaux des Beaux-Arts de Belgique*.

⁴²⁶ CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 10 [cited note 422]. This work was first discussed in CURRIE 2002a.

⁴²⁷ The suggestion that the canvas paintings may have been produced for export was made by Peter van den Brink, private meeting, May 3-4 2001.

⁴²⁸ The Caen version is not included in these figures as it appears to have been cut down along the right and the top edges.

⁴²⁹ VEROUSTRAEETE-MARCO and VAN SCHOUTE 1989, p. 76.

guild;⁴³⁰ unfortunately, the actual measurements for these formats are not given in the list of rules, so there is no means of correlating the *Census* paintings' format with a named standard.

In terms of construction, the *Census* panels are composed of four to six horizontally placed planks.⁴³¹ The Brussels, Mayer van den Bergh and privately owned copies each consist of five planks in the horizontal direction, butt-joined to each other. Each board of the Brussels version is cut radially whereas the Mayer van den Bergh copy has only four radially cut planks, the fifth a false quarter cut.⁴³² The KMSK version has only four planks, each cut radially. The unfortunate planing-down of the reverse sides of the Brussels, Bonnefantenmuseum and two Antwerp versions prior to cradling⁴³³ reveals short wooden channels at right angles to the joins. These channels would formerly have housed wooden dowels, applied by the panel-maker to hold the planks in place during assembly and gluing with animal glue. In the case of the Brussels version, the dowels themselves are still present in places (figs. 83, 87). The use of dowels to support joins during the assembly of the planks was common practice in the sixteenth and seventeenth century; indeed, Bruegel the Elder's panel for the original version of the *Census* also employs this system (fig. 3). The panels may have been made by one of an increasing number of specialised *tafereelmakers* for easel painting.

In raking light, tool marks can occasionally be seen on the front of the paintings, deriving either from the preparation of the panel surface or the application of the ground.⁴³⁴ In the case of the Mayer van den Bergh version, there are a number of deep, diagonal striations running from upper right to lower left in certain zones (fig. 87a-b). These curve slightly and do not resemble brush strokes, suggesting instead a hard instrument such as a tothing plane or *rabot à dent* (fig. 89). In the central area around the large waggons, the same imperfections in the tool appear to repeat themselves in adjacent striations. These marks are probably related to the planing-down of the wooden panel prior to application of the ground layer. There are also a few single, narrow, deep markings running approximately diagonally or vertically, probably related to imperfections in the panel surface. In other places, what appear to be brushmarks from a broad brush are visible, probably related to the application of the *imprimatura*. In the KMSK and privately owned versions there are also what appear to be several diagonal markings, resembling plane marks, running from upper right to lower left, most likely incised into the wood surface, but less distinct than those observed in the Mayer van den Bergh panel. No tool marks in the panel surface or brushstrokes relating to an underlying layer were noted in the Brussels version. During the *Brueghel Enterprises* exhibition, additional observations were made on certain of the other copies. In the Lons-le-Saunier panel, whose top and bottom planks show severe concave warps, sets of deep incisions due to a toothed planer can be made out in raking light, as in the Mayer van den Bergh panel. These are approximately 1 cm wide and run from upper right to lower left in the two middle planks; additional diagonal scratches in the other planks are less deep and probably result from a lighter use of the same tool, so as to remove less material. In the Caen version, only one or two diagonal scratches could be detected. In the Bonnefantenmuseum copy, striations similar to those in the KMSK version can be observed. The fact that traces of a planing tool, always used from upper right to lower left, are often still visible in the *Census* series shows that the panels were not smoothed-down completely prior to application of the ground. This may have been intentional, to give tooth, or unintentional, betraying a lack of attention to finish on the part of the panel-maker.

Of the six *Census* copies personally examined, only the reverse side of the privately owned version still has large intact portions of the original wood surface. Even here, three wide channels have been cut at right angles to the wood grain at a later date, each accommodating a wooden batten (fig 78) and the joins lightly planed and reinforced by a series of small rectangular oak buttons. Likely original markings include crude horizontal scoop marks characteristic of a hand-held draw-knife or roughening plane in the uppermost plank and saw marks on the third and fourth planks down.

⁴³⁰ Rule number seven of the regulations lists the names given to these model sizes: a 'sessentwintich stuivers', a 'guldens', an 'acht stuivers', a 'stooters' and a 'halven stooter'. For a transcription in Dutch of the regulations, see VAN DAMME 1990, pp. 235–6. For a discussion of the standardization of panel formats, see WADUM 1998a, pp. 182–3 and WADUM 1998b, p. 160.

⁴³¹ Bonnefantenmuseum: 5; Caen: 6; Vaduz: 5; Arras: 5; Lons-le-Saunier: 4; KMSK: 4; Brussels: 5; private collection: 5; Mayer van den Bergh: 5.

⁴³² Identification of particular cuts derived from unpublished dendrochronology reports of Pascale Fraiture (20 July 1999) and Joseph Vynckier (28 January 1994).

⁴³³ Cradling is a restoration technique, now seldom used, aimed at preventing a panel from warping through the application of a system of vertical and horizontal battens to the reverse of the painting. Normally, the battens at right angles to the wood grain are fixed with glue to the support and those parallel to the wood grain slide between them to enable some flexibility for when the panel responds to changes in atmospheric humidity. However, the flexibility of the cradle lattice is often not great enough to prevent new stresses from developing in the original support and the sliding members often become blocked over time, often resulting in cracks. An example of this is clearly seen in the Mayer van den Bergh panel, where new, short cracks have developed at the edges of the painting following the line of the cradle members.

⁴³⁴ The author previously published a study of textured surfaces in American 19th century portraits on panel (CURRIE 1995). The difficulties of deciding whether the scoring was made into the ground layer or directly into the panel surface were discussed and x-radiographs used as an aid to interpretation.

7.2.1.a *Branding*

Although it is probable that Brueghel bought the panels for his *Census at Bethlehem* series ready-made from a *tafereelmaker*, only one panel-maker's mark has been identified. This is the characteristic clover mark of Michiel Claessens, on the reverse of the Lons-le-Saunier version (fig. 91).⁴³⁵ There are no brand marks of the Antwerp Guild of Saint Luke;⁴³⁶ however, it is not unusual to find maker's marks unaccompanied by the guild stamp.⁴³⁷ Interestingly, on the Lons-le-Saunier panel, the clover mark is larger in size than that on the reverse sides of Brueghel the Younger's *Wedding Dance in the Open Air*, unsigned (Ghent, Museum voor Schone Kunsten) and *Good Shepherd*, signed and dated 1616 (Brussels, Musées Royaux des Beaux-Arts de Belgique).⁴³⁸ This does not pose a problem for the identification of the mark as, according to Jørgen Wadum, Claessens used at least two punches, one bigger than the other.⁴³⁹

The aforementioned new guild rules of 1617 obliged all guild members, on penalty of a three-florins fine, to have their finished panels inspected and branded by the dean, as well as marked with their personal stamp,⁴⁴⁰ before the panels left their studios. As a result, branding is not normally found on panels executed before 1617. However, some panel-makers were already marking their panels before this date; for example, an unidentified maker using an RB monogram was marking his panels in 1612.⁴⁴¹ Michiel Claessens' working dates were 1590–1637 and it is not known at what date he started to apply his characteristic clover mark. Gilberte Gepts, in her article on panel-maker Michiel Vriendt, cites a panel monogrammed PB, attributed to Pieter Balten (*Ecce Homo*, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 869), with a clover mark on the reverse.⁴⁴² The author does not mention the presence of guild marks. If the attribution to Balten is correct, the clover mark must have been applied before 1598, the presumed year of his death. During the present study, the clover mark was found on a painting securely signed and dated 1616, the aforementioned *Good Shepherd*.⁴⁴³

The 1617 guild rules also instructed the panel-maker to use seasoned wood without areas of sapwood, fire damage, woodworm or other weaknesses. Interestingly, the Lons-le-Saunier panel shows a large knot in the wood in the second plank from the top, visible from both the front and back of the panel, showing that the regulations were not applied too strictly.

Unfortunately, until more is known about Michiel Claessens' use of particular punches during certain years,⁴⁴⁴ the mark on the Lons-le-Saunier panel cannot be used to situate the painting within a specific time period.

Marks were not observed on the reverse of any other panels in the series, but it should be noted that many of these have been planed down for cradling, which usually eliminates any traces of branding.

Jaak Jansen has recently argued that if panels were bought direct from the *tafereelmaker's* workshop, the panel-maker would not necessarily have marked them, as the guild regulators would not have been around to check. Furthermore, according to Jansen, the real purpose of such markings was to check unlicensed competition on the open marketplace rather than to force *bona fide* guild members to mark their panels every time.⁴⁴⁵

⁴³⁵ Michiel Claessens' clover mark (accompanied by the Antwerp brand) has been observed by the author on many paintings by Pieter Bruegel the Younger, for example, on two copies by Brueghel the Younger of the *Adoration of the Magi*, (see Chapter V, Section 11.2.1.d, fig. 472a-b), on a version of the *Wedding Dance in the Open Air* (see Chapter VII, Section 13.1.1.d, fig. 563a-d) and the *Good Shepherd* (see Chapter X, Section 16.1, fig. 563b). The clover mark has also been seen on another version of the *Wedding Dance in the Open Air*, 40 x 56.6 cm, signed and dated 1621 (coll. De Jonckheere, 1998), see CAT. DE JONCKHEERE 1998, cat. 22. In the catalogue entry, it states that the back of the panel is also struck with the seal of the guild of Antwerp. J. Van Damme also lists two paintings of similar size to the *Wedding Dance in the Open Air* with Michiel Claessens' mark, a *Winter Landscape* and a *Brawl in Front of an Inn*. In total he lists 51 panels branded with Claessens' clover by a variety of artists, many anonymous (VAN DAMME 1990, pp. 193–236). Bert Cardon lists 12 panels, mostly by anonymous artists, branded with the Antwerp brand and Claessens' clover (see CARDON 1986–7). For other examples of the clover mark, see also SCHUSTER-GAWLOWSKA 1989, p. 252, SCHUSTER-GAWLOWSKA 1992 and J. JANSEN 1998. Astrid Smeets also noted a different panel-makers' mark, the entwined letters 'BR' on the verso of a version of the *Winter Landscape with Bird Trap* (The Hague, private collection, 41.2 x 57 cm, signed 'BRVEGEL', see SMEETS 2002 [forthcoming]).

⁴³⁶ Daniel Jaunard, who restored the panel support, confirmed the presence of the clover mark and did not find any sign of the Antwerp guild marks when he removed the canvas strips along the joins on the reverse of the panel.

⁴³⁷ Jørgen Wadum, personal correspondence, June 2001.

⁴³⁸ See fig. 563d for rubbings of branding on *Wedding Dance* and *Good Shepherd*.

⁴³⁹ Jørgen Wadum, personal correspondence, June 2001.

⁴⁴⁰ A list of these panel-makers' marks was kept at the guild. This list was recently rediscovered in the Antwerp municipal archives and published in VAN DAMME 1990.

⁴⁴¹ Jørgen Wadum, personal correspondence, 5 June 2001.

⁴⁴² GEPTS 1954–60. There are, however, doubts as to the attribution of the *Ecce Homo* to Pieter Balten; in an article on panels marked with the Antwerp brand and/or the maker's mark, Bert Cardon groups the painting together with other branded panels that stylistically resemble paintings from the sixteenth century but actually date from the seventeenth century (CARDON 1986–7).

⁴⁴³ See Chapter X, Section 16.1 and figs. 563b-c.

⁴⁴⁴ Jørgen Wadum, Chief Conservator at the Royal Cabinet of Paintings 'Mauritshuis', is currently researching this subject.

⁴⁴⁵ See J. JANSEN 1998.

7.2.1.b *Dating by dendrochronology*

To obtain more information regarding the panel supports and the dates during which they may have been manufactured, dendrochronological analysis was carried out for the Mayer van den Bergh, KMSK, Bonnefantenmuseum, Arras and Caen versions.⁴⁴⁶ No sapwood rings were present in any of the panels. For the Mayer van den Bergh version, the youngest tree ring identified dates from 1585. Taking into account missing sapwood rings and seasoning time, 1596 is the earliest date at which the panel could have been ready for painting.⁴⁴⁷ In the case of the KMSK version, the youngest tree ring was found to date from 1593, giving 1604 as the earliest date for painting. For the Bonnefantenmuseum version, the corresponding dates are 1584 and 1595, respectively and for the Caen version, 1597 and 1608. The Arras version produced vastly different dates for three out of the five boards suggesting the panel was made from re-used wood from different original supports;⁴⁴⁸ the period of re-use is impossible to calculate. Interestingly, the Arras panel has a knot in one of the planks, a sign of poor quality; clearly, the wood was not of the first calibre (fig. 75).

Prior to the recent analysis, dendrochronology was also carried out at IRPA by Joseph Vynckier on the Brussels version to see how closely the signed date of 1610 on the painting corresponds to the age of the panel.⁴⁴⁹ The analysis showed that the youngest tree ring is a single sapwood ring dating from 1592. Taking account of the missing sapwood rings and the seasoning of the wood, 1602⁴⁵⁰ is the earliest date at which the panel could have been ready for painting.

Dendrochronology also revealed interesting information regarding the provenance of the wood planks. Excepting the Arras version, all the panels were manufactured using wood originating in the Baltic region.⁴⁵¹ This wood was grown on poor soil, therefore grew very slowly and was prized for its stability and the long length of boards.⁴⁵² The Arras panel was produced from locally grown wood from around the Meuse valley.⁴⁵³ Of the ten large and one medium format panels from Brueghel the Younger's workshop studied by dendrochronology, only the Arras *Census* is painted on local boards; all the rest are on Baltic wood.⁴⁵⁴ Brueghel's smaller format panels however, are more commonly made from local wood.⁴⁵⁵

7.2.2 *Ground*

Excepting the Lille version, the paintings all appear to have a white ground, as is the case in Bruegel the Elder's original version. In the three Belgian public collection versions⁴⁵⁶ calcium carbonate, or white chalk, is identified as the main constituent. Staining tests with acid fuchsine for protein on cross-sections from the KMSK and Mayer van den Bergh versions produced a positive result in the ground layer (fig. 157f).⁴⁵⁷ The protein-based medium was determined as gelatine glue in the KMSK version using high pressure liquid chromatography (HPLC).⁴⁵⁸

Cross-sections from the Mayer van den Bergh and KMSK copies appear to suggest that the ground may have been applied in two or more sessions; separate layers are not distinguishable in the Brussels version (fig. 157a).⁴⁵⁹

⁴⁴⁶ Fraiture's essay in the *Brueghel Enterprises* catalogue describes her analysis of the Antwerp and Bonnefantenmuseum versions (FRAITURE 2001) and her contribution to the *Brueghel Enterprises* symposium discusses the analysis of the Caen and Arras versions (FRAITURE 2002 [forthcoming]).

⁴⁴⁷ Fraiture calculates the *terminus post quem* date by adding nine years for the missing sapwood rings – nine being the minimum number of sapwood rings for Baltic wood – plus two years for seasoning.

⁴⁴⁸ The *Massacre of the Innocents* (Brussels, Musées Royaux des Beaux-Arts, inv. 8726) is another example of a re-used panel from Brueghel the Younger's workshop; however, in the latter case, the *Massacre* was simply painted over the top of an earlier composition rather than the support being made of planks from different periods, see Chapter IX, Section 15.2.2.

⁴⁴⁹ Unpublished report by Joseph Vynckier, IRPA, 28 January 1994.

⁴⁵⁰ Joseph Vynckier concluded from his evidence that the tree was felled around 1606, as he added fifteen rings – the average number of sapwood rings in the Baltic – to the last measured tree ring, minus one year for the single sapwood ring present on the panel, with no allowance for seasoning ($1592 + 15 - 1 = 1606$).

⁴⁵¹ Discussed in FRAITURE 2001 and Fraiture 2002 (forthcoming).

⁴⁵² FRAITURE 2002 (forthcoming).

⁴⁵³ *Ibidem*.

⁴⁵⁴ Fraiture also analysed single versions of the *Sermon of Saint John the Baptist*, *Christ Carrying the Cross*, *Battle between Carnival and Lent*, *Kermis with Theatre and Procession*, *Massacre of the Innocents* (see Appendix 2). All paintings are attributed to Brueghel the Younger.

⁴⁵⁵ See Chapter IV, Section 10.2.1.b for discussion of dendrochronological results on Brueghel's small format panels.

⁴⁵⁶ Analysis carried out by scanning electron microscopy. The ground layer of the privately owned version is also white but the painting was not sampled.

⁴⁵⁷ Staining test with acid fuchsine carried out by Cécile Glaude at IRPA under the supervision of Janka Sanyova.

⁴⁵⁸ Analysis by Karijn Lamens at IRPA. The closest match was aged collagen (match 0.994039). A sample from the Mayer van den Bergh version was also analysed using HPLC by Lamens, but no protein found, probably owing to the small size of the sample. No ground samples were analysed for the Brussels and privately owned versions.

⁴⁵⁹ Personal examination with binocular microscope.

In the case of the Lille version, on canvas, the ground, or at least one layer of it, may well be dark red, as was found by Nicholas Eastaugh for a version of the *Triumph of Death*, 1626, also on canvas.⁴⁶⁰ In the Lille *Census*, a dark red colour is visible through abrasion in the paint layer (fig. 101 bis 1). Since no cross-sections were taken, this observation could not be confirmed.

After drying, the ground would have been planed- and smoothed-down, and perhaps finished off with an abrasive made from the stalks of a plant commonly known as ‘mare’s tail’.⁴⁶¹

Although it is possible that the ground layer was applied in Brueghel the Younger’s own studio, the priming process may have been outsourced to a professional *witter* or primer, or alternatively – if he used the services of a panel-maker for the manufacture of his panels – to his panel-maker. Jørgen Wadum describes how panels with ready-made grounds were available to painters from the late sixteenth century onwards and that panel-makers were taking over panel preparation as well.⁴⁶² Nico van Hout cites examples of *witters* and panel-makers combining the activities of *tafereelmaker* and *witter*, listed in the Antwerp guild registers in the early seventeenth century.⁴⁶³

7.2.3 Barbes and unpainted edges

In the KMSK, Vaduz, Brussels, Arras and privately owned versions, the ground extends to the upper and lower edges but stops approximately 1 cm from the lateral edges, culminating in a ridge of ground known as the *barbe* (figs 92-3).⁴⁶⁴ The Mayer van den Bergh version also shows partially ungrounded and unpainted lateral edges but these are neither pronounced nor even. The Caen version has an ungrounded border and a *barbe* along the left edge only; its right edge has been cut down.⁴⁶⁵ In the privately owned and Arras versions, the unpainted borders on the recto correspond to deep right-angled cuts on the verso (figs 94a-b).⁴⁶⁶ These features are most likely the physical traces of the presence of temporary, grooved battens (channel edge supports). These supports would have been placed at right-angles to the grain of the wood during priming and painting to serve as restraints against warping.⁴⁶⁷ The end grain edges of the panel would have been slotted into prepared grooves in the battens without nails or screws. The battens would have been removed prior to framing, the frame itself providing a measure of resistance to warping.

Ungrounded and unpainted edges on the lateral sides of panels are frequently observed in large format paintings by Pieter Brueghel the Younger of diverse subject matter, although paintings where grounds and paint layers extend right up to the edges on all sides are sometimes observed.⁴⁶⁸ Interestingly, in all nine cases where unpainted lateral edges and *barbes* are observed and where the reverse sides of panels are not overly-thinned by later cradling, the panels also present deep angled cuts running the entire length of their lateral reverse edges.⁴⁶⁹

⁴⁶⁰ See ‘Status Quaestionis’, Section 5.12.1

⁴⁶¹ Theophilus refers to the use of ‘mare’s tail’ as an abrasive in the context of the polishing of leather and wood: ‘prenez ensuite de l’herbe appelée prêle, qui croît en forme de jonc et est nouseuse: elle doit avoir été cueillie en été et séchée au soleil. Vous en froterez l’objet blanchi jusqu’à ce qu’il devienne parfaitement uni et brillant.’ THEOPHILUS (ed. L’Escalopier 1977), Chapter XIX, p. 34 [next take the grass known as mare’s tail, which grows in the form of rushes and is knarled: it must be harvested in summer and dried in the sun. You rub the bleached object until it becomes perfectly uniform and shiny].

⁴⁶² See WADUM 1998b, pp. 165–8, for an excellent overview of the application of grounds by specialist ‘witters’ and panel-makers in the early seventeenth century, with reference to contemporary manuscripts.

⁴⁶³ Van Hout cites examples of ‘witters’, and panel-makers who were also ‘witters’ in the Antwerp guild registers in the early seventeenth century. The author also describes the specific case of a payment by the painter Otto Van Veen to the panel-maker Hans van Haecht for delivery of a panel with doors, made and primed according to a formerly agreed contract, see VAN HOUT 1998, pp. 204-5 and note 37.

⁴⁶⁴ The Brussels version’s *barbes* appear to have been scraped down during restoration.

⁴⁶⁵ The other paintings in the series were not examined unframed by the author. The infrared reflectogram of the Maastricht version shows a narrow strip of ungrounded and unpainted panel at the lower part of the left lateral edge; the reverse of the panel has been thinned to about one third of its thickness during previous restoration treatments.

⁴⁶⁶ The Antwerp (KMSK and Mayer van den Bergh), Brussels’ and Caen versions were thinned prior to cradling, removing any possible traces of angled cuts. There was no photograph of the back of the Vaduz panel available for consultation.

⁴⁶⁷ See definition of ‘channel edge supports’ in GETTENS and STOUT 1942, p. 286. The authors describe how ‘this name is given arbitrarily to a wooden channel occasionally seen attached to the end grain edges of thin panels in paintings of the studios particularly of Dutch artists of the 17th century. One is found in a work attributed to Rembrandt, *The Painter in his Studio*, formerly in a private collection in England, now Boston, Museum of Fine Arts (*Burlington Magazine*, CCCLXXII (1925), p. 264)’. Hélène Verougstraete-Marcq and Roger Van Schoute discuss the case of Maarten van Heemskerck’s *Saint Luke Painting the Virgin* (Rennes, Musée des Beaux-Arts), where Saint Luke is shown painting on a small, probably single-plank panel with a channel edge support on its upper edge, at right angles to the grain. Like Gettens and Stout, they also cite the example of Rembrandt’s *Painter in his Studio* as an illustration of such a grooved batten (VEROUG-STRAEETE-MARCQ and VAN SCHOUTE 1989, p. 52).

⁴⁶⁸ For example, *Sermon of Saint John the Baptist*, 104.5 x 169.5 cm, signed and dated 1624, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 44, see Chapter III, Section 9.1.2.

⁴⁶⁹ See Appendix 2. These are: *Christ Carrying the Cross*, 117-117.1 x 164.1-164.3, signed and dated 1603, Antwerp, Koninklijk Museum voor Schone Kunsten; *Massacre of the Innocents*, 120.5 x 168 cm, signed and dated 1604, Brussels, Musées Royaux des Beaux-Arts de Belgique; *Flemish Proverbs*, 116.9-117.3 x 171.65-171.9 cm, signed and dated 1607, Lier, Museum Wuyts-Van Campen en Baron Caroly; *Christ Carrying the Cross*, 106.7 x 161 cm, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten; *Sermon of Saint John the Baptist*, 108.2 x 170.7 cm, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten; *Sermon of Saint John the Baptist*, 118.5 x 168 cm, unsigned, Bruges, Groeningemuseum; *Battle between Carnival and Lent*, 121.4 x 171.5 cm, unsigned, Musées Royaux des Beaux-Arts de Belgique; *Census at Bethlehem*, Arras, Musée des Beaux-Arts, *Census at Bethlehem*, private collection, Sardinia.

The original version of the *Census at Bethlehem* by Peter Bruegel the Elder also has unpainted lateral borders (fig.1a). Other examples of paintings with unpainted borders on two sides only in the late 16th and early 17th centuries include *Holy Family* by Martin de Vos,⁴⁷⁰ 135.5 x 179 cm (Museum voor Schone Kunsten, Ghent, inv. S51), signed and dated 1585 and *Crucifixion* by Frans II Francken and Ambrosius Francken,⁴⁷¹ 170 x 195 cm, signed by both artists and dated 1604-1617⁴⁷² (Wijnegem, Onze-Lieve-Vrouwekerk); these two panels also present deep right-angled cuts, around 1 cm in depth and width on the corresponding reverse edges (figs 95-96). In the *Crucifixion*, where the planks are placed vertically, the unpainted borders and corresponding right-angled cuts on the reverse are on the upper and lower edges, at right angles to the grain of the wood. This serves as further evidence that these redundant features formerly housed battens to prevent warping.

7.2.4 Imprimatura

Most of the *Census* copies clearly reveal an overall, pigmented priming layer between ground and paint, commonly described as the *imprimatura*.⁴⁷³ This thin layer can sometimes be perceived with the naked eye through light paint layers but is generally clearer in infrared (figs. 97-99). Occasionally it can be detected with x-radiography, providing it contains a significant proportion of lead white (fig. 100). The layer is applied in various directions with a thick brush. It is most likely bound in an oil medium. In the KMSK version, a staining test for protein on a cross-section from the water in the lower right stained the ground layer but not the *imprimatura*, increasing the likelihood the latter is oil-based (fig. 157f).⁴⁷⁴

An *imprimatura* is particularly evident with the naked eye in the Bonnefantenmuseum version, its sweeping brushstrokes clearly visible in most areas through the thin paint; the conservator's report describes it as having an orange-beige colour.⁴⁷⁵ The brushstrokes are mostly diagonal, in the upper left-to-lower right direction, but there are vertical strokes along the left and right edges and some horizontal strokes along the lower edge. The Brussels version's *imprimatura* has a similar ochre appearance, but the brushstrokes are mostly vertical. A light-toned, multi-directional *imprimatura* layer is also easily detected with the naked eye in the Caen, Arras, Mayer van den Bergh and Lons-le-Saunier versions. In the Lons-le-Saunier copy it is executed in sweeping, horizontal strokes, with some vertical strokes at the edges.

The Brussels and both Antwerp versions show an *imprimatura* in the cross-sections (figs 157a, c, d). In the KMSK version, cross-sections show a thin, greyish and medium-rich layer above the ground that is likely to be part of an overall *imprimatura*. Small quantities of lead white, chalk, charcoal and an earth pigment were identified in this layer with scanning electron microscopy, the latter probably yellow ochre.⁴⁷⁶ In one sample though a reserve an umber pigment was also detected.⁴⁷⁷ The *imprimatura* is not generally visible in the x-radiograph, except perhaps on the right side of the painting, for a few centimetres near the edge, where there are faintly registering vertical strokes that do not correspond to the paint layer above. Likewise, it is not identifiable with infra-red reflectography, due probably to the paucity of black pigment in the layer; however, in certain places in the infra-red reflectogram, the underdrawing does appear to skip the texture of an underlying layer, which could well be the *imprimatura*. In the Mayer van den Bergh version, the *imprimatura* is greyish-white, semi-transparent and contains chalk, clumps of lead white, tiny orange particles and black particles. In a sample from a reserve in the snow paint an umber pigment was also detected in the *imprimatura*. The presence of clumps of lead white may explain why the *imprimatura* may be seen in the x-radiograph in places, for example in the reserves in the snow paint.⁴⁷⁸ (fig 100 b-c). The Brussels' version's *imprimatura* is more medium-rich than the other two, and appears ochre-coloured rather than greyish in tonality. Nonetheless, the pigments present are

⁴⁷⁰ Ungrounded and unpainted borders on left and right sides only, at right angles to the grain of the wood. For a description of the technique of this painting, see FOLIE *et al.* 1995, pp. 221-9. In this article, Dominique Verloo interprets the square cuts on the lateral edges of the reverse of the painting as an aid to framing, although the current author believes they were made for the application of channel edge supports.

⁴⁷¹ The conservation and restoration of this panel was completed in March 2001 at IRPA.

⁴⁷² Ursula Harting recently interpreted the monogram in the lower left as that of Ambrosius Francken (unpublished annotation on recent photograph in IRPA photographic archive). The date '17' next to the monogram in the lower left corner refers to the year '1617'. The date '1604' appears just above the monogram. The painting was therefore executed from 1604, and possibly before, to 1617.

⁴⁷³ For a definition of the term *imprimatura* and a discussion of its function, composition and purpose, see VAN HOUT 1998, pp. 119-225.

⁴⁷⁴ Staining test with acid fuchsine carried out by Cécile Glaude under the supervision of Janka Sanyova.

⁴⁷⁵ Kees Schreuder and Annabelle Mills, unpublished condition report, 1997.

⁴⁷⁶ Yellowish particles observed in the cross-section using the optical microscope.

⁴⁷⁷ UMBER detected with SEM in *imprimatura* layer in sample taken through the brown-black half-barrel, which occupies a reserve in the snow paint, on the lower edge of the painting to the left.

⁴⁷⁸ For example, in the reserve for the large tree trunk on the left, the reserve for the darker sides of the buildings in the centre of the painting and the reserves for the little figures in the midground of the composition. Since the ground layer only contains chalk, which is totally invisible in x-radiography, textured strokes in the reserves in the snow paint, applied diagonally in varying directions with a wide brush and unrelated to the painted composition must derive from the lead white-containing *imprimatura*.

the same: lead white, chalk, earth pigments⁴⁷⁹ and black particles.⁴⁸⁰ As in the KMSK version, neither the x-radiograph nor the infrared reflectogram clearly register its presence.

In the case of the privately owned copy, the presence of an *imprimatura* layer could not be verified as no cross-sections or x-radiographs were taken and the infra-red reflectogram did not register such a layer. However, a small gap between two zones of colour in a tower in the upper right of the painting reveals the presence of an ochre-toned layer, which might well be an *imprimatura* (fig 101a). Furthermore, the *imprimatura* seems to have been intentionally left visible in places as a mid-tone, for example in the pathway near the church and the river near the horizon in the upper left (figs 101b-c). Alternatively, certain of these beige tones may have been locally applied and may not form part of an overall layer.

In the KMSK and Mayer van den Bergh versions, there appears to be an additional layer of pure medium between the ground and *imprimatura*. This is most likely an oily isolation layer. The medium from this intermediary layer penetrates the upper part of the ground layer in most places.⁴⁸¹ In the Brussels version, there is no visible isolation layer between ground and *imprimatura* in the cross-sections.

The *imprimatura* in the *Census* paintings was most likely applied in the artist's studio. Like that in Bruegel the Elder's original version, it served the practical function of sealing the chalk-glue ground layer and reducing its absorbency and any unevenness. However, unlike Bruegel the Elder's lead white-rich layer, Bruegel the Younger's *imprimatura* in the *Census* copies contain little lead white, are often lightly toned and are richer in medium. In several instances the *imprimatura* is left exposed or lightly scumbled as a mid-tone, for example, in the Brussels version where the unpainted beige *imprimatura* gives the river colour in the distant landscape vista (fig. 102, see also figs. 163a-f for examples of the *imprimatura* serving as the river colour in various other versions).⁴⁸²

There is nothing unusual in Bruegel the Younger's practice of applying an overall, tinted priming or *imprimatura* layer to his grounds prior to painting. Priming layers above the ground have been identified in some guise or another in Flemish painting from the fifteenth to the seventeenth century. These range from lightly tinted isolation layers to more opaque and sometimes streaky priming layers, the term *imprimatura* often used interchangeably with 'priming' for pigmented layers. A thin priming layer above the ground has been positively identified in most the works of the fifteenth century Netherlandish schools in the National Gallery, London.⁴⁸³ In the sixteenth century, streaky priming layers have been observed, for example in the *Altarpiece of the Passion* by Bernaert van Orley (Bruges, Onze-Lieve-Vrouwekerk).⁴⁸⁴ A pure white layer has also been documented in some cases, as in many works by Bruegel the Elder (see above, '*Imprimatura*', Section 7.1.4, figs. 4-5). That it was common practice during this period to apply a tinted, semi-transparent, oil-based priming layer is made clear by Karel van Mander in his *Grondt der Schilder-Const (Foundation of the Painter's Art)*, published as part of his famous *Schilder-Boeck (Painter's Treatise)* of 1603-4. In his words, the 'loveliest thing was that several of them [our recent ancestors] took some finely ground charcoal, mixed with water (or even dry), and modelled their forms very meticulously and properly; over this they put, with great forethought, a thin priming, through which, however, one could still see everything, and this priming was done in flesh tones';⁴⁸⁵ '*in margine*' to this verse, Van Mander added, 'They drew their things on the white ground and then put over it an oil-like priming'.⁴⁸⁶ Likewise, in his chapter on Hieronymus Bosch in *The Lives of the illustrious Netherlandish and German painters* (also part of the *Schilder-Boeck*), Van Mander comments that, 'like some other old masters, he used to draw his subjects onto the white of the panel, laying over that a transparent, flesh-coloured ground layer; he often allowed the ground to contribute to the effect of the picture'.⁴⁸⁷ The only difference in this description to Pieter Bruegel the Younger's practice is that he appears to have applied his drawing layer after, rather than before the tinted *imprimatura* (see below, 'Underdrawing'). In the seventeenth century Rubens frequently used a streaky *imprimatura*, both in his sketches and finished works.⁴⁸⁸ This is usually a thin wash of light brown, close to umber, sometimes more yellow or grey, applied with a thick brush or sponge in one or

⁴⁷⁹ Both umber and an earth without manganese were detected by SEM in the *imprimatura* layer of one sample from a tree branch on the upper edge of the painting.

⁴⁸⁰ With the exception of the black particles, the pigments were identified with scanning electron microscopy.

⁴⁸¹ The medium of this isolation layer was not identified as it cannot be separated from the cross-section for identification by reliable methods such as GC/MS (for oils) or HPLC (for proteins). It is most likely to be a drying oil.

⁴⁸² The colour and function of the *imprimatura* in the Brussels version were only revealed after the painting was cleaned. I would like to thank the conservator of the painting, Thanh-Nghi Pham, for taking the time to discuss the painting's conservation and technique with me and for his insights on the subject.

⁴⁸³ CAMPBELL 1998, p. 30. On this issue, see also BILLINGE *et al.*, 1997, pp. 22-4.

⁴⁸⁴ DE VOS *et al.*, 1985, pp. 114 and 116.

⁴⁸⁵ STECHOW 1966, p. 66.

⁴⁸⁶ *Ibidem*, p. 66, note 42.

⁴⁸⁷ MIEDEMA 1994-9, vol. 1 (1994), fol. 216v, p. 125. Miedema's translation of *primuerset* for *ground* is confusing; *imprimatura* or *priming* would be more appropriate, so as not to confuse the layer with the chalk glue ground underneath.

⁴⁸⁸ For a discussion of Rubens' streaky *imprimatura*, as well as the use of such a layer by his contemporaries in seventeenth century painting, see VAN HOUT 1998, pp. 205-10.

more directions.⁴⁸⁹ It was probably intended for aesthetic effect, at least in the oil sketches, as it remains clearly visible through areas of thinly applied paint. Both the oil sketch,⁴⁹⁰ and the final painting⁴⁹¹ of Rubens' *Samson and Delilah* have a striped *imprimatura*.⁴⁹² A streaky grey *imprimatura* was also identified in Jan Brueghel I and studio of Rubens', *Naiads Filling the Horn of Plenty*.⁴⁹³ A more evenly applied, thin, greyish-brown *imprimatura*, probably oil-bound, on a glue-chalk ground was recently identified in Van Dyck's *Charity*.⁴⁹⁴

7.2.5 Underdrawing

All ten copies of the *Census* examined with infrared reflectography revealed a detailed line drawing.⁴⁹⁵ The quality of the line suggests freehand drawing.

The underdrawing was most likely applied after the *imprimatura* layer.⁴⁹⁶ In the case of the *Census* copies, cross-sections including the drawing layer could not be taken.⁴⁹⁷ In all the underdrawings, the nature of the line and the manner in which it sometimes skips over the underlying texture, probably the *imprimatura*, suggest a dry material rather than ink or paint (see figs. 113b, 114c, 115b, 129a).⁴⁹⁸ The lines are neat and relatively fine, suggesting graphite or black chalk rather than charcoal. Graphite and black chalk contain significant amounts of carbon, and are therefore easily visualised in infrared reflectography. It is unlikely that the drawing lines would show up so clearly in infrared if they were carried out in metal-point, for example silver- or lead-point. Furthermore, SEM analysis of a similar-looking underdrawing layer in one of Brueghel's copies of the *Massacre of the Innocents* (Antwerp, Koninklijk Museum voor Schone Kunsten) and one of his versions of the *Wedding Dance in the Open Air* (Ghent, Museum voor Schone Kunsten) identified carbon as the basis for the underdrawing material.⁴⁹⁹

Graphite, a crystalline form of carbon was already being used by artists as a drawing material at the time Brueghel painted; a very pure form of natural graphite, known locally as 'wadd' was first discovered in Borrowdale, Cumbria, probably in the early 1560's and was exported by the German miners or Flemish traders soon after (fig. 102bis).⁵⁰⁰ The earliest known illustration of a 'lead' pencil was published in a treatise on fossils by German-Swiss physician and naturalist Konrad Gesner in Zurich in 1565.⁵⁰¹ Graphite was first adopted as a drawing medium by Italian artists; however there are examples of graphite being employed by Flemish artists in drawing at the beginning of the seventeenth century, for example by Roelandt Savery (1576-1639).⁵⁰² The high price of Cumberland graphite however, prevented its widespread adoption by artists until the late seventeenth century.⁵⁰³ Raw graphite was soft and brittle and was therefore wrapped for drawing, initially in string, then in a

⁴⁸⁹ BROWN 1996, p. 101 and PLESTERS 1983, p. 33.

⁴⁹⁰ Art Museum, Cincinnati, 51.8 cm x 50.6 cm.

⁴⁹¹ National Gallery, London, no. 6461, 185 x 205 cm, c. 1609.

⁴⁹² PLESTERS 1983, pp. 33-4 and 36-9.

⁴⁹³ Mauritshuis, The Hague, inv. 234, 67.5 x 107 cm, c. 1612-1615 (VAN HOUT 1998, p. 206). New attribution to Jan Brueghel I and studio of Rubens made in BROOS 1993, p. 380.

⁴⁹⁴ National Gallery, no. 6495, 1627-8 (ROY 1999, pp. 63-4).

⁴⁹⁵ Differences in the condition of the paintings, the equipment used to register the images, the size of the latter and the type of mosaicing process account for the variable quality in the infrared reflectograms. For the KMSK, Mayer van den Bergh, Brussels and privately owned versions, the author used IRPA's 'Inframetrics Infracam SWIR (short-wave infrared) video camera' to capture the images. The mosaics for these paintings were digitally assembled at IRPA by Kristof Van Bellinghen using Adobe Photoshop. For the Vaduz version, Daniel Fabian, Suzanne Harleman and Peter van den Brink used an FCB-IX 47 Sony CCD camera to register the images and J.R.J. van Asperen de Boer assembled the mosaic. For the other versions, the images were captured by Margreet Wolters, Lars Hendrikman and Peter van den Brink using the RKD Hamamatsu vidicon camera and J.R.J. van Asperen de Boer assembled the mosaics. The underdrawing in the Lille version proved quite difficult to distinguish clearly, perhaps owing to its different support. For the Caen and Arras versions several zones were re-recorded and digitally assembled by Sophie De Potter at IRPA. The infrared illustrations are actual size, except where indicated in the accompanying captions.

⁴⁹⁶ Molly Faries states that for Van Scorel's later works, the underdrawing was always done on top of a thin lead white layer, suggesting that Scorel may have picked the technique up from Raphael during his trip to Italy (FARIES *et al.* 1986, p. 108). In an article on Herri met de Bles, Faries and Bonadies state that in Bles's Cincinnati panel, the underdrawing, done in black chalk, skips over the ridges left in the brushmarks of a lead white layer, the latter applied directly above the ground layer (FARIES and BONADIES 1998, p. 73).

⁴⁹⁷ Cross-sections with underdrawing from two other paintings by Pieter Brueghel the Younger show the drawing clearly lying above the *imprimatura* (*Wedding Dance in the Open Air*, Ghent, Museum voor Schone Kunsten and *Massacre of the Innocents*, Antwerp, Koninklijk Museum voor Schone Kunsten, see Chapter VII, Section 13.1.4.a, figs. 567a and 569a-b).

⁴⁹⁸ The manner in which the underdrawing skips an underlying layer recalls the author's freehand drawing tests with natural black chalk and graphite on an oil-based underlayer, see Appendix 1, figs. 749a, 756e and 756h.

⁴⁹⁹ See Chapter VII, Section 13.1.4.a.

⁵⁰⁰ PETROSKI 1990, pp. 44-6. For the history of graphite, see also DERWENT CUMBERLAND PENCIL COMPANY (undated) and RITTER 2001.

⁵⁰¹ PETROSKI 1990, pp. 36-41. According to Petroski, Gesner described the drawing material as 'a sort of lead (which I have heard some call English antimony), shaved to a point and inserted in a wooden handle.' (*Ibidem* 1990, p. 38).

⁵⁰² For example, *Seated Man*, pen and brown ink and graphite, 6 1/16 x 6 15/16 in., c. 1606-1609, Getty Museum, inv. 83.GA.382 (part of Savery's *naer het leven* sheets of studies).

⁵⁰³ See entry on graphite in SAYWELL 1998. Saywell attributes the high cost of natural graphite to the tightly regulated nature of the extraction process at Borrowdale, England.

wooden or metal *porte-crayon* and later in a grooved or hollowed-out piece of wood that resembled today's lead pencil (fig. 102 bis1 a-d).⁵⁰⁴ The graphite could be sharpened to produce fine lines.

The use of black chalk as a drawing material is a much older technique; as early as the late fourteenth century Cennino Cennini in *The Craftsman's Handbook* recommends it, describing it as 'a certain black stone, which comes from Piedmont; this is a soft stone; and it can be sharpened with a penknife, for it is soft. It is very black. And you can bring it to the same perfection as charcoal. And draw as you want to';⁵⁰⁵ Vasari in his *Lives of the most excellent painters* recommends either red or black chalk for drawings of a finished nature, the black chalk coming from the hills of France.⁵⁰⁶ Like graphite, black chalk was probably mounted in a *porte-crayon* for use by artists.

7.2.5.a *Common characteristics*

In the ten versions of the *Census* examined, the underdrawing consists of a detailed outlining of the figures, animals, architecture and still-life elements, and a looser indication of landscape contours and trees. The drawing line varies slightly in thickness and density, but is usually finest for figures.⁵⁰⁷

Medium-sized and large figures are invariably outlined in detail and drapery folds often indicated, for example two standing figures in the lower left, where notations for drapery folds are remarkably similar in all the ten copies (fig. 103a-j).⁵⁰⁸ Occasionally, hatching denotes areas of shadow, sets of curved lines suggest rounded contours and tiny hooks or circles articulate the ends of fold lines. Smaller-scale figures in the upper left of the composition are also carefully outlined, with the exception of tiny figures on the ice in the far distance near the horizon, which were added during painting.

Animals, such as the Virgin's mule and ox, are drawn in considerable detail in every copy, with short lines or hatching strokes to suggest anatomical features, for example in the Mayer, Lons-le-Saunier and Brussels versions (fig. 130a-j) Smaller animals, such as the dog (fig.104a-j) and the horses in the upper right are drawn more loosely. The hens in the lower foreground are often indicated with a greater measure of freedom than other motifs (fig 105a-i).⁵⁰⁹

Buildings are generally outlined in considerable detail, although verticals and horizontals are rarely drawn straight, often veering towards the diagonal. There are no signs of the use of a ruler or straight edge, and outlines often undulate. The house in construction in the upper right is sometimes indicated quite roughly with short, cursory strokes as, for example, in the Bonnefantenmuseum version (fig. 106).

Wheels of carts and the curved contours of their loads are often clumsily executed in the underdrawing layer, marked by frequent hesitations and corrections along the line, for example in the Bonnefantenmuseum, Brussels, KMSK and Mayer van den Bergh versions (figs. 106a-d). Spokes of wheels are summarily indicated and their underdrawn positions usually bear no relation to the final painted spokes.

Where a layer of snow covers a cart or other object, a wavy line often marks the junction of the snow with the visible part of the form; a wavy line is also used for 'soft' junctions such as the edge of a straw cart (fig. 107a-c).

Large trees silhouetted against the sky are often drawn in a more rudimentary fashion than the rest of the composition, although the same drawing material appears to have been employed (fig. 108a-b). The lower, thicker parts of tree trunks are usually outlined carefully, but smaller side branches are only loosely sketched in and rarely followed precisely in the paint layer. The underdrawing of trees can only have served as a rough guide, their positions and appearance varying considerably from painting to painting. In the Arras, Caen, Brussels, Lille and both Antwerp copies,⁵¹⁰ sketchy lines for the trees extend right to the top of the panel, whereas in the privately owned version, outlines for tree trunks and other branches stop abruptly a little above the horizon. It is probable that the model was only approximate in these areas, the copyist being free to follow his own whims to a certain extent. Tops of trees in the far distance and bushes silhouetted on the horizon are merely suggested in the underdrawing with freely applied, short vertical and diagonal dashes, for example in the Antwerp versions (fig. 109a-b).

⁵⁰⁴ PETROSKY 1990, pp. 47-9.

⁵⁰⁵ CENNINI (transl. 1933, ed. 1960), p. 20.

⁵⁰⁶ VASARI (transl. 1907, ed. 1960), Chapter II (*Sketches, Drawings and Cartoons of different kinds*), p. 212-3. For the early history of black chalk, see VAN CLEAVE 1992, pp. 231-43.

⁵⁰⁷ It is important to take into account that the resolution of the underdrawing lines in the various infrared reflectograms is also affected by the differing equipment and conditions in which they were made; especially important is the distance of the camera from the surface and the size of the images captured (see also note 495).

⁵⁰⁸ For the significance of this to the use of cartoons see Section 7.2.8.g.iv.

⁵⁰⁹ There is no infrared reflectogram mosaic available for the Lille version for the hens.

⁵¹⁰ There is no infrared reflectogram mosaic available for the Lons-le-Saunier version in this area, whilst the strongly infrared-absorbing trees in the Vaduz reflectogram make an assessment of the underdrawing in the corresponding area impossible.

Landscape contours are indicated with sketchy and often wavy or scribbled lines that vary widely in thickness along the strokes (fig. 110a-c). As with the trees, these approximate guidelines were drawn in quickly, probably with only cursory adherence to the model, resulting in considerable variation in the position of the underdrawn lines from version to version.

Other details, such as still-life accessories, are often drawn in a loose and spirited manner, for example the sheaves of corn in the lower left foreground (fig. 111a-b). The flames of the fires in the upper left and against the central house are indicated by random, curved, loose, freehand lines (fig. 214). The wicker basket being passed above people's heads in the lower left varies in the level of underdrawn detail from copy to copy and is not always underdrawn, for example in the privately owned version (figs 112a-). The cooking pot seems to be drawn freehand in most versions (fig. 113a-). Icicles are summarily indicated, for example in the Arras, Caen, Lille and Bonnefantenmuseum versions, or absent at the underdrawing stage (private collection, Lons-le-Saunier, KMSK, Mayer van den Bergh and Brussels versions).

Brueghel's 'vocabulary' of drawing notations, including the use of detailed outlining for the main compositional forms and figures, occasional hatchings for tone and contour, and vertical dashes for the tops of trees is firmly rooted in sixteenth century traditional Flemish practice; an example of this manner of drawing is a study sheet showing diverse figures by Hieronymus Bosch, *The Witches*.⁵¹¹ Example of the tops of trees indicated in short vertical dashes are found in the work of Pieter Bruegel the Elder amongst others, for example, *Mountain Landscape with Ridge and Valley*, c. 1552.⁵¹² The latter notations are also seen in the Jacob Savery forgeries of Bruegel the Elder's work, for example, *Castle in a Ravine*, c. 1590.⁵¹³

7.2.5.b *Adjustments during underdrawing*

Although none of the copies show major changes to the composition, small adjustments are often visible during drawing, particularly in the architecture where lines are frequently reinforced, gone over more than once or adjusted in some minor way. Roof gables have been adjusted during drawing, for example in the Vaduz version where the lower left step of the gable in the central house has been moved to the right, the Lons-le-Saunier version, where the artist as altered the position of the uppermost step of the central house roof gable, the Bonnefantenmuseum version, where the artist has altered the uppermost step as well as the size of the chimney (although the latter may have been adjusted during the painting stage) and the KMSK and privately owned versions where the artist adjusted the position of rooftops in the upper right (figs 114a-c, 115a-b). In the KMSK version, there is also a change to the shape of the top of a ruined wall in the upper right.

Other small alterations during drawing apply to the figures, for example, in the Brussels version, where the artist adjusted the legs of a figure picking up snowballs at least twice (fig. 116), in the Lons-le-Saunier version where the artist clearly searched for the outline of the legs of a man walking (fig. 117) and in the Maastricht version, where a snowballing figure's jacket is slightly adjusted (fig. 126). A more important change in the latter version concerns a figure in the middle of the group, huddling around the fire against the central house (fig. 118a). The artist first drew the figure with a knee-length coat, but then changed his mind and added a long cloak, the latter overlapping the figure to the left slightly. In the Brussels version, the artist redrew the head of one of the hens in the centre foreground (figs. 105a). In both the Brussels and Vaduz versions, the horns of the ox behind the Virgin were adjusted during drawing (figs 119a-b). In the Bonnefantenmuseum version, there also appear to be two small-scale figures in front of the church to the left of their final position (118b) and a cart load in the upper right has been significantly enlarged in size, the first drawing lines quite sketchy in appearance (fig. 106d). The KMSK version has a significant change in position of a cart wheel in the upper right at the drawing stage (fig 106c). In the Arras, Caen and Lille versions no significant adjustments of outline during underdrawing are noted, but this may be due to the relatively poor visualisation of their underdrawings.

7.2.5.c *Adjustments in outline during painting*

All versions of the *Census at Bethlehem* reveal minor adjustments, corrections, refinements and straightening of outlines between the underdrawing and painting stages, for example the positions of feet in the snow, the edges of draperies, elliptical or circular shapes, such as cart wheels and loads, particularly a cart wheel to the immediate right of the tree with the 'In De Swaen' sign, Joseph's wicker tool basket and the edges of buildings,

⁵¹¹ Hieronymus Bosch, *The Witches*, study sheet with grotesque subjects and eight female figures, pen and brown ink, 20.4 x 26.4 cm, annotated in lower left, 'Bruegel manu propria', Louvre, Cabinet des Dessins, inv. 19721. This sheet shows figures drawn in a manner remarkably similar to figures in Brueghel the Younger's underdrawings: outlining for general profiles and drapery folds, occasional hatching for tone; the Bosch sheet however, shows some cross-hatching in places, a technique not found in Brueghel the Younger's underdrawings.

⁵¹² Pieter Bruegel the Elder, *Mountain Landscape with Ridge and Valley*, 20.4 x 29.5 cm, pen and brown ink, inscribed in pencil on verso, 'P. Breughel', Ulrich, Herzog Anton Ulrich-Museum Braunschweig, Kupferstichkabinett, inv. Z. 381 (CAT. ROTTERDAM-NEW YORK 2001, cat. 4, p. 90).

⁵¹³ Jacob Savery, *Castle in a Ravine*, 16 x 21 cm, pen and red-yellow-brown ink with traces of black chalk, inscribed at upper left, 'BRUEGEL 1561/S.', Rotterdam, Museum Boijmans Van Beuningen, inv. MB1687.

rooftops and trees. The drawn outlines of trees and branches in the sky are often hardly followed at all, for example in the Mayer van den Bergh version have (fig. 108a). Quite often, chimneys are reduced in size slightly or modified in shape, and intricate folds are smoothed out during painting; in the privately owned version, for example, the curled start of a fold in the upper right of the Virgin's robe disappears (fig. 120).

In the Lons-le-Saunier copy there are also some relatively important changes during painting: a figure carrying a large basket on the ice has been moved upwards by approximately a centimetre (quite significant for this small-scale motif), and the wheel in the centre is moved up and to the right (fig. 121a-b). The latter is underdrawn in its entirety but in the paint layer its lower third is buried in snow. Many figures in the Lons-le-Saunier version have been adjusted during painting, most probably because they are often cursorily indicated at the drawing stage. The same can be said for the figures in the Brussels version. In the Bonnefantenmuseum copy there are also numerous significant adjustments including the rightmost vertical of the central house, painted approximately a centimetre to the left of its drawn outline, and the chimney of the central house, which is considerably reduced in size in relation to its drawn outline (fig. 114c).

7.2.5.d *Omission of underdrawn motifs during painting*

Some minor motifs were drawn and subsequently dropped at the painting stage. These vary from copy to copy and there seems to be no pattern to these omissions amongst the various copies; none was observed in the privately owned version and there is only one clear example in the Vaduz version.

An interesting example of a dropped motif is a roughly drawn circle near the central house in the Brussels, KMSK, Bonnefantenmuseum, Vaduz and Lille versions; its identification as a wheel is only clear in the Vaduz version, where the spokes are drawn in (figs. 122a-j). The motif is not painted in any of the copies.

The Mayer van den Bergh and Lons-le-Saunier versions each show a small girl in the same location on the frozen pond in the upper left at the underdrawing stage only (fig. 123a-b). Near this position, the Brussels version also reveals a girl at the level of the underdrawing only, but differently posed (fig. 123c). Girls in similar positions appear in both underdrawing and paint layer of several other copies including the Mayer van den Bergh and KMSK versions.

The Brussels and Lons-le-Saunier versions both have a drawn but unpainted dog in the upper centre of the composition (fig. 104a-j); in the Caen version several sketchy lines in the reflectogram may possibly be indicative of the dog; the motif is both drawn and painted in the other copies.

The KMSK and Arras versions reveal curved lines in the underdrawing to represent a rounded metal grille in a window of the inn on the lower left (fig. 124a-b); this detail appears in both underdrawing and paint layers of the Bonnefantenmuseum, Mayer van den Bergh, and Lons-le-Saunier (fig. 124c) copies but is not present at any stage in the privately owned (fig. 124d), Lille, Vaduz, Brussels or Caen versions.

In the Bonnefantenmuseum version, there are two drawn but unpainted poles leaning against the left section of the central house, not seen in any of the other copies (fig. 125). It is possible that this motif is present in the underdrawing of the Vaduz version; unfortunately the paint layer is not sufficiently transparent in this area in the infrared reflectogram assembly.

In the Lons-le-Saunier version, there is a head with a hat in the doorway of the inn in the lower left, not carried through to the paint layer and not seen in the paint layer of any of the other copies (fig. 124c). An underdrawn but unpainted form in this location may also be present in the Vaduz version, but this is not clear enough in the reflectogram to be certain.

In the Caen version, there are sketchy lines in the underdrawing to suggest reeds on the edge of the pond in the lower right (fig. 110c). Reeds are seen in the underdrawing and paint layers of the Brussels version and in the paint layers of the Lille and Vaduz copies.⁵¹⁴

In the Caen version and possibly the Arras and Bonnefantenmuseum versions, a small knife, attached to the belt of the man slaughtering the boar in the lower left, is present at the underdrawing stage only. This knife is painted in the Brussels, Vaduz, KMSK and privately owned versions.⁵¹⁵

It is interesting to note that all these underdrawn but unpainted motifs are present in the paint layer of the original version by Bruegel the Elder. Their significance for the analysis of the sequence of the copies is explored in detail below.

⁵¹⁴ There is no infrared reflectogram available for the Lille version in this area and the Vaduz infrared reflectogram was not sufficiently clear to be able to assess whether the reeds were underdrawn or not.

⁵¹⁵ Since the knife motif is painted black, it is difficult to assess whether it is also underdrawn; it probably was, as traces of drawing lines do appear at the edges of the motif in all but the KMSK version.

7.2.5.e *Stylistic variation amongst the copies*

As has been shown, the same fundamental underdrawing technique is displayed in all the copies. The fact that the paintings are copies attenuates particularities of style, while interpretation is sometimes made difficult by the uneven quality of the infrared reflectograms. Still, stylistic idiosyncrasies can sometimes be identified, although even these could in some cases indicate a different time period rather than a different hand. The differences amongst copies can be illustrated by comparing a series of different motifs, for example snowballing figures (figs. 126a-j), a male figure picking up snowballs (figs. 127a-), the man slaughtering the boar and the woman holding a pan to collect the blood (figs. 128a-i), buildings in the upper right and the foreground hens (figs. 105a-i).

7.2.5.e.i *Brussels*

The underdrawing appears more naturalistic and spontaneous than most of the other copies, the artist probably following his own artistic instincts as well as the model. The figures and animals are well understood from an anatomical point of view, for example the figure of the small figure staring at the pond, which in the other versions takes on a slightly caricatured quality. Another example is the figure picking up snowballs and the figure being pummelled on the ground; here the forms have clearly evolved during drawing and painting, in keeping with the unusually creative and spontaneous manner of this particular underdrawing, which succeeds better than the others in capturing the impression of movement. Outlines are often quite nervous, wiry and composed of lengths of short, jerky lines. Hatchings, where present, are loose and spontaneous. Of all the underdrawings, this is the most ‘painterly’ and masterly in terms of characterisation of movement and gesture, qualities that are continued through to the paint layer (figs. 130a-d).

7.2.5.e.ii *Vaduz*

There are many areas in the underdrawing of the architecture that are sketchy and nervous in quality and close to the Brussels version. Equally, for large- and smaller-scale figures, the underdrawing style is compatible with the Brussels underdrawing (fig. 131a-b). The group of hens is drawn in a similar manner to the Brussels version, using short, sketchy strokes (fig. 105a, 105f). Joseph’s hat is drawn likewise. Unfortunately, the fact that the Vaduz paint layer strongly absorbs infrared masks the underdrawing in many places, preventing a comprehensive comparison which might affirm that the two underdrawings are by the same hand.⁵¹⁶

7.2.5.e.iii *Lille*

The underdrawing line is not as clear as the others in infrared, perhaps owing to the canvas support; nevertheless, where it is visible, it can be described as fine, precise in places, with varying pressure along the line and undulating significantly in parts of the architecture, especially in the upper right. The artist rarely went back to correct outlines. Clothing has loosely applied hatching for shadow in places.

7.2.5.e.iv *Lons-le-Saunier*

The underdrawing is unlike any of the other copies. It appears slick, confident and rapidly executed, the artist abbreviating finer details in places, including the legs and hands of figures (fig. 128e), the timbering on a house in the upper right (fig. 129d) and the hens (fig. 105i). The presence of these shortcuts implies that a model was also referred to at the painting stage. Architecture is swiftly indicated, with undulating and often incomplete outlines. The large waggons in the lower centre are outlined in a more summary fashion than in most other versions. The landscape contours are also indicated in a more scribbled manner than in other copies (fig. 110a). The essential characteristics of the drawing style – slick, confident, stylised treatment of forms – are also seen at the level of the paint (fig. 132a-b).

7.2.5.e.v *Bonnefantenmuseum*

The underdrawing is difficult to characterise, especially as the infrared reflectogram is dominated by diagonal markings from the *imprimatura* but also due to the poor quality of the infrared image. The underdrawing is sketchy in places, the artist working out his outlines while drawing, and more precise in other areas. In the architecture, the outlines of buildings towards the centre and right are more ‘wobbly’ and nervous than the outlines for buildings on the left. Buildings in the centre and right include various revisions at the underdrawing stage (fig. 114c). In the figures, there is not much detailing of folds and hatching is rare, but there are a few, short contour lines in places, for example on the hat of the male figure in the lower right corner. The

⁵¹⁶ The CCD camera used to record the Vaduz underdrawing does not go far enough into the infrared to record all the underdrawing; furthermore, except for selected details (e.g. fig. 119b), the camera was generally not positioned closely enough to the painting to register the underdrawing in a sufficiently high resolution for stylistic analysis.

underdrawing is quite schematic and stylised in places, with little regard for naturalism, for example, in the hens (fig. 105).

7.2.5.e.vi *KMSK*

The underdrawing is carefully executed and clearly not rushed. The artist searches for the correct outline while drawing and reinforces lines in places. An idiosyncratic way of suggesting contour using a notation that could be described as joined hatchings is seen in many motifs, such as a round building in the upper left and the back of the man in the lower right corner (fig. 133a-b). Long, straight strokes are used to denote shadow on the roof of the oriel window of the central house.

7.2.5.e.vii *Mayer van den Bergh*

In this version, outlines are boldly and quickly executed; however, the underdrawing does not show a good understanding of the construction of forms or the anatomy of figures, for example the figure of the dwarf, where the head appears literally fused to the chest. There are no undulations or nervousness in the outlines for architecture, unlike most of the other copies. The artist clearly searches for the correct outline during drawing, for example in the central house, the loads of the large waggon in the lower centre, the lower edge of the coat of the small figure watching the pond in the lower right, and the outline of the barrel in the lower right. Some forms are quickly and schematically drawn, for example the hens (fig. 105). Shadows in figures are often indicated by hatchings. In the landscape contours, the underdrawing line loops around itself whimsically in places (fig. 110b). The underdrawing style is very similar to that of the KMSK version, although the forms are indicated a little more simply and coarsely.

7.2.5.e.viii *Private collection*

The artist appears to be set on studiously reproducing the composition in every detail but rarely captures anatomy correctly. This strict attention to detail, whilst at the same time lacking true mastery of form and movement is also expressed during painting. There are many small revisions and reinforcements of the line during drawing in the architecture and the figures. With the Arras version, this is the only underdrawing to fill in deep shadow with closely spaced scribbled lines, for example the church door, the top of a tower and the inner part of the bottom tip of the man's coat in the lower right corner (fig. 135a-d). Interestingly, the artist did not bother to indicate certain features at the underdrawing stage, such as tree trunks or branches from a certain level above the horizon (fig. 108b), a wicker basket being handed over heads in the lower left and icicles (fig. 112).

7.2.5.e.ix *Caen*

The style of the underdrawing is difficult to assess in all areas owing to the poor condition of the paint layer, which affects the quality of the infrared image. Where visible, underdrawing lines are wiry and often tapering, composed of short lengths, the pressure of the drawing instrument varying considerably along the strokes. Closest in style, but not in ability to the Brussels version, the artist has drawn rapidly in a fairly vigorous, loose, sketchy, 'painterly' manner, a style that is continued through to the paint layer. This sketchy drawing style is demonstrated in the detail of the hens (fig. 105). Stylistic similarities to the Brussels version include the way the tips of the shoes are portrayed with two scooping strokes in the snowballing figures (fig. 126). Certain forms are strangely constructed in terms of anatomy, for example the Virgin's head, which is abnormally elongated from her forehead upwards, and the ox's rump, which protrudes rightwards like an unfortunate appendage (fig. 130b). Other motifs do not convincingly convey gesture and movement, for example the snowballing youths. There is not much reworking during painting, except in certain details such as the mule's hoof, which was drawn too large in the underdrawing and reduced in size in the paint layer (fig. 130b). In the architecture there are no sweeping undulations in the outlines and the lines are often jittery and not straight.

7.2.5.e.x *Arras*

Although difficult to visualise in many places, the underdrawing can be described as simple and hesitant, the artist strengthening and adjusting many outlines along the way. The lines are generally wiry, thin and tapering but lack the sketchiness and confidence of touch seen in the Caen version. Good examples of this style are seen in the hens motif and in a figure throwing snowballs (fig. 105, 126). Figures and animals are often weakly conceived, lacking knowledge of anatomy, for example the ox, whose basic bone structure is incorrectly rendered, the hind leg bone sticking out too far to the rear (fig. 130h). The large-scale foreground motifs, such as the couple in the lower right, are drawn with more confidence but this may be due to the fact they probably followed cartoon-transferred outlines (see below, 'Cartoons for individual motifs and groupings?', Section 7.2.8.g.iv). Architectural outlines 'wobble' in places but are usually relatively straight. As in the privately owned version, the artist filled in the deep shadow of the door of the church with drawing lines (fig. 135b). In a few draperies, hatching is present for tone.

7.2.5.e.xi *Reflections on attribution*

Stylistic variations in the underdrawings among the copies suggest that more than one artist was involved in this phase of the production of the series. There does not seem to be any collaboration on single works at this particular stage; drawing style is consistent throughout for each painting. Of all the copies, the Brussels version has the most ‘painterly’, confidently executed and naturalistic underdrawing, showing a mastery of anatomy not matched in the other versions and suggesting the hand of a more experienced draftsman. The artist no doubt followed his own artistic instincts as well as the model. This underdrawing fits very well with the Core group of underdrawings assembled by the present author as possibly by the hand of the master himself (see below, ‘Core group of underdrawings’, Section 17.1.1).

The Vaduz version may also be of a higher quality to the other copies and possibly by the same hand as the Brussels version; unfortunately, the infrared images are not complete or detailed enough to make a reasoned judgement. Amongst the KMSK, Mayer van den Bergh and privately owned versions it does seem that over a wide range of motifs, the Mayer underdrawing has a more rudimentary style and the privately owned version the most careful, studious and least sketchy approach – the latter at the expense of naturalism. The KMSK version falls somewhere in between the two; it is very similar to the Mayer version in style but shows more subtlety than the latter in places. The confident and rapidly executed underdrawing of the Lons-le-Saunier version reveals a unique artistic personality, not identified in any other copy. Of the remaining versions, the Caen underdrawing shows strong similarities in style to the Brussels version; however, as anatomy, movement and gesture is not characterised nearly as convincingly as the latter, its execution is probably due to a diligent studio imitator. The underdrawings in the Arras, Bonnefantenmuseum and Lille versions are not particularly idiosyncratic and are difficult to attribute to any particular ‘hand’, partly due to the poor quality of the infrared images.

Although the Brussels version stands out from the rest for its superior draftsmanship, other versions might possibly have been executed by the same hand, but at an earlier period during which the artist was less familiar with the image, therefore the drawings would be less confident and show less intimate familiarity with the motifs, although sharing certain stylistic traits. Possible candidates include the Mayer and KMSK versions, particularly the Mayer version, for which dendrochronology indicates an early possible execution date and for which comparison with other versions of the same compositional variant show it may have been the first version of its group (see below, ‘Inconsistencies within groups in the variable motifs’, Section 7.2.8.f.iii). This question remains an open topic for debate.

7.2.6 **Paint Layer**

Unique provenances, varying environmental conditions and different restoration treatments over the years have meant that the copies range widely in material condition. This considerably affects the visual appearance of the paintings. Of the paintings studied by the author, the Brussels and Caen versions are perhaps the most badly affected by the ravages of time,⁵¹⁷ although a sensitive recent restoration of the former has revealed its exceptional qualities.⁵¹⁸ Removal of the yellowed varnish coatings and overpaint from the Mayer van den Bergh and KMSK versions has also enhanced their respective appearances.⁵¹⁹

7.2.6.a *Use of reserves and evolution of the paint layer*

The copies all follow a similar evolution of the paint layer, which is similar but more straightforward to that of the original version (fig. 42a-e). In each case the artist has carefully followed the outlines in the underdrawing, reserving spaces for the forms to follow; there is little overlapping of motifs. The paint layers have been applied methodically in a logical sequence, commencing with background zones and progressing forward to the figures (figs. 137a-d). The technique of leaving reserves in the initial paint layers preserves the effect of luminosity coming from the underlying ground and *imprimatura* layers, whilst on a more practical level avoiding lengthy drying times between layers. This working method is clearly revealed in x-radiography, infrared reflectography and in certain photographic details.

Unlike the original version, there is no opaque white *imprimatura* layer that might have been exploited as the white snow paint. The first paint layers appear to have been the background sky and zones of snow and ice (landscape, ponds and rooftops), leaving gaps for all the large and medium-scale figures, architecture, waggons, major tree trunks and some side branches, and for small motifs such as inn signs and the grain-pecking hens in

⁵¹⁷ Works of art can suffer damage from bad environmental conditions, which can cause flaking and paint loss. Harsh cleaning is another factor that can result in abrasion of the paint layer and removal of delicate, coloured glazes. Furthermore, discoloured retouchings and overpaint can distort the appearance of a painting significantly.

⁵¹⁸ Conservation treatment by Thanh-Nghi Pham at the Musées Royaux des Beaux-Arts de Belgique.

⁵¹⁹ Conservation treatment of the Mayer van den Bergh version by Katja Lewerentz and the KMSK version by Kees Schreuder at the Stichting Restauratie Atelier Limburg (SRAL). Lewerentz discussed the examination and restoration treatment of these two paintings during the *Brueghel Enterprises* symposium (LEWERENTZ 2002 [forthcoming]).

the lower left (fig. 137a). Since this initial paint layer usually contains lead white, the reserves in it are often revealed by x-radiography; the same forms are similarly reserved in the three copies for which x-radiographs were acquired⁵²⁰ (fig. 138a-i). In the lower right, the ice paint sometimes overlaps slightly into the spaces reserved for the figures (fig. 139a-b). In some versions, reserves in the snow paint are left unpainted or lightly scumbled to suggest distant landscape features; in these instances the slightly tinted *imprimatura* acts as the final paint layer, for example the pathway near the church and the river near the horizon (figs. 101b-c, 163). Certain forms, however, were probably considered too small to reserve, even though they were planned in the underdrawing. These include the small-scale figures above and on the pond in the upper left and smaller tree branches. In the Brussels version, the snow-covered upper left tip of the 'Save Garde' inn rooftop is painted wet-in-wet into the sky paint, proving that the sky and rooftop were carried out during a similar period. Similarly, the trees on the horizon in the landscape vista were applied at the same time as the sky as they are painted wet-in-wet into still-soft sky paint (fig. 163). In some versions, the fact that some fine branches of far background trees overlap into the reserves for the larger side branches of the major trees prove that they were painted first, probably at the same time as the rest of the landscape vista (fig. 140a-c). Furthermore, fine brushstrokes of trees and rushes bordering the river are incised into the snow paint of the river bank showing that these features were also painted simultaneously.

The next stage (fig. 138b) appears to have been the application of paint for the architectural elements and darker-toned details and zones such as wagon wheels (fig. 141a-j), carts (fig. 142a-), the punt (flat-bottomed boat, fig. 143a-h)⁵²¹ and interiors of buildings, again reserving spaces for the forms to follow. The punt was also obviously painted before the tree, as the boat paint overlaps slightly into the space reserved for the tree. Joseph's hat was clearly painted after the foreground waggons, as its space is carefully reserved in the darker paint of a wagon wheel, the paint of the latter generally overlapping slightly into the reserved space for the hat; there is also a small reserve in the wagon wheel for the horns and ears of the ox (fig. 119a-b). Likewise, the basket held by the figure to Joseph's left is reserved in the dark wagon paint (fig. 144). The figure carrying a tree stump to the left of the central wagon group was painted after the wagon handles, as the paint from the latter overlaps into the reserved space for the man's legs (fig. 145a-j). To the centre right, the dark paint of a wagon wheel overlaps a little into the space reserved for the figures in the Lons-le-Saunier and KMSK versions (fig. 146a-b). In the upper centre right, a stepped brick wall was painted before the narrow tree in front of it; in the Bonnefantenmuseum version, the paint for the brickwork spills over into the space reserved for the tree (fig. 147). The brickwork of the central house was painted before the group of figures huddled around the fire in front of it; in the KMSK version, the painted delineations of the bricks overlap slightly onto the reserve for this group (fig. 148). In the centre of the composition, the arms of the woman putting snowballs into a cart is clearly reserved in the dark paint of the cart (fig. 142). To the far left, the hanging wreath on the inn is reserved in the darker paint of the window frame and the painted shadow of the architectural overhang (fig. 149a-d), likewise, in the left foreground the dark paint of the fallen door overlaps slightly into the space reserved for a three-legged stool (fig. 150a-b).

Figures and animals were most likely treated next, possibly during the same stage or just after the trees (fig. 138c). In larger groups of figures, the artist would have started by painting those at the back of the group and progressing towards the front, overlapping only very slightly as he went. An example is provided by the small reserve in the dark paint of the coat of a man for the hand of a begging child in front of him (fig. 151a-c).

Finally, snow-covered motifs, snowballs and small details such as embroidered decoration on certain garments, would have been applied (fig. 138d). These were painted after the main paint layer was dry. Embroidered details on the yellow robe of a figure in the lower left include rich reds, greens (often discoloured to brown) and blues in linear, wavy or circular patterns (fig. 152a-g); interesting patternwork is also seen on the yellow garment of the figure tending the leper's garden in the centre right (fig. 154a-g). Other later details include Brueghel's trademark blue icicles and delicately painted sheaves of corn in the lower left centre, applied after the fallen door (figs. 67, 196a-d). Further small elements, such as the fire in the upper left, are suggested by thick dabs of yellow and red paint (fig. 67); elsewhere, impasted white highlights on trees, buildings and waggons mimic fallen snow. These bright, textured details entice the viewer's eye into every corner of the composition. Also applied at a later stage are brushy blue draperies, particularly in the case of the KMSK version (fig. 153), and possibly dark or red glaze outlines to figures, although the latter may have been painted at the same time as the figures themselves (fig. 184a-j, 187a-e).

Both Brueghel the Younger and Bruegel the Elder worked from the background to the foreground in their respective *Census* compositions, leaving spaces for the forms to follow; however, the younger Brueghel reserved forms more systematically than his father and paid less attention to the subtle play between opaque, translucent and transparent paint. Both artists used a system of reserves in small- and larger-scale works and

⁵²⁰ KMSK, Mayer van den Bergh, Brussels.

⁵²¹ Infrared images of this detail for Lille and Vaduz not available.

over a wide range of subject matter, described in Chapters I-X of the present thesis.⁵²² The practice is also noted in the work of most sixteenth century Netherlandish painters. Van Mander, in his *Foundation of the Painter's Art* may allude to this practice when he describes how 'in order to make it [the painting] pleasing in every way and to prevent dimming, each of their [some painters] well-tempered colors is at once applied to its right place.'⁵²³ Brueghel the Younger also followed traditional Flemish practice in his use of very few, thin paint layers, again conforming to Van Mander's observation that his 'recent ancestors' [...] 'did not put on their colors thickly but thinly and economically, very finely applied, luminously and clearly'.⁵²⁴

7.2.6.b *Palette*

Brueghel the Younger's palette in his *Census* copies is intrinsically different from his father's original version. Rather than the muted display of colour and subtle tonalities in Bruegel the Elder's composition, where the figures blend into and form part of a cold, emotive landscape lit by the last rays of the red setting sun, the son's versions offer a tonally contrasted scene enlivened with figures dressed in bright red, yellow, blue, green and white, while the time of day is unspecified in the absence of the setting sun.⁵²⁵

The only figure for which Brueghel the Younger consistently retained the original colour scheme of his father is that of the Virgin, whose robe is blue in both the original and the copies. Nevertheless, she wears a light creamy-coloured undergarment in the original, which is transformed to red in the copies. The bundle carried by the male figure in the lower right is red in the original and also remains red in the copies.

For the most part, the figures in Brueghel the Younger's *Census* copies have differently coloured draperies as compared to the original version (figs. 63-9). These new colours are often repeated in all the copies. The large pair of figures in the lower right corner provides an example of this. In the original version the male figure is dressed in dark grey-black, while the female figure wears a dress with a black bodice, red skirt, green underskirt, white apron and a black hat over a white headdress. In the copies, the male figure wears a brown coat and the female figure's colours are almost a reverse of the original – green dress, red underskirt and blue apron. Her bodice and hat remain black and the headdress remains white. Another example is the figure tending plants in the leper's garden in the centre right of the painting. In the original picture the figure wears a long greenish-blue cape, white shirt and white circular hat; in the copies the figure is dressed in a highly decorated yellow cape, a dark blue or green shirt and a white circular hat with markings (fig. 154 a-g).

Changes in colour between the original and the copies also apply to other motifs. The most obvious change is the red setting sun, absent in all the copies except the KMSK version, where it is painted yellow (fig. 106a-b). The group of hens above the sunken boat in the upper left is picked out with bright colour in the copies, whereas they appear a dull brown in the original. In the copies, the flames of the two small fires are painted in bright red and yellow paint, as opposed to the original's white with a yellowish tinge (fig. 67). In addition, the red blood of the pig in the lower left is more abundant in the copies than in the original.

Certain draperies vary in colour from copy to copy. These mostly concern small- and medium-sized figures. For example, women's and children's aprons alternate between white and blue, and reds alternate with light brown or dark grey in trouser hoses, head caps and skirts. When these colour variations are seen in the context of the entire series of the thirteen known copies, certain groupings of similar copies emerge (see below, 'Six variants of copies', Section 7.2.8.c). The KMSK version stands out visually from the other versions due to its bright, slightly purplish blues, which have the appearance of ultramarine (fig. 155a-d). Blues in the other versions are often a little darker and more greenish, as would be expected from azurite or quite pale, which might suggest faded smalt (156a-b).

7.2.6.c *Paint layer structure and pigment analysis*

Cross-sections were taken from the three copies in Belgian public collections and show just one or two thin paint layers on top of the ground and *imprimatura* layers (fig. 157a-e).⁵²⁶

In the sky and snow, cross-sectional analysis revealed similar pigments and paint layer structure.⁵²⁷ In the three versions analysed, the light blue sky proved to be composed of a single, thin paint layer containing mainly lead white and the blue pigment smalt, lying over the *imprimatura* and ground layers (fig. 157a-b). Interestingly, the restoration of the Brussels version revealed a light blue strip of paint along the upper edge, in an area protected

⁵²² For Bruegel the Elder, see note 389 and figs. 5, 42, 43-4 and 396.

⁵²³ STECHOW 1966, p. 66.

⁵²⁴ *Ibidem*, p. 66.

⁵²⁵ The sun motif is drawn and painted yellow in the KMSK version but does not appear in any other copy.

⁵²⁶ Samples from the KMSK and Mayer van den Bergh versions were taken and examined by the author. Samples from the Brussels version were taken by Leopold Kockaert and re-examined by the author.

⁵²⁷ Examination with the optical microscope was carried out by the author. Scanning electron microscopy was carried out on all samples.

from light by the frame. The rest of the sky has a grey colour, perhaps due to the fading of the smalt.⁵²⁸ The snow paint in all samples was revealed as a simple mixture of mainly lead white and black particles, with some samples showing in addition a little chalk and azurite.

In the KMSK version, the red brick of the inn is composed of thin paint layers (fig. 157c). The lower layer, either the *imprimatura* or an underpaint, consists of lead white and chalk. An iron oxide pigment and a few black particles were identified in the upper red layer. The iron oxide pigment is probably responsible for the red coloration of the upper layer, since no vermilion was detected.

The frozen pool of water in the lower right of the KMSK version consists of a thin, light blue layer containing azurite, lead white and yellow ochre (fig. 157d).

A snowy highlight on a tree in the sky zone of the Mayer van den Bergh version revealed a complex layer structure (fig. 157e). The tree paint consists of several thin layers containing umber, ochre, chalk and small grains of lead white, some layers more medium-rich than others. The highlight of pure lead white is superposed on these layers and surmounted by a thin brown transparent layer containing vermilion, a few tiny lead white particles, an iron oxide pigment, a lake and a few black particles. In the Brussels version, a sample from a snow-covered tree branch in the upper right sky showed a single layer of sky paint, composed of lead white and smalt, followed by a single, brown paint layer representing the tree, containing a copper-based pigment, an iron-containing pigment and an umber, superposed by the snow paint, the latter consisting of a thin layer of lead white followed by a bluish-white layer containing lead white, an iron-containing pigment and calcium (fig. 157a).

Draperies and figures were not studied by cross-sectional analysis for ethical reasons.⁵²⁹ However, seven copies of the *Census* were recently analysed using colour spectrometry by Robert Fuchs and Doris Oltrogge.⁵³⁰ Their analysis of the draperies supported the author's findings in the sky and snow, namely that the choice of pigments for corresponding areas in the various copies is remarkably similar.⁵³¹ Surprisingly, they found one major exception to this rule; in the KMSK version, the Virgin's robe, as well as most of the other blue draperies,⁵³² are painted in lapis lazuli, the only instance of ultramarine in all the *Census* copies they examined. This confirms the visual observation that the majority of blues in this particular version are different in hue from the blues in the other copies. Fuchs and Oltrogge proposed that the use of ultramarine for this version only could mean the KMSK copy was a commissioned work rather than made for the open market, as already hinted at by Pieter van den Brink in the *Brueghel Enterprises* catalogue.⁵³³

In most versions, the bright reds show a discolouration to mauve or black to a greater or lesser extent, which is typical of a physical change in the pigment vermilion on ageing (fig. 158a-f). This discolouration is particularly disturbing in the Brussels, KMSK, Bonnefontenmuseum and Lille versions, is present to a minor extent in the Lons-le-Saunier version, and does not seem to affect the Vaduz, Caen, Mayer van den Bergh, privately owned and Arras copies. Certain red draperies in the original version of the *Census at Bethlehem* by Bruegel the Elder are also affected (figs 61a-b). The problem has been linked to a change in the crystalline structure of the pigment vermilion to its black form. A variety of contributory factors have been proposed as responsible for this change, such as mineral impurities, heat and light.⁵³⁴ Most recently, Spring and Grout have linked the darkening of vermilion to a chemical reaction between chloride ions, originating from dirt in the environment with the red pigment. They discovered that the mauve colour of the darkened pigment is due to the presence of both white and black deterioration products, namely metacinnabar (probably, not proven) and white mercury (I) chloride calomel. They estimated that the change in colour is induced by light and is more rapid where there is high humidity and found that the pigment is most severely affected when it is used alone, poorly bound and without the protection of a red glaze.⁵³⁵ Pieter Brueghel the Younger's paintings frequently display this phenomenon.⁵³⁶ The discolouration of red to mauve has also been observed by the author in works of other Flemish painters,

⁵²⁸ I would like to thank Thanh-Nghi Pham, who conserved the Brussels panel, for pointing out this interesting colour change.

⁵²⁹ The taking of samples was confined to the edges of paintings for the most part. Figures are not generally present in these areas

⁵³⁰ FUCHS and OLTROGGE 2002 (forthcoming).

⁵³¹ For example, they found that the child's garment in the lower left is always composed of a blue pigment, either azurite or smalt, mixed with carmine lake and that the woman holding the blood pan's apron, when blue, is always composed of smalt. Other pigments identified by the team were yellow and brown ochre, and to a lesser extent lead tin yellow.

⁵³² Smalt was identified in the apron worn by the woman holding the blood pan, as in all the other versions.

⁵³³ See Peter van den Brink's remarks on the special attention paid to this copy in VAN DEN BRINK 2001, p. 41. Fuchs and Oltrogge also found ultramarine in two paintings on copper of the *Winter Landscape with Bird Trap* from outside the Bruegel workshop but no secure instances of ultramarine in the two other paintings of the *Winter Landscape with Bird Trap* and the three paintings of the *Adoration of the Magi* they analysed. They surmised that a costly support such as copper would probably have been a commissioned work, which would go together with the use of an expensive pigment such as lapis lazuli.

⁵³⁴ FELLER 1967; DANIELS 1987; GETTENS *et al.* 1993; GROUT and BURNSTOCK 2000.

⁵³⁵ SPRING and GROUT 2001 and SPRING 2002.

⁵³⁶ A sample of vermilion displaying a mauve crust from the Ghent version of the *Wedding Dance in the Open Air* was analysed by SEM (see Chapter VII, Section 13.1.5.d for results of this analysis and comparison with Marika Spring's findings).

including *Tavern* by Jan van Amstel (1500–1540) and *Before a Tavern* by David Teniers the Younger (1610–1690);⁵³⁷ however, it seems to affect the work of Brueghel the Younger more often and to a much greater extent than that of his contemporaries.

7.2.6.d *Handling of paint*

As with their respective underdrawings and choice of pigments, the *Census* copies all share certain brushwork techniques to a greater or lesser extent. Taken together, these techniques characterise Brueghel the Younger's workshop style.⁵³⁸

Forms are built up in an additive manner, with little blending of colour, for example, the armour worn by the soldiers in the centre right (fig. 159a-f). Here, grey strokes give a mid-tone, linear black strokes outline the armour plates and white impasted dots and linear dashes provide metallic sheen and three-dimensionality. There is no blending of the white and black strokes into the grey underlayer. For the fur collar of an official in the lower left, fine, short, vertical, dark brown strokes are applied over a thin, mid-brown, transparent layer and lighter areas are suggested by a partially visible undercoat and small dots and fine dashes of thicker white paint (fig. 160a-f).

Motifs are usually outlined with a fine painted line to clarify form and gesture, in a manner similar to modern comic strip illustrations. Most colours have brown or black outlines except red draperies, which are usually outlined in a transparent red (fig. 161a-b).

Faces, particularly female ones, often have white highlights just below the lower edges of eye sockets. These are often applied with fine white vertical brushstrokes and sometimes using more painterly dabs (figs. 162a-f, 181a-j).

The eyes and eyebrows in male faces are often 'drawn in' with dark paint strokes, the artist using a fine brush as a draftsman might use a pencil. The faces are subsequently outlined in black and red glaze paint, red often reserved for noses and mouths (182a-g, 183a-j).

Occasionally, seams of clothing are suggested by incising a line into soft paint with a pointed instrument, perhaps the back of a brush, sometimes with and sometimes without introducing fresh paint (figs. 162b, 161d, 161f).

Other common features include wet-in-wet brushwork for minor details, for example the small trees in the far distance, which are often painted into still-soft sky paint (fig. 163a-f), the trees and rushes bordering the river, which are incised into the snow paint of the river bank and footprints in the snow, made by introducing a little grey paint into the still-soft white snow paint (fig. 164a-b). An effective use of wet-in-wet is seen in the pink cap of the official in the lower left, where the decorative slashes have been intimated by short dashes of red paint into the soft pink layer (figs. 160a-c).

Areas of dark blue are usually applied thickly, the ridges of the brushstrokes still showing after hardening of the paint. (fig. 165a-c). Thick blue strokes are sometimes used to pick out features in dress (fig. 166a-c). The Brussels version's blues suffer particularly bad degradation in the form of micro-flaking and discolouration, perhaps due to harsh cleaning in the past (fig. 167a-c).

Tree branches are either painted in transparent or opaque brown paint, with slightly impasted white paint on top for snow (fig. 168a-d). In the distant landscape vista, tree trunks are suggested by fine black outlines with short, curved strokes in dark paint for contours (fig. 169a-f). Reeds bordering the river are painted as a series of fine vertical tapering strokes in light opaque and dark transparent colours.

7.2.6.e *Brueghel's 'studio style' in the context of sixteenth and early seventeenth century Flemish painting*

The typical brushwork style and palette associated with Brueghel's the Younger's workshop is reminiscent of traditional sixteenth century practice. His brushwork does not follow the newer trends in painting that favoured a more blended style of modelling as well as thicker, looser, more *bravura* brushwork, as seen in the work of Antwerp artists such as Rubens and Van Dyck. However, rather than recalling the painting style of Bruegel the Elder, Brueghel the Younger's manner of working is closer to the work of his father's contemporaries and imitators.⁵³⁹

⁵³⁷ Jan van Amstel, *Tavern*, 30 x 38 cm, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 875; David Teniers the Younger, *Before a Tavern*, 37 x 39 cm, signed, 'D. Teniers FEC (it)', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 345.

⁵³⁸ With foresight, Georges Hulin de Loo pointed out in 1907 that 'toutes ses copies bonne ou mauvaises offrent pourtant entre elles des traits communs à qui les analyse de plus près...' VAN BASTELAER and HULIN DE LOO 1907, p. 353 [all these copies, good or bad, offer however some common characteristics to those who analyse them closely].

⁵³⁹ See unpublished doctoral thesis by Dominique Allart (ALLART 1992-93).

Parallels in the painting of plasterwork and thatched rooftops on houses can be drawn with Pieter Balten (Antwerp? – before 1598), for example in his *Village Wedding*.⁵⁴⁰ In Brueghel the Younger's contemporary Abraham Govaerts's (1589-1626), *The Inn*, there is the same type of brushwork in the building;⁵⁴¹ the figures' draperies are also similar in handling and colour to those in the Brussels version of the *Census at Bethlehem*.

In terms of palette, Brueghel the Younger's brightly coloured draperies recall Abel Grimmer (? – before 1619). Grimmer's thin and delicate painting style, with little blending of colour, the figures outlined in places, although more naively conceived than Brueghel the Younger, heralds his style, for example in *Summer* and *Winter*.⁵⁴²

7.2.6.e.i *Stylistic variation amongst the copies*

Despite similarities in brushwork, some key stylistic differences amongst the copies, particularly concerning mastery of form, anatomical correctness and expression, suggest that they were not all painted by the same hand, as with the underdrawings.

7.2.6.e.ii *Brussels*

The Brussels version shines out as the most accomplished of the series in terms of paint handling, anatomy and comprehension of gesture. Faces are particularly expressive. These qualities are seen over a wide range of motifs. Despite significant paint loss, the recent restoration of the painting reveals a refinement and subtlety in the application of paint, previously masked behind a thick layer of yellow varnish and discoloured overpaint. A particularly appealing motif in the Brussels version is a clump of reeds in the lower right. Clearly painted in one session, partly wet-in-wet into the snow paint, this detail from nature highlights the artist's easy painterly style and naturalistic vision (fig. 170). The same stylistic traits can also be seen in the underdrawing, suggesting the same artist was responsible for the work from its initial layout to the final paint layer (fig. 171a-b).

7.2.6.e.iii *Vaduz*

The Vaduz copy, in better condition than the Brussels version, shows a similar painting style in many places, although in general motifs are modelled a little more tightly. Eyes are often suggested with the same deft tapered strokes of the brush (fig. 172a-b). Faces and gestures are equally expressive and well understood. Draperies are likewise painted in a delicate, painterly manner.

7.2.6.e.iv *Lille*

Like the Brussels and Vaduz versions, the Lille version shows an excellent three-dimensionality in the figures, anatomy is generally well mastered and fine detail is rendered with delicate brushwork and subtle modelling. Faces are often quite expressive. There are nevertheless problems of proportion in certain motifs, for instance the figure carrying a basket on his back, to the rear of a group of three on the lower right of the frozen pond in the upper left (fig. 173). The Lille version also shows less spontaneity in the application of paint than the Brussels and Vaduz versions. However, the painterly style of the Lille version might be influenced by the use of canvas rather than wood as support.

7.2.6.e.v *Lons-le-Saunier*

Of all the copies, the Lons-le-Saunier version shows the most slickly stylised treatment of forms and figures, with little attempt to portray true anatomy. The figures are painted swiftly and confidently, using fluid outlines, while the corners of draperies are often rounded off. The result is a formulaic and polished appearance. The artist also simplified the folds in headdresses and made frequent use of hatching strokes during painting. As previously mentioned in relation to the underdrawing, the style of the latter is extremely similar in style to the paint layer; this suggests the same artist was responsible for the work from start to finish (fig. 174a-b).

7.2.6.e.vi *Bonnefantenmuseum*

The Bonnefantenmuseum version has roundly modelled, expressionless faces with shiny cheeks, chins and foreheads, as in the underdrawing (fig. 175a-b). Figures are fairly stereotyped and drapery folds unconvincing. Anatomical proportions are often impossible, heads are squashed down on the necks or too small relative to the bodies.

⁵⁴⁰ *Village Wedding*, 117 x 162.5 cm, Brussels, Musées Royaux de Beaux-Arts de Belgique, inv. 8957.

⁵⁴¹ *The Inn*, 32 x 41 cm, copper panel, signed and dated 1626, Brussels, Musées Royaux de Beaux-Arts de Belgique, inv. 6579.

⁵⁴² *Summer*, 30 x 43 cm, signed and dated 1599, Brussels, Musées Royaux de Beaux-Arts de Belgique, inv. 4665; *Winter*, 30 x 43 cm, signed with traces of date, Brussels, Musées Royaux de Beaux-Arts de Belgique, inv. 4666.

7.2.6.e.vii *KMSK*

The KMSK version is highly accomplished in many respects; however, figures are sometimes weakly proportioned and lacking the subtlety of the Brussels and Vaduz versions (fig. 176a-b).

7.2.6.e.viii *Mayer van den Bergh*

The Mayer van den Bergh version shows relatively unrefined detail with coarser brushwork than the better copies, although to a much lesser extent than appeared before the painting's recent cleaning. Faces are often formulaic and inexpressive and figures can be awkwardly posed, with unconvincing proportions. The brushwork style, structure of draperies and painting of faces resemble the KMSK version in many areas, for example, in the face of a man gambling (fig. 177bis a-b), the face of the woman holding a pan for the pig's blood (fig. 162a-b) and the faces and draperies in two figures snowballing (fig. 184e-f). Whether or not the two Antwerp versions are painted by the hand remains a matter for debate.

7.2.6.e.ix *Private collection*

The privately owned version shows certain idiosyncrasies of painterly style which distinguish it from the others; these include thicker paint build-up and a particularly high level of finish in the brushwork. As the underdrawing is similarly meticulously, each form outlined in painstaking detail, it seems likely that the same artist was responsible for this particular copy from start to finish, as with the Brussels and Lons-le-Saunier versions (fig. 178a-b). Despite the care and attention given to the execution, the artist often fails to grasp the meaning of gestures and motifs and his portrayal of anatomy is not convincing; figures are often stiff and lacking in three-dimensionality.

7.2.6.e.x *Caen*

The paint layer of the Caen version is quite abraded, which hinders a comprehensive assessment of its painterly style. Even so, it is clear that faces are portrayed in a relatively painterly manner similar in style, if not in quality to the Brussels version, and to a fairly high level of anatomical detail; figures, however, are often caricatured and poorly proportioned, appearing elongated or thin in places (fig. 179). The painted outlines of figures are sometimes overly bold and stylised.⁵⁴³ The 'painterly' quality of this version, both at the level of underdrawing and paint layer, might suggest the same hand was responsible from start to finish.

7.2.6.e.xi *Arras*

Like the Caen version, the poor condition of the Arras version prevents a proper evaluation of its style. None the less, the Arras copy shows strongly modelled faces, with thickly impasted highlights. However, as with the Caen version, poses of figures are often weak, stiff and caricatured, with little attention to fine detail (fig. 180).

7.2.6.f *Cross-comparisons of details*

Cross-comparison of several especially revealing motifs highlights the stylistic differences between the copies.⁵⁴⁴

7.2.6.f.i *Faces*

The Virgin's face provides a good example of the high artistic achievement of the Brussels, Vaduz and Lille versions (fig. 181a-j). In these three copies, she casts a sweet and intimate glance at the viewer and the face is well proportioned. Stylistically, the Brussels and Vaduz copies share a simple, loose, unblended manner of modelling with similar short, painterly, vertical brushwork under the eye sockets. The Lille version, although well executed, exhibits a slightly different style with tighter, more blended modelling. The Bonnefantenmuseum and KMSK copies display delicate, softly blended brushwork and convincing proportions, but the Virgin's expression is blank and insipid. The Mayer van den Bergh version is not dissimilar to the Brussels version in its use of short, vertical lines under the eye sockets; recent cleaning has exposed its delicate execution. The Virgin's face in the privately owned version has been carefully and diligently executed, in spite of some problems of proportion. In the Lons-le-Saunier version, the face is a virtual caricature, crudely rounded and totally lacking in expression. In the Caen copy, the Virgin's face is placed at an interesting angle and appears to be relatively well proportioned; however, abrasion of the surface prevents a full appreciation of its qualities. The Arras version is impossible to judge owing to the presence of later retouching.

⁵⁴³ For example, the large-scale couple in the lower right corner. These outlines are perhaps later reinforcements made during restoration.

⁵⁴⁴ Copies personally examined and photographed by the author were the KMSK, Mayer van den Bergh, privately owned, Brussels, Caen and Arras versions. With the exception of the Vaduz version, the remainder were observed several times during the *Brueghel Enterprises* exhibition. In most cases, comparisons will focus on the copies personally examined and photographed.

The faces of the group of men crowded around a table in front of the ‘Save Garde’ inn provide further interesting comparisons (fig. 182a-g). As with most other details, the Brussels version has individually characterised faces that do not extend to caricature. The privately owned and Lons-le-Saunier versions on the other hand, show faces with oddly protruding ‘Hapsburg’ chins and noses, a characteristic seen in many paintings by Brueghel the Younger; the manner in which their eyes are ‘drawn’ is nonetheless differentiated in each copy. The profiled faces in the KMSK and Bonnefantenmuseum versions have abnormally heavy chins, but not extending forward in the manner of the privately owned and Lons-le-Saunier copies. The Mayer van den Bergh version’s profiled faces are bearded, unlike the rest; the manner in which the eyes are ‘drawn’ in both the profiled faces and those in the upper right is exceedingly similar to their counterparts in the KMSK version. Both KMSK and Mayer van den Bergh versions’ faces have somewhat banal expressions. The Caen version has painterly but somewhat crudely executed faces bordering on caricature.⁵⁴⁵

A comparative set of details of male faces shows that the above similarities between pairs of copies do not always apply to other details, for example the face with the yellow hat in the Vaduz version resembles its counterpart in the Mayer van den Bergh copy (fig. 183a-j). Also, the Lons-le-Saunier version distinguishes itself from the privately owned version for its more liquid and slick brushwork and more lively expressions. The KMSK, Mayer van den Bergh and Bonnefantenmuseum versions are similarly modelled in this detail, although the latter’s brushwork is more blended and ‘polished’ than the other two versions.

7.2.6.f.ii *Figures*

The motif of two male figures playing snowballs in the upper centre of the painting reveals significant differences in painterly style and anatomical mastery (fig. 184a-j). The Brussels and Vaduz versions’ figures are executed in the most painterly manner, with considerable spontaneity of brushwork. Furthermore, the figures are soundly constructed from an anatomical point of view and show a natural sense of movement. The Lille version shows careful and delicate modelling and also a good understanding of anatomy. Both the privately owned and the Mayer van den Bergh versions give the snowball thrower impossible anatomical proportions, the torso being too big for the legs. The head of the crouching figure in the KMSK version appears too small for its already strangely proportioned body; however, the snowball thrower shows a good sense of forward movement and sound anatomy. The brushwork and manner in which the face is painted is extremely similar to the Mayer van den Bergh version. The Bonnefantenmuseum version shows a reasonably well-constructed snowball thrower but the pose of the stooping figure is poorly mastered and somewhat caricatured. The Caen and Arras versions depict simply conceived figures, with no naturalistic detail. The figures in the Lons-le-Saunier copy are slickly painted in a formulaic manner, lacking detail and sense of movement.

In terms of gesture, the man bearing a large sack in the right midground of the composition points up the gap in understanding between the Brussels version, the two Antwerp copies and the privately owned version (fig. 185a-d). Only in the former copy is the anatomy, sense of forward movement and equilibrium of the heavily laden figure respected. The arm steadying the sack protrudes oddly in the other three versions; neither is there any sense of the physical weight borne on the man’s shoulders. The two figures preceding the load-bearer are also useful to examine. Excepting the Brussels copy, where they are painted in a convincing and naturalistic manner, the men have exaggerated triangular profiles verging on caricature. In the KMSK and privately owned versions, the neck of the man in the centre of the group is bizarrely compressed under enormous shoulders whilst the small sack carried by the leading figure seemingly ‘grows’ out of his ears or neck.

The figure of a seated woman warming her hands on the fire at the *In de Swaen* in the centre of the painting provides yet another example of the superior mastery of anatomy in the Brussels version. In each of the other copies shown (KMSK, Mayer van den Bergh, private collection, Arras, Caen), with the exception of the Caen version, the woman has impossible anatomical proportions (fig. 186a-f). For the woman with the red skirt, the Mayer van den Bergh version may have lost some of the blue paint of the apron due to overcleaning as the red skirt of the woman extends much too far to the left; subsequent retouching along the join further distorts the red skirt. The poses of the corresponding figures in the Arras version are particularly weak.

An amusing incident is conveyed in the Brussels version in the form of a pair of figures on the upper left frozen pond (fig. 187a-e) where, despite the cold, an apparently amorous man reaches out to touch the woman in front of him. In the Caen version, which closely follows the pose of the Brussels version, this essential gesture is lost; the artist has also had problems deciding whose arm is whose at the point at which the figures overlap. In the other versions, the corresponding motif consists of two men and there is no humour communicated. Both Antwerp copies show the man in front indicating something to his companion, the meaning of the gesture lost or unclear; the painting style is almost identical – and quite similar to that of the Brussels version. The privately owned version depicts the man on the left possibly touching the arm of his neighbour, the latter seemingly

⁵⁴⁵ There are no photographic details of the Vaduz and Lille versions for this motif; in the Arras version most of the faces in this area are repainted.

unaware of the former. The man on the right is stiffly posed and his shoulders envelop his neck unnaturally. Nonetheless, the privately owned copy shows a higher level of finish than either of the two Antwerp versions – neat painted outlines envelop the figures and the faces are painted in pleasing detail with tiny flecks of pink paint for highlights.

The boy or dwarf making his way towards the pond in the lower right sounds a slightly comical note in all the versions, as in Bruegel the Elder's original (fig. 188a-f). Again, the Brussels copy shows the figure with the most natural posture and ease of movement. In the other paintings the legs are clumsily positioned and do not convincingly suggest forward motion, particularly in the Caen version. The two Antwerp versions share a near-identical facial type and drapery brushwork. The private version offers a different painterly style, the face and hands applied more thickly and with greater attention to detail whilst the yellow highlights of the drapery are painted more boldly.⁵⁴⁶ The Caen version is painterly in style, but the figure has a 'cardboard cut-out' quality with overly bold outlining. The Arras version, taking into account its abraded and retouched state, is simply and weakly constructed.

Another anecdotal detail, the open-mouthed child begging for alms is well-communicated in the Brussels and two Antwerp versions but almost loses its meaning in the privately owned, Arras and Caen versions where the mouth is closed (fig. 189a-f). The privately owned version shows a stiff, upright character looking vaguely sideward, his mouth closed, and his hand appearing to grasp the coat of the man; furthermore, the chin of the figure protrudes outwards, a common characteristic in this particular version. Both the Brussels and the KMSK versions, and to a lesser extent the Caen and Mayer van den Bergh versions, have upside down 'v's in brown paint for the profile of the eye, a feature noted in other paintings from the artist's workshop.⁵⁴⁷

An curious personal relationship between two figures in the Brussels version is entirely absent from the other copies (fig. 68). This concerns the pair of figures silhouetted against the base of a large tree to the left of the leftmost pond, the figure with a hat seen from behind and his companion facing towards the viewer.

Smaller-scale figure motifs also reveal differences between the copies, for example, the man greeting two women at a portal in the upper right (fig. 1901-f). The gesture of greeting is clear in the Brussels and two Antwerp versions; however, in the privately owned version the greeter is transformed into a dancing man who looks out towards the viewer rather than towards the women he is with. The politely bowing postures of the two ladies in the Brussels version give them the most naturalistic appearance of the four copies. The faces in the privately owned version have tiny impasted pink highlights unlike those of the other three copies, which show less detail. Likewise, the face of the man making a hole in a plank in the building site of a house under construction in the upper right has been thickly highlighted with small pink dabs of paint in the privately owned version unlike the other copies, where his face is less detailed.

7.2.6.f.iii *Animals and birds*

The boar being led out to slaughter in the Brussels version is most convincingly ferocious of the copies (fig. 191a-i). Fluid and expressive brushstrokes give it the animation lacking in the other versions. The Lille version is also naturalistically modelled.⁵⁴⁸ The Caen boar is painterly in style, but lacks the impact of the Brussels version. Excepting the weakly-executed Arras version, the other copies are executed in a more studied linear style.

The only versions showing convincing portrayal of the horses being led in the upper right are the Brussels and Lille versions, although the artist of the Brussels version obviously had problems deciding where to paint the legs (fig. 192a).⁵⁴⁹ The Vaduz, Bonnefontenmuseum, privately owned and two Antwerp versions resemble each other strongly in style. In the Arras version, the horses only appear in the underdrawing.

The group of hens in the lower centre of the painting is particularly well characterised in the Brussels and Vaduz versions (fig. 193a-i). In these versions, delicate and lively brushwork gives the birds a pleasing, naturalistic appearance. In the other copies, the hens are painted in a more formulaic manner.⁵⁵⁰ The two Antwerp versions show almost identical brushwork and an equivalent level of detail. Again, the Caen version presents a pastiche of the Brussels' copy's style.

⁵⁴⁶ There is some retouching in the drapery paint, but this does not include the thickly-worked yellow highlights.

⁵⁴⁷ An eye painted in this way was noted in the Ghent version of the *Wedding Dance in the Open Air*, see fig. 586a-d and CURRIE 2001, p. 129.

⁵⁴⁸ No equivalent photographic detail was available for the Vaduz version.

⁵⁴⁹ Note that the grey paint on this horse is in fact later retouching, applied to conceal abrasion damage.

⁵⁵⁰ The Caen version is difficult to assess due to damage from abrasion. A photographic detail of the Lille version was not available for comparison.

7.2.6.f.iv *Still life details*

A particularly useful detail for comparative purposes is the barrel and sack motif in the upper centre-left of the composition (fig. 194a-e). Of the five versions compared, the Brussels version shows the most naturalistically painted forms, the sack giving the impression of sinking sideways under its own weight. The corresponding sacks in the two Antwerp versions are similarly depicted in a similarly stereotyped manner using near-identical brushwork style. Neither convincing shows the sack leaning against the barrel and sitting on the ground. The same motif in the privately owned and Caen copies do not have the three-dimensional and naturalistic quality of the Brussels version.

An attractive detail included in all the versions is the empty wicker basket being handed over in the lower right of the composition (fig. 195a-e). Of the five versions for which this detail could be compared, the Brussels version's basket is the most correct in terms of construction and perspective; the KMSK and the privately owned versions share a similar brushwork style although the private version shows slightly more attention to detail; the Mayer van den Bergh and Caen versions are more crudely painted with less refined brushwork.

The ears of corn in front of a fallen door in the lower centre-left of the composition demonstrate again the subtlety of the Brussels version compared to the two Antwerp and privately owned versions (fig. 196a-d). In the Brussels copy, the corn is painted in a loose and spontaneous manner, their weight of the ears of corn on their stalks tangibly evident. The KMSK and privately owned version's corn is applied in a careful and delicate way, but the forms are stiffer and more stylised than the Brussels version. As with the wicker basket, the corresponding motif in the Mayer version is depicted in a more cursory fashion, its painterly style recalling somewhat the Brussels version.

7.2.6.f.v *Architecture*

The curving wall on the bridge over the moat of the castle in the upper right serves as a good example for comparison (fig. 197a-e). In all the versions except the Brussels' copy, the wall can be described as charmingly naive in its construction, each one different in outline and brickwork, but not one managing to master the complex perspective presented by the curved angle. The Brussels versions' wall, by contrast, is entirely credible.

7.2.6.f.vi *Reflections on attribution*

Suggesting attributions from the stylistic evidence is not straightforward, as differences between the copies may also be influenced by other factors, such as speed of working, date of execution and the material condition of the works of art, all of which could affect the level and quality of detail, as with the underdrawings. Nevertheless, the comparison of details suggests that certainly the Brussels version, and perhaps the Vaduz version were painted by a highly accomplished hand, distinct from the other copies. The Brussels copy shows a consistently good understanding of anatomy, sense of movement and characterisation of gesture as well as a unique and pleasing spontaneity in the handling of paint. Could the Brussels version represent the hand of the master himself, at both the level of the underdrawing and paint layers? The fact that this version is signed and dated would seem to support this hypothesis, even if the privately owned version, clearly not of the same calibre, is also signed. Matching the Brussels (and perhaps Vaduz) version in many places, the Lille copy may well represent the same hand; however, although it is clearly executed with infinite care and considerable skill, the Lille version has a more 'polished' and blended brushwork style, while certain forms do not show the same high level of anatomical mastery. Further study would be necessary before a reasoned judgement can be given as to its attribution.

The privately owned version shows certain idiosyncrasies of painterly style which distinguish it from the other versions; these include thicker painter build-up and more detailed brushwork in some motifs, and a more caricatured manner of portraying faces in profile, particularly chins, which often protrude forward. In addition, this copy shows a lack of understanding of certain gestures that are clear in most other copies. It is therefore possible that the privately owned version represents the work of an individual artist not responsible for any of the other nine copies compared with it.

The two Antwerp versions are in places extremely similar to each other in terms of painting style although the Mayer van den Bergh version sometimes shows simpler, less refined details than the KMSK version. However, the fact the Mayer version appears more simply and quickly executed in many areas may be due to the circumstances of their origins – the KMSK version may well be a commissioned work – rather than to different authorship. The Bonnefantenmuseum version, painted in a confident but somewhat formulaic manner, shows similarities to the KMSK version in places, although in general figures are more stereotyped, faces are shiny and expressionless, and brushwork is more blended and polished.

The Caen version is very close in style and painterly handling to Brussels version, but clearly lacking the artistic ability of the latter. It is probably the work of a good imitator, working alongside the artist of the Brussels version at the same time the latter was being executed. This hypothesis fits with the dendrochronological results and the groupings theory (see below, ‘Dating’, Section 7.2.8.d, ‘Six variants of copies’, Section 7.2.8.c and ‘Inconsistencies within groups in the variable motifs’, Section 7.2.8.f.iii). The Lons-le-Saunier version stands out for its idiosyncratic style, totally different from all the other copies, as with its underdrawing. Indeed its slick, stylised and rapid underdrawing style favourably compares to its unnaturalistic and somewhat formulaic manner of portraying figures and forms. In places chins protrude forward in the same way as the privately owned version, but this is probably attributable to a ‘workshop’ tendency rather than an individual style. The Arras copy appears the weakest in terms of quality of execution. Perhaps this version, painted on a re-used panel of dubious quality, was intentionally given to an inexperienced studio hand.

The various copies undoubtedly represent the work of a variety of students and journeymen painters, each differing in style and artistic capabilities, although all bound to a certain ‘Brueghelian’ style. In at least some of the copies (Brussels, Lons-le-Saunier, Caen, private collection), it seems that the painting style compares favourably to that of the underdrawing, suggesting that single artists were responsible for the works from start to finish. There does not appear to be any collaboration between artists on single works; individually, not one of the copies displays a combination of distinct painterly styles. This is particularly important to note in a period where collaborations between artists, at the level of underdrawing, paint layer or both, were not unusual within single paintings.⁵⁵¹

Although the copies usually show a uniform style per version, some motifs, especially background figure motifs, are sometimes difficult to tell apart. It is not impossible that from time to time less important background motifs were filled in by various studio assistants.

7.2.7 Hidden signatures of workshop assistants?

The privately owned version presents an original painted inscription on the door of the house of the leper (fig. 198a-b). The lettering is tiny, mostly illegible and written in a stylised calligraphic manner quite unlike the handwriting of Pieter Brueghel the Younger’s signature, which in this case appears on the flat end of a barrel in the centre foreground of the composition. The letters do not resemble any known alphabet; however, when the inscription is examined in a mirror, the words ‘van kan...’ seem to appear, followed possibly by one or two illegible letters.⁵⁵² This might be the hidden signature of the artist responsible for this particular panel, because the words do not seem to relate to the motif of the leper or his abode.

On almost every version of the *Census*, there are small painted symbols on the axes in the lower left foreground (fig. 199).⁵⁵³ These symbols might at first glance be interpreted as marks or ‘signatures’ of studio hands; however, they more likely illustrate a practice dating from around 1300 whereby tools were sometimes stamped with the personal mark of the maker. This was to certify the quality of the product, to identify the maker in case of problems and to distinguish the tool from those made in competing towns.⁵⁵⁴ Axes would have only been made by the *witwerkers*, who were part of the Blacksmiths Guild. Imports were strictly controlled. The individual smiths had their own marks, plates of which were kept at the guild, together with the names of the artisans. Unfortunately, no such plates have survived, so it is impossible to identify individual workers. Some regulations, which varied from town to town, date as far back as the fifteenth century.⁵⁵⁵ Whether or not the axe in Bruegel the Elder’s original version is similarly marked is not clear; ambiguous dark brushstrokes on the axe may represent some form of marking. Markings are also painted on the axe in the foreground of various versions of Brueghel the Younger’s *Autumn*. Of the versions of *Autumn* where illustrations could be consulted, the symbols can be seen to vary from copy to copy, and are unlike any of those observed in the *Census* series (fig. 200a-c).⁵⁵⁶ In Brueghel the Younger’s copies of the *Flemish Proverbs*, marks are seen on metal sheep

⁵⁵¹ See Section 5.10 for two examples of collaboration in Brueghel’s work. For examples of the many collaborations between Pieter’s brother Jan and other important artists, see Klaus Ertz’s book on Jan Brueghel (ERTZ 1979, pp. 470-516). An example is the *Battle of the Amazon*, 102 x 120 cm, c. 1597-1599, private collection, by Jan Brueghel the Elder and Peter Paul Rubens (ERTZ 1998, pp. 217-20).

⁵⁵² I would like to thank Sophie De Potter for her suggestion to examine the inscription in a mirror.

⁵⁵³ The fact that these markings vary from copy to copy was initially spotted by Katja Lewerentz while conserving the Mayer van den Bergh version.

⁵⁵⁴ DAVID 1997, pp. 113–14. Johan David, director of the Museum voor de Oudere Technieken, Grimbergen, also informed me that few such tools survive from the sixteenth and seventeenth centuries, and those that do are often in poor condition. He advised me that toolmarks have been published for tools in Sheffield; see UNWIN 1999.

⁵⁵⁵ I would like to thank Aimé Stroobants of the Stedelijk Museum, Dendermonde, who provided all the information regarding guild regulations. For a more general discussion of marks on tools, see MERCUZOT 1997, pp. 137–9.

⁵⁵⁶ For example, *Autumn*, 42.8 x 59 cm, signed, ‘P.BREVGHEL’, Bucharest, Muzeul National de Arta al României, inv. 69402/2282 (ERTZ 2000, cat. E 648a); *Autumn*, 41 x 58.50 cm, signed, ‘P.BREVGHEL’, London, Sotheby’s, 12 December 1973, lot. 47 (ERTZ 2000, cat. E 651); *Autumn*, 40.50 x 57 cm, signed, ‘P.BREVGHEL’, Switzerland, private collection (ERTZ 2000, cat. E654); *Autumn*, 43 x 57 cm, signed, ‘P.BREVGHEL’, Switzerland, private collection (ERTZ 2000, cat. E 657); *Autumn*, 44 x 59 cm, signed, ‘P.BREVGHEL’, Stockholm, Museum Hallwylska, inv. B.178 (ERTZ 2000, cat. E 658).

shearers; importantly, in the Lier version, there are different markings on the two pairs of sheep shearers appearing in different places in the painting, proving that these types of marks were not hidden signatures of the painter (fig. 201a-b). Furthermore, on two versions of the painted roundel, *Man Forging Iron* by Brueghel the Younger, a star can be distinguished on a blade of a sickle (fig. 202a-b).⁵⁵⁷ Makers' marks on white metal tools are also occasionally seen in works of art by Bruegel the Elder, for example a mark on a knife in the drawing and engraving *Big Fish Eat Little Fish* and another on a knife in the painting, *Fall of the Rebel Angels* (fig. 203a-b).⁵⁵⁸

A further argument against the interpretation of these white metal markings in the *Census* copies as hidden signatures is that they generally appear to follow the division of the copies into groups according to motif and colour (see below, 'Six variants of copies', Section 7.2.8.c and Appendix 4). As several paintings in the series have been clearly characterised as by different hands, with more than one hand within a group (for example, Group 1 which contains the Lons-le-Saunier, Arras and Mayer van den Bergh versions), the fact that paintings within a group contain the same marking on the axes eliminates the latter as personal signatures.

Finally, markings of a different type are observed on the sacks (flax? wool?) being loaded into a wagon in the lower centre of the painting (fig. 204a). These are most likely traders' markings and indications of weight.⁵⁵⁹ Similar markings are also seen on bags of merchandise in Bruegel the Elder's drawing *Everyman*,⁵⁶⁰ 1558 (fig. 204b) and have also been noted by in a fifteenth century Flemish painting by the Master of the Life of Saint Joseph.⁵⁶¹

7.2.8 Copy process

7.2.8.a The model for the copies: Two major possibilities

The main contenders for the model for Brueghel the Younger's *Census at Bethlehem* copies are the original painting by Bruegel the Elder (fig. 1)⁵⁶² or a preparatory compositional drawing and other preparatory material including studies of key motifs, now lost.⁵⁶³ Brueghel the Younger also may have had access to his father's preparatory material **and** seen the original painting.⁵⁶⁴ More remote possibilities include another version of the painting by Bruegel the Elder,⁵⁶⁵ a later drawing by Bruegel the Elder or other artist after completion of painting, a project for an engraving by Bruegel the Elder or an engraving after the painting by another artist. An engraving is unlikely, as none have survived or are even referred to in the extant contemporary literature and there are no known engravings of Bruegel's other large-scale paintings.

It is not known whether Pieter Brueghel the Younger saw or had access to his father's original painted version of the *Census at Bethlehem* as its provenance is unknown before the nineteenth century.⁵⁶⁶ It might have been in the Southern Netherlands at the time.⁵⁶⁷ The first possible source reference to the painting is in a letter dated 15 September 1684 from Suzanna Forchoudt to Alexander and Marcus Forchoudt, which mentions a painting fitting the description of the *Census at Bethlehem*; this reference could however, refer to one of Brueghel the Younger's copies.⁵⁶⁸

⁵⁵⁷ *Man Forging Iron*, 16.5 cm, Gundelfingen, Kunsthaus Trost, 1998 (ERTZ 2000, cat. E 144a, fig. 144. p. 214); *Man Forging Iron*, 16.5 cm, Amsterdam, coll. Six, 1905 (ERTZ 2000, cat. E143, fig. 139. p. 170).

⁵⁵⁸ *Big Fish Eat Little Fish*, 21.6 x 30.7 cm, pen and brush and grey and black ink, 1556, Graphische Sammlung Albertina, Vienna, inv. 7875; *Fall of the Rebel Angels* [cited note 386].

⁵⁵⁹ The practice of the marking of merchandise of value with a sign specific to a particular merchant trader was common practice since the first half of the fourteenth century amongst European traders and the designs of certain traders' marks are preserved in source documents (HAMY 1891). I am grateful to Jacques Debergh for drawing my attention to this publication.

⁵⁶⁰ *Everyman*, pen and brown ink, signed and dated 1558, The British Museum, London, inv. N 1854-6-28-36.

⁵⁶¹ Master of the Life of Saint Joseph, *Joseph and his Brothers*, tondo, Berlin, Staatliche Museen. I would like to thank Anne Dubois for explaining to me the function of these markings and pointing out this early example.

⁵⁶² On this issue, Klaus Ertz argues that Brueghel the Younger had access to the original painting whereas Georges Marlier subscribes to the view that Brueghel the Younger based his copies on a drawing or engraving by Bruegel the Elder. (ERTZ 1998, pp. 296-7, MARLIER-FOLIE 1969, pp. 64-6).

⁵⁶³ Bruegel the Elder would no doubt have made sheets of figure studies similar to those that have survived for Hieronymus Bosch (MIELKE 1996, p. 228, figs. A47-8). In a subsection to Martin Royalton-Kisch's essay on Bruegel the Elder's surviving drawn oeuvre, entitled 'The Corpus as Fragment', he proposes that there must have been many more outdoor sketches, individual models from life and details of motifs for use in his complex painted compositions (ROYALTON-KISCH 2001, pp. 30-6).

⁵⁶⁴ The author's study of the *Battle between Carnival and Lent* concluded that Brueghel the Younger must have had access to a detailed preparatory drawing or drawings as well as the original painting by his father, see Chapter II.

⁵⁶⁵ The possibility that Brueghel the Younger may have copied an earlier version of the painting by his father was suggested by Jacqueline Folie (FOLIE 1993, cat. no. 1).

⁵⁶⁶ For provenance, see note 377.

⁵⁶⁷ There is nothing in the sources before 1684 referring to either Bruegel the Elder's or Brueghel the Younger's versions of the *Census at Bethlehem* (ALLART 2001, p. 52). In her essay in the 'Brueghel Enterprises' catalogue, Dominique Allart discusses the sources one by one to try to answer the question of whether Brueghel may have seen certain of his father's paintings (*ibidem*).

⁵⁶⁸ *Ibidem*, p. 57, note 64.

The case in favour of Brueghel the Younger having seen and copied the original painted composition or a replica or drawing made after it resides primarily on the fact that the proportions and placement of the motifs in the painted compositions of at least seven of the copies and the original correlate very closely (figs. 222-225 and Appendix 3a-b).⁵⁶⁹ Interestingly, although the painted compositions of these copies are almost identical in size, they are approximately 1% larger in scale than that of the original painting (see Appendix 3a). Brueghel the Younger could therefore have copied the original painting, albeit on a very slightly larger scale, using an enlarging technique such as squaring-up. This hypothesis is supported by the observation that the underdrawing of the original includes a few minor motifs which were dropped at the painting stage and none of which are included in Brueghel the Younger's copies (figs. 22, 29-34). These include a basket held by a figure in the lower left in front of the 'Save Garde' inn (fig. 34) and some relatively important changes to the roof of the ruined castle in the upper right (fig. 22). Moreover, a few key colours in the copies correlate with those in Pieter Bruegel the Elder's version. These are the red and green garments of the large figure of a woman in the lower right, although the red and green fabrics are inverted in the copies,⁵⁷⁰ the red bundle held by the male figure to her left and the blue robe of the Holy Virgin, although the latter could be due to traditional Marian colour symbolism. Folie suggested in 1993 that Brueghel the Younger painted his *Census* copies after the original or earlier version of it as she claims the painting technique is directly inspired by Bruegel the Elder; indeed, certain features are similar, such as the propensity of both artists to outline figures during painting, but these could have been learned from Brueghel the Younger's exposure to other works by his father; nonetheless, in general, the present author does not share Folie's opinion and considers the painterly style of copies of the *Census* to be completely different to that of the original (see above, figs. 63-73), unlike in the *Battle between Carnival and Lent*, where specific stylistic links can be identified between father and son's versions' (see below, figs. 291-7). Both Ertz and Folie suggest that the differences in colour and motif between original and copies could be explained by a conscious decision on the part of Brueghel the Younger to produce a personal adaptation of the composition.⁵⁷¹ This does not fit with evidence from his copies of several other compositions by his father, where Brueghel the Younger clearly made every effort to imitate the prototype down to the last detail of motif and colour, as for example in the *Battle between Carnival and Lent* and the *Winter Landscape with Bird Trap* (see below, Chapters II and IV).

7.2.8.b *The case for a preparatory compositional drawing by Pieter Bruegel the Elder*

There are even stronger arguments in favour of a preparatory compositional drawing by Bruegel the Elder as initial model for his son's copies.⁵⁷² Although, as with all Bruegel the Elder's paintings, no preparatory material for the original composition has survived, the nature of the underdrawing on Bruegel's original panel points to the use of a preliminary drawing of the composition. The original version's underdrawing is relatively detailed and, excepting the small motifs mentioned above, there are no major areas of reworking or important changes, either at the level of the underdrawing or during painting. This implies that the original version by Bruegel the Elder was carefully planned prior to execution, probably by means of a compositional study, which may have been supplemented by full-scale drawings and cartoons of important motifs.

7.2.8.b.i *Key elements missing in the copies*

The fact that certain key motifs are present in the original painting but missing in all thirteen copies could well suggest that Brueghel the Younger copied a preliminary study or earlier version of the painting by his father lacking these elements. The importance of these motifs to the original composition, in particular the seated figure putting on his skates and a large bird on a barrel in the lower right (fig. 205a-b), is such that Brueghel the Younger, or any artist copying the original composition would almost certainly have included them had they been aware of them.⁵⁷³ Another motif absent in all copies is the red setting sun. The presence of the sun in the KMSK version, where, however, it is painted yellow, suggests that Brueghel the Younger may have seen the

⁵⁶⁹ This correlation was calculated by comparing 37 corresponding sets of measurements from points near all four corners of the composition on the author's tracings of the painted compositions of six of the copies and the original version (measurements in the case of the original made directly from the painting and not from a tracing). The copies measured were the privately owned, KMSK, Mayer van den Bergh, Brussels, Caen and Arras versions. For the Bonnefontenmuseum version, no measurements were made but a tracing of the painting by Ingrid van Rooy of the Bonnefontenmuseum, when superposed with the author's tracings of the other six copies, corresponded well.

⁵⁷⁰ Klaus Ertz pointed at this red/green combination in the clothing of the large-scale lady in the lower right in both original and copies to support his argument that Pieter Brueghel the Younger had seen the original of his father, but deliberately changed the majority of colours, see ERTZ 1998, p. 298.

⁵⁷¹ FOLIE 1993, no. 1, ERTZ 2000, pp. 286-7. Ertz's view is consistent with his general opinion on Pieter Brueghel the Younger as a creative copyist.

⁵⁷² Georges Marlier first put forward this view. He suggests that Brueghel the Younger may have made a copy *princeps* on which he based all his copies, the copy *princeps* itself taken from a very detailed drawing or tracing (MARLIER-FOLIE 1969, p. 64). He says there may be no particular reason why Brueghel the Younger wrought certain changes in all his copies versus the original (MARLIER-FOLIE 1969, pp. 64-6).

⁵⁷³ Underdrawing in the original version was clearly detected for the skater and the bird, which proves that these motifs were not last-minute additions made during painting.

motif in a preliminary drawing by his father (fig. 206a-b),⁵⁷⁴ yet he would not have been aware of its vivid red colour and its dramatic impact in the original painting, which may explain why he left it out of his other copies. A less significant omission is a cart in the background, just behind the house under construction; in the original, a man pushes a cart and two horses stand behind him, whereas in all the copies, the man pulls the two horses along (fig. 207a-b).

7.2.8.b.ii *Key elements transformed in the copies*

Certain features of the original composition are transformed in all the copies. These include the large tree on the left, complete in the original and missing its upper part in the copies; the tree in the centre of the composition, dead in the original and alive in the copies; the house under construction, which has no roof in the original and is partially roofed in the copies and the chimney of the leper's house, wicker in the original and solid brick in the copies (fig. 208a-b). Many more small changes are listed by Ertz.⁵⁷⁵

These transformations are consistent with Brueghel the Younger copying a preparatory drawing or possibly earlier painted prototype by his father showing an earlier version of certain elements, although they may also have been purposefully introduced by Brueghel the Younger while he made his own version of the composition. In all likelihood Brueghel the Younger copied an original drawing of the composition that was incomplete or simply not detailed enough in places, and thus was forced to invent certain details in his copies.

7.2.8.b.iii *Misinterpretation of original motifs*

An even stronger argument for Brueghel the Younger copying a preparatory drawing rather than the original painting or an earlier painted version by his father is the presence of motifs in all the copies that appear to derive from a misunderstanding of the corresponding ones in the original painting.

A particularly telling example of a misinterpreted motif is a hole in the ice in the lower right pond, transformed in the copies into a diamond-shaped mound of snow, probably concealing a rock (fig. 205a-b). Similarly, a wheel without spokes, leaning against a barrel before the wall of the large central house, has been transformed into a sack in all the copies (fig. 209a-b), while a narrow tree with leafless branches to the left of the aforementioned barrel is changed into a strange-looking bare pole or tree trunk. The original's male figure with a child on the river-bank in the upper left has become a mother and child in certain copies⁵⁷⁶ (fig. 210a-b). A pile of manure held up by wooden posts to the left of the horses in the upper right is transformed in the copies into a stepped brick wall (fig. 71a-b). A black dog with a feathered tail in the upper centre of the painting, resembling a type of retriever, has been changed in the copies into a brown and white dog with the appearance of a spaniel (fig. 211a-c).⁵⁷⁷ A final example is provided by the brown wicker basket held by the Virgin in the original version; it is translated into an area of black paint, approximately resembling a basket in some of the copies and a more amorphous form in others (fig. 212a-b).

It is easy to see how Brueghel the Younger might differently interpret these features if he were following a preparatory line drawing rather than the original painting.

7.2.8.b.iv *Elements in underdrawing of original, dropped during painting but repeated in copies*

If elements from the underdrawing of the original painting, dropped at the level of the paint layer, were found in the copies, they would straightforwardly corroborate the thesis propounded here, namely that Pieter Brueghel the Younger copied a preparatory drawing by his father. Unfortunately, no clear-cut examples were found. One possibility is the large tree on the left. In the original version's underdrawing, the branches extend much further to the left than in the paint layer (fig. 29). The position of these underdrawn branches matches more closely that of the corresponding branches in the copies than their painted location.

Interestingly, Rebecca Duckwitz found clearly unambiguous elements in the underdrawing of Bruegel the Elder's original version of the *Flemish Proverbs*, dropped during painting and taken up by Brueghel the Younger in his copies, to show that the copies were made after a preliminary drawing by Bruegel the Elder rather than the final painting (fig. 213a-c).

7.2.8.b.v *Colours*

⁵⁷⁴ The sun in Bruegel the Elder's original version does not appear to be underdrawn however. There are faint vertically ascending lines in the underdrawing, suggesting branches of a tree, traversing the lower part of the sun. Therefore, if the sun were underdrawn, we would have detected outlines through the red paint.

⁵⁷⁵ ERTZ 1998, pp. 296–7, n. 6.

⁵⁷⁶ This motif is omitted in several copies.

⁵⁷⁷ Rebecca Duckwitz noticed a similar transformation of dog breeds between original and copies in the *Flemish Proverbs* and used the observation to support a similar conclusion to the one reached concerning the *Census* series, namely that Brueghel the Younger must have copied a preparatory drawing rather than the original painted version by his father (DUCKWITZ 2002, p. 68).

A key argument to decide the issue of the model used by Brueghel the Younger is that of colour: the colour scheme in the copies is almost entirely different to that of the original and none of the versions shows the same time of day as the original. In addition, colours vary from copy to copy. The few coincidences of colour in the clothing of the couple in the lower right corner could be explained by the presence of colour notes on a preparatory drawing.

7.2.8.b.vi *Signature*

Finally, it is relevant to note that the signature and date in Bruegel the Elder's original version of the *Census* is placed on a specially painted plaque in the lower right corner of the painting, whereas in the copies, the inscription, where present, varies in location from a fallen door to a wagon. In the context of the present study of numerous compositions by Bruegel the Elder taken up by Brueghel the Younger, those that are more faithful in colour and motif also tend to be signed in the same place as the original version; in the case of the large format *Massacre of the Innocents*, the signatures in both original and the Brussels copy are found on painted plaques in the lower right corner.⁵⁷⁸ Thus the fact that the signatures in the copies are differently placed to the original in the *Census* series is another argument against Brueghel the Younger having seen his father's original painting.

Taken together, the evidence seems to favour the argument that Brueghel the Younger used a preliminary drawing or drawings by his father, rather than the original painting or any other drawn or painted model, as the initial prototype for his copies of the *Census*, as suggested by Georges Marlier. It is unlikely he even saw the original painting as there are so many misinterpretations of motif in the copies and the colours are almost always different. We have no way of knowing the size of this original model, although the positive correlation in proportion between the composition of the original painting and the copies suggests that it must have been a scaled drawing of some kind. The fact that certain motifs appearing in the underdrawing of the original version are dropped in the paint layer (for example, the basket in the lower left) might be explained by Bruegel the Elder making alterations to his preliminary compositional drawing at the underdrawing drawing stage that he subsequently retracted during painting. This would accord with the hypothesis that the man doing up his skates was absent from the preliminary drawing and only included for the first time during underdrawing – promoting the view of Bruegel the Elder as an artist who continued to adjust and modify his compositions during execution of his paintings.⁵⁷⁹

As in the *Census* series, Rebecca Duckwitz's findings regarding Bruegel the Elder's *Flemish Proverbs* and their relation to the copies by Brueghel the Younger prove beyond doubt that the son must have copied some form of preparatory drawing by his father rather than the original painting. In a comparative study of Bruegel the Elder's *Triumph of Death* and copies by his two sons, Pieter and Jan, Jacqueline Folie and Françoise Van Hauwaert also found similar evidence to support the hypothesis that the sons may have both used a 'missing link', probably a preparatory drawing for the original painting, as their model.⁵⁸⁰ Hélène M. Verougstraete and Roger A. Van Schoute put forward an alternative view concerning the copies of the *Triumph of Death*, namely that an engraving, rather than a preparatory drawing may have been the sons' model.⁵⁸¹ This engraving would have been made after the original painting was completed; the differences in iconography between the Bruegel the Elder's version and the sons' copies would have been first introduced in the engraving, as a form of censorship. Based on her study of the underdrawing of Bruegel the Elder's *Sermon of Saint John the Baptist*, Suzanne Urbach tentatively suggested, pending further research, that a cartoon might have been used by Bruegel to transfer the main figures and that this same cartoon might have been re-used by his sons for their copies of the composition (this possibility is also discussed in relation to the *Census* series, see below, 'The source of the cartoons: Brueghel the Younger or his father's legacy?', Section 7.2.8.g.vii).⁵⁸²

7.2.8.c *Six variants of copies*

The basic underdrawn and painted outlines of major foreground motifs and groupings remain constant throughout all the copies in the *Census at Bethlehem* series (for example, the slaughtering of the pig motif, fig. 128a-i). Nonetheless, the colours in these zones, plus both colour and motif in other areas, show many minor variations. Even though a cursory view of the series might convey the idea that these differences are totally

⁵⁷⁸ In the case of the *Massacre of the Innocents*, the colours and motifs in copy and original are also identical, unlike in the *Census* series, suggesting Brueghel the Younger had knowledge of the original version. Other examples of compositions in which the signatures in the original and the copies occupy the same location include *Winter Landscape with Bird Trap* and *Sermon of Saint John the Baptist*.

⁵⁷⁹ This view of Bruegel the Elder is borne out by the technical examination of the *Winter Landscape with Bird Trap* and an examination of selected technical documents from the copies and original version of the *Battle between Carnival and Lent*, see Chapters II and IV.

⁵⁸⁰ VAN HAUWAERT-THOMAS and FOLIE 1995.

⁵⁸¹ VEROUGSTRAETE and VAN SCHOUTE 1995, p. 9.

⁵⁸² URBACH 1999.

random, closer study reveals remarkably close affiliations between certain versions that sort them into four distinct groups, with two paintings lying outside (Appendix 4).⁵⁸³

Within each group, drapery colours and motifs are virtually identical, with minor exceptions (refer to figs. 73-85). Motifs varying across the entire series, but usually remaining the same within a group include: the group of figures huddling around the fire in front of the central house and the small group of figures to the right of it (fig. 214a-y); the small group of soldiers and civilians near the centre right edge (fig. 159a-f); the set of distant willow trees bordering the frozen river in the upper left landscape vista (fig. 215a-m); the arrangement of small-scale figures above and on the pond in the upper left; the finishing of the façade of the central house; the position of a house in the upper right, whose left gable is seen in some copies and whose right gable is seen in others; the distribution of shuttered windows in the central house; the shape of the roof gable to the right of the tree with 'The Swan' inn; the number of children (one or two) on toboggans in the lower right; the number of wooden stakes (one or two) bordering the pond in the lower right; and the number of logs on the ground in the lower right (two or three). Interestingly, the small painted symbols on the axe in the lower left foreground, where visible, remain consistent according to group (fig. 199). This supports the idea that, rather than representing the personal sign of the artist responsible for a particular copy, they relate to steel-makers' marks. In addition, the following motifs are absent in some groups: the diamond-shaped snow mound in the lower right; the half-sunken barrel in the lower right; the dog in the upper centre; the bowed grille on a window of the inn in the lower left; a small tree crossing a rooftop in the upper right; a document held by a figure in the lower left corner; the knife on the belt of the boar slaughterer; the town on the horizon and a side turret on the rightmost ruined tower in the upper right.

The groups are composed as follows:

Group 1: Lons-le-Saunier, Mayer van den Bergh and Arras;

Group 2: three privately owned versions (priv. coll.; Finck 1981, Sotheby's 1980);

Group 3: Vaduz and Lille;

Group 4: Brussels, Caen and a privately owned version (Christie's 1990).

The KMSK and Bonnefantenmuseum versions fall outside these groups; both show unique motifs not seen in any of the other copies. In the KMSK version, there are four such motifs, the first and most striking being the yellow three-quarter sun on the horizon, the second, a man with a stick and a dog making his way down the river bank in the upper left, the third, a large basket hung sideways under the roof of the inn on the left and the fourth a spear or farm implement leaning against the wall of the central house (in the paint layer stage only).⁵⁸⁴ In the Bonnefantenmuseum version there is a tiny isolated male figure on the ice to the left of the central house, in a spot normally occupied by a small girl. Despite its idiosyncrasies, the KMSK version shares a similar, although not identical, colour scheme with Group 1, and some motifs are the same. The Bonnefantenmuseum version, however, is difficult to associate with any group, as it has many unique variants on the diverse motifs.

Out of the four groups, the paintings in Group 3 show the closest internal affiliations of all. Interestingly, this is the only group showing a partially plastered section on the central house's walls, as in the original painting. In Group 1, the arrangement of small-scale figures in the upper left differs from painting to painting and there are numerous other small inconsistencies. In Group 2, one version (Sotheby's 1980) is not quite as close in colour and motif as the other two copies in the group. Likewise, the Brussels version in Group 4 also contains a number of motifs that differ slightly from the other two copies in the group.

Examination of the underdrawings of ten of the copies proves that the variations in motif between groups were not introduced during painting but had already been established at the underdrawing stage. An example is the church motif (fig. 216a-f) for which the Group 2 paintings show a differently shaped side gable to the other groups. This feature is present in the underdrawing of the privately owned version but not in the underdrawings or paint layers of paintings in any other group. Another example is provided by the set of figures huddled around a fire against the wall of the large house in the centre of the composition, plus the nearby set of small figures to the right behind the large tree (fig. 214a-y). The number, position and colour of these figures vary from group to group, and the differences are already established at the level of the underdrawing. The figure picking up snowballs illustrates how subtle the differences between the groups can be; variations in pose, feet positions and the distance between the arms are already present in the underdrawing (fig. 127a-j).

The close affiliations in motif between copies of a single group at the level of their underdrawings suggest that a different model was referred to per group; the coincidences in colour within groups seem to indicate that paintings within a group were painted simultaneously or one after another, using the first completed painting as

⁵⁸³ Klaus Ertz argues that Brueghel the Younger's copy *princeps* for the *Census at Bethlehem* series was the latter's seventh version, a copy of a copy (see Section 5.1 for more detail on Ertz's argumentation) This does not fit with the current author's grouping theory.

⁵⁸⁴ I would like to thank Katja Lewerentz for pointing out this important motif to me.

model for the colours of the next. The colour scheme and certain motifs of the KMSK version may either have been copied from a painting of Group 1 or vice versa.

7.2.8.d *Dating*

If, as is likely, paintings in a particular group were executed at or around the same time, then paintings of known dates can help situate undated works. Group 1 does not contain any dated paintings. Dendrochronology of the Mayer van den Bergh panel indicates that it could have been ready for painting in 1596, which makes a relatively early execution possible for the three paintings of its group. The KMSK's version's similarities with Group 1, particularly its identical colour scheme, might suggest that at least one of the paintings from Group 1 was in the studio at the same time; since dendrochronology on the KMSK version places it in 1604 or later this dating is relevant to consider in regards to Group 1. Group 2 contains the privately owned version, dated 1604, which raises the possibility that certain paintings from Groups 1 and 2 may have been present in the studio during the same period. Group 3, comprising the Lille and Vaduz panels, the latter signed and dated 1607, was probably next in sequence, followed by Group 4, containing the Caen, privately owned and Brussels versions, the latter signed and dated 1610. This accords with the dendrochronological results on the Caen version, which gave an earliest possible painting date of 1608. The Bonnefantenmuseum version is not dated but dendrochronology established that the panel could have been ready for painting in 1595, close to the corresponding date obtained through dendrochronology of the Mayer van den Bergh panel.

The affiliations between dated copies and undated versions help situate the entire *Census* series between about 1595 and 1610 or a little later, i.e. during the artist's mid-career, when he was in his thirties and forties. It is interesting to note the relatively early time span for this series, as compared to that of *Sermon of Saint John the Baptist*, which covers a much wider period.

It is, of course, possible, and even likely, that there were other paintings in the *Census* series that have been destroyed or lost over the years. The Bonnefantenmuseum and Antwerp versions may have formed part of separate groups of paintings, now lost. Groups 1 to 4 may have included additional paintings. Several copies that are mentioned in the literature have subsequently disappeared. A version from the Bayerische Staatsgemaldesammlungen (Marlier no. 12, Ertz F224) was deaccessioned on 7 November 1938,⁵⁸⁵ and there is no further trace of the painting. The present whereabouts of another copy, sold in the J. M. Birkenstock sale in Vienna in 1811 (lot 101; Marlier no. 13, Ertz F225), is also unknown. Glück mentions yet another copy, sold at Frederick Muller's in Amsterdam in 1913 and again in 1927 (25–26 November 1913, lot 328; 5 June 1927, lot 34).⁵⁸⁶ In the absence of photographs of these 'lost' versions, it is impossible to know whether they correspond to one or more of the thirteen known copies, or represent additional paintings.

7.2.8.e *No evolution of the composition over the years*

When the motifs of the various groups are compared among themselves and with those of Bruegel the Elder's original version of the *Census at Bethlehem*, it becomes clear that there is no evolution of the composition over the years (Appendix 4). Certain motifs change back and forth (fig. 129a-j). In the original, for example, the uppermost house to the right of the tree with inn is painted so that its left gable is visible. The timber frame is not indicated. In Group 1 of the copies, the corresponding motif likewise displays its left gable but with visible timberwork. In Group 2, the house shows its right gable but without a visible timber frame. In Group 3, the same house displays its left gable and there is no visible timberwork. In Group 4 the right gable is shown again, also without a timber frame. In both the KMSK and Maastricht versions the left gable of the house is displayed with a visible timber frame. The timber frame, when painted, is always indicated in the underdrawing. This supports the notion that each group of similar copies was initially derived from the same preparatory material inherited from Bruegel the Elder.

7.2.8.f *Secondary models: Drawing, underdrawing or painting?*

Having suggested the principle of several groups of copies, each based on a different model, we can investigate further into the nature of these secondary models. Were they each time a separate drawing, or could they have been the first painting in a group, which would have served as copy *princeps* for the rest – or perhaps a combination of both? There is also the issue of the non-variable motifs in the foreground, i.e., those conforming to Bruegel the Elder's original painting. Could these have been copied from detailed separate drawings and/or cartoons shared amongst the different groups?

7.2.8.f.i *Variable motifs*

⁵⁸⁵ Private correspondence, Konrad Renger, Bayerische Staatsgemaldesammlungen, 20 May 1999. The painting with inventory number 5012 was deaccessioned on 7 November 1938, and the museum records do not indicate what happened to it after this date.

⁵⁸⁶ 124 x 174 cm. See MARLIER-FOLIE 1969, p. 64 no. 17.

A close examination of the figure group huddling around the fire against the central house reveals common notations in the underdrawings in two versions of Group 1 (fig. 214a-b). The corresponding central figure in the Mayer van den Bergh and Lons-le-Saunier versions has diagonal hatching lines for modelling in exactly the same place. Although the hatching lines are differently spaced in each copy, their very presence on this particular figure implies that, rather than a finished painting, a common drawing, or the underdrawing of one of the two paintings in question was used as a model for the other. Interestingly, the KMSK version, which at first glance appears to have an identical central group of figures, does not have hatching lines in the underdrawing of the central figure, while the disposition of the figure's drapery folds is entirely different (fig. 214d). Moreover, the male figure immediately to the right of the central figures faces a different direction to the equivalent figure in Group 1. This supports the assertion that the model for the KMSK version, although extremely similar, was not the same as that for Group 1; alternatively, this particular motif in the KMSK version could have been drawn from memory, rather than directly after the model, or copied after the paint layer rather than the same drawing or underdrawing.

For the other groups, the general outlines in the underdrawing of the figure group huddling around the fire are similar within each group, but there are no visible idiosyncratic drawing notations that can be compared.

7.2.8.f.ii *Motifs remaining the same amongst all the copies*

For the Virgin and ox motif, the Lons-le-Saunier and Mayer van den Bergh versions are obviously copied from the same drawing or from one or the other's underdrawing, as the small squiggles and short hatching lines on the ox are identical (fig. 130a-j). The folds of the Virgin's robe are also drawn in exactly the same way. No other versions show this identical distribution of drawing notations although they are extremely similar and may still be based on a the same model drawing as the Mayer/Lons copies. The Arras version, which also forms part of Group 1, does not show as many notations, but the underdrawing is compatible, if less detailed. It is also noteworthy that the Lons-le-Saunier, Mayer van den Bergh and Arras versions are the only ones where the mule has one rather than two visible ears. The other versions show longer diagonal lines, either single or grouped, to describe the musculature of the back leg of the ox, for example the Brussels version (fig. 130a).

Another good example of identically placed hatchings in the Lons-le-Saunier and Mayer van den Bergh versions is found in the set of figures in the centre right. No other copy imitates this same distribution of hatching marks (fig. 217a-b).

In all the underdrawings examined of the large-scale couple in the lower right, with the exception perhaps of the Bonnefantenmuseum version,⁵⁸⁷ the crown and brim of the hat worn by the male figure has similar rounded contour lines suggesting a common model drawing, shared amongst all the groups, for this motif (fig. 218a-d). Again, the hatching in these figures in the Mayer van den Bergh and Lons-le-Saunier versions is identically placed.

Very similar drawing notations including hatching for tone, lines for folds and squiggles are also detected in two standing figures in front of the 'Save Garde' inn throughout all the ten copies examined (fig. 103a-j). The same can be said for quite a number of copies from different groups for the man killing the pig and the woman holding the pan (fig. 128a-i). Like the couple in the lower right corner and possibly the Virgin and ox motif, separate sheets showing these motifs in detail may have been shared amongst the different groups of copies.

These observations suggest that for the important foreground motifs, there was probably a set of detailed drawings, replete with indications of tone, shared amongst the groups (on the issue of whether these were scaled cartoons, see below, 'Use of cartoons', Section 7.2.8.g.ii). For certain motifs, there may have been several copies of these same drawings, varying minutely according to group; more likely, in cases such as the Mayer van den Bergh and Lons-le Saunier versions, the underdrawing of one of the two versions may have served as reference for the placement of the hatching marks in the other.

7.2.8.f.iii *Inconsistencies within groups in the variable motifs*

Even within the groups, there are small inconsistencies of motif. It is useful to examine these to see whether any evolution of motifs within a group can be established that might suggest that the underdrawing or paint layer of one may have served as the model for the underdrawing of the next and so on, rather than a separate compositional drawing (independent of the proposed set of detailed drawings of foreground motifs just mentioned).

Within Group 1 (Mayer van den Bergh, Lons-le-Saunier, Arras), there are many minor inconsistencies of motif (figs. 73, 75-6). For instance, the bowed metal grille covering a window in the lower left is present in the underdrawing and paint layer of the Mayer van den Bergh and Lons-le-Saunier versions, but only in the

⁵⁸⁷ An infrared image of this area in the Lille version was not available.

underdrawing of the Arras version (fig. 124a). Consequently, it is impossible that the Arras version's paint layer served as model for the group. Furthermore, the horses' motif in the upper right is present in the paint layers of the Mayer van den Bergh and Lons-le-Saunier versions, but only at the underdrawing stage in the Arras version. Likewise, the dog motif is present in the paint layer in the Arras and Mayer van den Bergh versions but only in the underdrawing of the Lons-le-Saunier version, excluding the Lons-le-Saunier paint layer as model for the group (fig. 104b). The figure of a small girl on the river bank making her way down to the frozen pond is present in the Mayer van den Bergh and Arras versions, but absent from the underdrawing and paint layers of the Lons-le-Saunier version (fig. 123a-c). Further examples of why the Lons-le-Saunier version could not have been the primary model in the group include the figure of a small girl walking towards a male figure on the pond in the upper left, present in the underdrawing and paint layers of the Mayer van den Bergh and Arras versions, but in neither underdrawing nor paint of the Lons-le-Saunier copy (fig. 123a-c). Another example is a head with a hat in the lower left doorway of the inn in the Lons-le-Saunier underdrawing (fig. 124c), which is not carried through to the paint layer but appears in a hatless form in the underdrawing and paint layers of the Mayer van den Bergh and Arras versions. That the Lons-le-Saunier version's underdrawing could not have served as model for the Mayer van den Bergh version is proven by the presence of a motif appearing in an abbreviated form in the Lons-le-Saunier version's underdrawing but more fully worked out in the underdrawing of the Mayer van den Bergh version: the timbering on a house in the upper right is suggested in the Lons-le-Saunier version by a simple vertical line, crossed a couple of times, whereas in the Mayer van den Bergh version, it is fully worked out in the underdrawing, corresponding to the final paint layers of both paintings (fig. 129a, d). A further example of an inconsistent motif is the figure of a small girl walking towards a half-sunken boat on the upper left pond, present in the Mayer van den Bergh and Lons-le-Saunier underdrawings only, not carried through to the paint and not present in the Arras version (fig. 123a-b).⁵⁸⁸ Yet another inconsistency is the array of tools in Joseph's basket, similar in the Lons-le-Saunier and Mayer van den Bergh versions but different in the Arras copy (for underdrawing, see fig. 141c, e, f). Finally, what may be the underdrawn indication of a knife, on the belt of the man slaughtering the boar, is present in the underdrawing of the Arras version, not carried through to the paint layer and not present in underdrawing or paint layers of the other versions (fig. 128a, e, g).

The evidence suggests that the Mayer van den Bergh underdrawing may well have to have been the initial model for the Lons-le-Saunier version, owing to the presence of many identically positioned drawing notations in the two underdrawings and the presence of the little girl making her way towards the sunken boat in the underdrawing stage only of both the Mayer van den Bergh and Lons-le-Saunier versions. For the Arras version, however, where the underdrawn notations are not identical to the Mayer van den Bergh and Lons-le-Saunier versions, the finished painting of the Mayer van den Bergh version probably served as model. A possible problem for this hypothesis is the different array of tools in Joseph's basket in the Arras version, the latter including a square unlike the other versions (fig. 141d). However, this may have something to do with the relationship of Group 1 to the KMSK version (see above, 'Six variants of copies', Section 7.2.8.c and 'Dating', Section 7.2.8.d). The KMSK version also has a square in Joseph's tool basket. It is therefore possible that the Arras version's 'square' was added as an afterthought, following the example of the KMSK version. Supporting this hypothesis is the observation that the 'square' in the Arras version does not appear to be underdrawn, unlike that of the KMSK version.

In Group 2 (three private collections) the full underdrawing could only be studied for one privately owned version (figs. 78-80). It is none the less clear that the version auctioned at Sotheby's is not quite as close in motifs and colour as the other two copies in the group. There is, for example, an extra figure in the doorway of the church, one in the doorway above the chickens, and an additional tree motif crossing a rooftop in the upper right, while – unlike the other two versions – the town motif on the horizon appears to be present, and one figure appears to be missing from the central group huddling around the fire. However, in the absence of full infrared reflectograms of two versions, it would be premature to draw conclusions from this.

Of the four groups, the paintings in Group 3 (Lille, Vaduz) show the closest affiliations of motif (figs. 81-2). There are only minor differences, such as the motif of a head with a hat in the doorway in the lower left in the Vaduz underdrawing, not carried through to the paint layer and not visible in the paint layer of the Lille version.⁵⁸⁹ Yet there does appear to be a differently styled head, in this position in the Lille paint layer (fig. 219a-b). Another variation is the number of spokes in a cart wheel half buried in the snow, in the centre of the composition. For the Lille version, therefore, the underdrawing of the Vaduz version may have served as model.

As far as Group 4 is concerned (Brussels, Caen, Christie's 1990, figs. 83-85), there are only two motifs in the underdrawing stage only of the Brussels version that do not appear in the other versions' underdrawings or paint

⁵⁸⁸ The tools in the Mayer version are painted but do not appear to be underdrawn.

⁵⁸⁹ An infrared image of this area in the Lille version was not available. In the *Brueghel Enterprises* catalogue, the author stated that the isolated wheel motif (fig. 122a-b), clearly present in the underdrawing stage of the Vaduz version (not carried through to the paint layer in any copy), was not underdrawn in the Lille version (CAT. MAASTRICHT-BRUSSELS 2001-2, p. 111). A new look at the infrared documentation reveals that there does appear to be a circular shape in this area in the Lille version that corresponds to the wheel in the Vaduz version.

layer: the figure of a little girl on the ice in the upper left and a roughly indicated wheel, placed against the wall of the central house. This implies that neither the Caen nor the Christie's version could have served as models for the Brussels copy. Moreover, the dog motif is included in the Brussels underdrawing, but is not carried through to the paint layer and not present in the paint layer of the other two paintings (fig. 104a, j, fig. 84); this dog is however present in a cursory form in the underdrawing of the Caen version, which suggests that either both paintings referred to a common model drawing or that one copied the other's underdrawing. In the Brussels version, there is also a horse in the upper left, at the level of both underdrawing and paint layer, which was replaced in the other versions' paint layers by a single figure although a horse appears to be present in the underdrawing of the Caen version (fig. 220a-b, fig. 84). The fact that, unlike the other two versions, a figure in the lower left of the Christie's copy does not carry a letter, eliminates this version's paint layer as model for the two other versions (unless the motif was overpainted during restoration).⁵⁹⁰ The Brussels and Caen versions have roughly indicated reeds on the edge of the lower right pond in the underdrawing, but because only the Brussels and Christie's copies show these in their paint layers, the Caen paint layer must be eliminated as model for the other two (fig. 110c). Likewise, the knife on the belt of the boar slaughterer in the lower left is visible in the underdrawing only of the Caen version but present in the paint layer in the others (fig. 128d, h, fig. 84). In the Christie's version there is also a small painted tree in the upper right that is only present in the underdrawing of the other two copies, which would appear to eliminate the Brussels and Caen paint layers as models for the Christie's version although one of their underdrawings could have served as the model (since the Brussels painting has been harshly cleaned in the past, the tree might have been removed; however, there would probably be some trace left of it). The Brussels version shows one important colour difference to the other two copies: the apron of the lady holding the pan in the lower left is blue, whereas in the other two copies it is white.

Taken together, the evidence points to the Brussels version's underdrawing as model for the Caen version's underdrawing, and possibly the Christie's copy's underdrawing. This is supported by the stylistic comparisons of the underdrawing and paint layers of the Caen and Brussels versions which suggest that the artist of the Caen version was inspired by and probably tried to imitate the style of the Brussels copy both at the level of the underdrawing and the paint layer, but did not succeed in equalling its quality (see above, 'Stylistic variation amongst the copies' Sections 7.2.5.e and 7.2.6.e.i).

It would be logical that Brueghel the Younger himself was responsible for the creation of the copy *princeps* in each group, and that studio assistants executed the rest. Stylistic comparisons (see above, 'Stylistic variation amongst the copies' Sections 7.2.5.e and 7.2.6.e.i) show that this is indeed possible in the case of Group 3 (Vaduz) and Group 4 (Brussels) but is debatable in the case of Group 1 (Mayer) and impossible to assess for Group 2.

7.2.8.f.iv *Summary*

It is highly likely that for the overall compositions, one copy in a group served as copy *princeps* for the rest, either during underdrawing and/or during painting, itself initially based on a compositional drawing by Bruegel the Elder (see diagram, fig. 221). For Group 1, the underdrawing of the Mayer van den Bergh copy may have been copied for the Lons-le-Saunier version, and the final paint layer of the former may have served as model for the Arras version. For Group 2, there is not enough evidence to reach a judgement. For Group 3, the underdrawing of the Vaduz painting could have served as model for the Lille copy. For Group 4, the Brussels' version's underdrawing could have served as model for the Caen version, and possibly the Christie's version also. At the painting stage, the drapery colours would be reinvented for each group and the first finished painting in a group would serve as model for the colours of the rest, although nothing excludes simultaneous execution, respecting the same colour scheme. Once all the paintings in a group were sold, Brueghel or a studio member would start a new composition from scratch, basing the new variant on memory and the preparatory material inherited from Bruegel the Elder. This hypothesis would explain why the composition had to be reinvented every few years; alternatively, the artist(s) might simply have desired to make small changes for change's sake from time to time – which would be in keeping with the possibility that certain paintings from different groups may have been in the studio at the same time (see above, 'Dating', Section 7.2.8.d).

It is still conceivable, although illogical in view of the extra work involved, that a common secondary model drawing of the composition was generated per group, each in turn derived from a preparatory compositional drawing or drawings by Bruegel the Elder. These secondary models would have introduced the variations in certain motifs.

7.2.8.g *Transfer process*

How exactly the design was transferred to the prepared surfaces of the panels is a tricky question to answer as no direct clues as to the copy process emerged through technical examination of the paintings – no signs of

⁵⁹⁰ The author did not examine this version personally.

pouncing, no traces of an underdrawn grid that might indicate squaring and no incisions of any kind that might suggest some sort of perspective framework. Of course, copying purely by eye is always a possibility but would seem unlikely in view of the close correspondence in scale and motif in all the *Census* copies.

The question as to whether the copies were made using one of the more precise mechanical techniques of transfer, such as tracing, pouncing or the pantograph, by using a less accurate method, such as squaring-up, the proportional compasses or even by a combination of means was investigated through careful examination of the underdrawings and superposition of the whole compositions as well as individual motifs. The author's practical experimentation with copying methods known in the early seventeenth century provides useful comparative material in this context (Appendix 1).

7.2.8.g.i *Character of underdrawn lines*

Each copying technique gives rise to a certain quality of line. Underdrawing resulting from copying with the aid of a squaring grid or the joining-up of pounce marks is essentially freehand, the nature of the line depending entirely on the individual style of the draftsman and the type of drawing material used. Tracing through a cartoon gives neat, even lines with no tapering at the end of the strokes, the width and crispness of the line determined by the shape of the stylus and the thickness of the cartoon rather than the pigment used to blacken the 'carbon paper'; the individual style of the artist is largely suppressed. The firm pressure used during tracing generally eliminates any 'skipping' of the ridges of the *imprimatura* layer that is encountered with freehand drawing (Appendix 1, fig. 753-4). Copying with a pantograph leads to relatively even lines as they are applied with the same pressure throughout and there is little, if any tapering at the end of strokes; however, unlike tracing, the thickness of the line is affected by the relative sharpness or bluntness of the drawing point which can vary within the same drawing as the point wears down.

In the *Census* series, the upper branches and contours of trees of trees, landscape contours and certain unimportant motifs such as sheaves of straw are clearly drawn freehand, owing to their loose and sketchy style (fig. 108a-b, 110-111).

Architectural features such as chimneys and stepped roof gables often show areas of reworking and adjustment which is characteristic of freehand drawing and would not result from tracing or use of the pantograph (fig. 114a-c). Likewise, loads and wheels of carts are adjusted during drawing in many copies, the artist(s) obviously having problems with ellipses (fig. 106a-d). Middleground figures also show modifications during drawing in certain copies, particularly in the Lons-le-Saunier and Brussels versions (figs. 116-7). In the Brussels copy, the repositioning of one of the foreground hen's heads also points to freehand drawing (fig. 105a).

At first glance, the underdrawn outlines of major buildings might appear as possible candidates for the use of the pantograph (fig. 129a-j). These long, undulating and sometimes nervous lines are clearly not drawn with the aid of rulers and are too uneven in terms of width of drawing line to suggest tracing. However, the author's own experience with using the pantograph to copy such features militates against such a solution, mainly owing to the considerable length of time necessary to set up the instrument and produce a relatively clear underdrawing complete with windows, stepped gables and other details (Appendix 1, figs. 766-7). Also, the lines produced by the pantograph tend to be stilted and slightly jerky in places and there is no individual character in the drawing; in the *Census*' underdrawings of architecture, there are usually at least some areas where an individual drawing style is revealed and conscious changes in roof profiles are not unusual (fig. 115a-b). Moreover, as it is a blind method of copying, like tracing, working with the pantograph makes it difficult to avoid omitting certain outlines and the necessary lifting of the guiding pin and drawing point between zones, if forgotten, leads to an accidental bridging line; none of these typical errors are noticed in the *Census* underdrawings. Likewise, the finicky manner with which a pantograph has to be manipulated in order to copy a foreground figure is not appropriate for such motifs (Appendix 1, fig. 764); furthermore, the result is too mechanical, unlike the actual underdrawings of foreground figures in the *Census* which sometimes betray traces of an individual's drawing style, such as the charismatic underdrawings in the Brussels and Lons-le-Saunier versions.

In many paintings, particularly in those with an visible *imprimatura* layer, the underdrawing appears to skip the ridges of an underlying in many places which would suggest freehand drawing rather than tracing. This is particularly noticeable in the Bonnefantmuseum, Mayer van den Bergh and privately owned versions (for example, figs. 113b, 114c, 115b, 129a).

Of all the copies, the rapid, loose, confident underdrawings in the Lons-le-Saunier and Brussels versions present the most convincing cases of having being applied freehand in all areas, notwithstanding reference to a drawn model or models and cartoons for certain motifs (see below).

7.2.8.g.ii *Use of cartoons*

For a composition as complex as the *Census at Bethlehem*, it is possible, indeed likely, that Brueghel the Younger would have resorted to cartoons to transfer the image or to copy certain important motifs. The word ‘cartoon’ in this context refers to the use of a sheet of paper, replete with the outlines of the desired image, either pricked for transfer using the pouncing technique or blackened on the reverse or used in conjunction with a separate blackened interleaf (‘carbon paper’) for transfer by tracing with the aid of a stylus.⁵⁹¹

To test whether cartoons might have been used, tracings were made of the painted compositions of as many versions as possible from the *Census* series. In total, six tracings were made by the author, namely the Brussels, Caen, Arras, KMSK, Mayer van den Bergh and privately owned versions.⁵⁹² These tracings, when superposed and corresponding lengths measured, reveal that all the compositions are drawn to the same scale (figs. 223-4).⁵⁹³

Nonetheless, the obvious differences in motif amongst the compositions of copies from individual groupings means that if cartoons were used for transferring the entire composition, there would have to have been one cartoon or set of smaller cartoons per group. Fortunately, tracings were available for direct comparison of two copies in Group 1 (Mayer van den Bergh, Arras) and two from Group 4 (Brussels, Caen).

The main question is whether Brueghel used a single cartoon per group, whether he could have used cartoons for certain motifs, perhaps shared between groups or whether he did not use cartoons at all.

7.2.8.g.iii *Cartoons per group?*

Within Groups 1 and 4, the superposition of tracings of similar copies showed there is no correlation of all motifs at the same time (fig. 225-6). This demonstrates that there cannot have been a single cartoon for the whole composition per group. The basic compositions must have been copied from the model drawings by less precise means, such as squaring, perhaps aided by proportional compasses.

7.2.8.g.iv *Cartoons for individual motifs and groupings?*

The fact that full-scale cartoons per group were clearly not used does not exclude the possibility that cartoons for certain individual motifs may have been inserted into the compositional framework. To test this possibility, superpositions of the author’s tracings were made of architectural elements and of figure groups in the background, midground and foreground.

Within Groups 1 and 4, it is clear that cartoons cannot have been used for transferring any of the architectural motifs (fig. 227); furthermore, the lack of correspondence in these areas eliminates the pantograph as copying device, as the pantograph produces precise reproductions each time (Appendix 1, fig. 766a-d). The same can be said for the figures in the midground and background (fig. 228).

For paintings the author could not trace, superpositions of selected motifs were made with other copies within the same group using photographic details and by superposing the underdrawings of selected motifs where visual comparisons were not sufficiently clear.⁵⁹⁴ This shows for instance, that the church and surrounding buildings in the Lille and Vaduz versions (Group 3) were not copied using a cartoon, neither were the small figures in the upper left (fig. 229, 231). The same can be said for the Lons-le-Saunier, Mayer van den Bergh and Arras versions (Group 1) in the same zone (fig. 230). Sometimes purely visual comparison suffices, for instance, in Group 3, it is impossible that the central house was transferred with the aid of a common cartoon, given that the house has a varying number of steps in the gable on the right (figs. 81-2). Superposing the visually similar arrangement of figure motifs in the upper left of the Bonnefantenmuseum and Mayer van den Bergh copies shows that the relative positions of corresponding figures are different, those in the Mayer van den Bergh version slightly larger in scale relative to their surroundings than their counterparts in the Bonnefantenmuseum copy, thus excluding the possibility that they were both transferred with the aid of a common cartoon (fig. 232).

Nonetheless, certain large-scale motifs and groupings in the foreground – those that do not vary from group to group – correspond almost perfectly in all six of the tracings (fig. 233). This suggests the use of common cartoons for these elements, not only within a group but amongst the entire series. Supporting this assertion is

⁵⁹¹ Elsewhere in the text, the word ‘cartoon’ also refers to a scaled drawing of the image, replete with fold lines and indications of tone and not necessarily used for the actual transfer process (see ‘the notion of a cartoon and a ‘substitute cartoon’’, see Section 7.2.8.g.vi).

⁵⁹² I would like to thank Alain Tapié at the Musée des Beaux-Arts, Caen, Anne Dary at the Musée des Beaux-arts, Arras and Eliane de Wilde of the Musées Royaux des Beaux-Arts de Belgique for their kind permission to trace their respective copies of the *Census* during the *Brueghel Enterprises* exhibition. This permitted a more comprehensive assessment of the use of cartoons than was possible for the author’s essay for the exhibition catalogue (CURRIE 2001). The new results, as yet unpublished, were presented at the *Brueghel Enterprises* symposium in June 2002 (CURRIE 2002c [forthcoming]).

⁵⁹³ These tracings are so large and the traced outlines so fine they are difficult to photograph successfully.

⁵⁹⁴ Overlays made by Sophie De Potter at IRPA using ‘Adobe Photoshop’. For each example cited, the proportions of the infrared image were verified, and corrected if necessary, by superposing the infrared image on the corresponding detail in the paint layer. Unfortunately, for Group 2, detailed photographs and infrared reflectography were only available for one of the three copies so comparisons were impossible.

the fact that the underdrawings for these motifs are remarkably consistent across the series, sharing similar drawing notations and a more homogenous style than in other parts of the underdrawing.

Superpositions of tracings of the lower right corner of the composition show that whilst the large-scale couple and the child on the sled fit well, the motifs around them do not; interestingly, in the case of the Caen version, the artist must have positioned the cartoon at a considerable angle to the horizontal (fig. 234a-b). Other potential areas for which cartoons were used include the Virgin, ox and ass motif and the slaughtering of the pig motif (figs. 235, 236a-b).⁵⁹⁵ In some copy/copy comparisons, the man killing the pig had to be displaced by about 2 mm to fit with the rest of the grouping which suggests the motif of the man may possibly have been present on a separate sheet.

As there is no correspondence amongst the architectural motifs, mid- and small-scale figures and background trees, this implies that Brueghel must have transferred these elements by eye, perhaps with the aid of a large-scale squaring grid and/or the proportional compasses. As there are no traces of underdrawn squares on the copies in either red or black chalk, a squaring frame stretched up with narrow threads may have been used.⁵⁹⁶ However, it remains very possible that no such aids were used at all. The artist(s) probably started the underdrawing by drawing in the main architectural elements, followed by inserting the cartoon-guided motifs. The mid- and small-scale figures and trees could have been added either before or after the elements transferred by cartoon.

7.2.8.g.v *Cartoons: Tracing or pouncing?*

If the principle of cartoons for selected motifs is accepted, the next question concerns the means of transfer. Was it tracing or pouncing? Importantly, there is a clear precedent for the use of pouncing to transfer a cartoon in Brueghel the Younger's work, in the *Battle between Carnival and Lent* (figs. 237).⁵⁹⁷ Although no pouncing marks were detected in the *Census* series, the author's practical tests prove that pouncing dots, provided the transfer is carried out on a dry underlayer, can usually be easily erased leaving no trace whatsoever (Appendix 1, fig. 756). Furthermore, manuscript sources suggest that to erase pouncing marks as soon as the design was fixed in a more permanent medium was the normal advice to artisans, to avoid sully the paint layer to come.⁵⁹⁸

Tracing would arguably produce a slightly better correspondence of form than pouncing, as tracing is a one-step rather than two-step process, the stylus-traced lines serving as the underdrawing itself whilst pounced outlines have to be joined up by hand in another medium, leading to slight variations in outline. The accuracy of the drawing lines following pouncing dots depends entirely on the diligence of the draftsman.

Two copies can immediately be eliminated as candidates for tracing, owing to the fact that the distinctive stylistic traits in the underdrawing of the suspected cartoon-aided motifs are clearly seen in the other areas of their respective freehand underdrawings. These are the Lons-le-Saunier and Brussels copies, and example given by their respective underdrawings of the couple in the lower right corner (fig. 218a, d). For these two copies therefore, pounced, rather than traced cartoons were undoubtedly used for the mechanically transferred motifs.

For the other copies, without such distinctive drawing styles, it is useful to compare underdrawing details where the use of a cartoon is suspected with details from the infrared reflectogram of *Battle between Carnival and Lent*, in areas where pouncing is clearly visible. The details illustrated, from the Mayer van den Bergh, KMSK and privately owned versions show that the quality of line and degree of detail in the underdrawing is fully compatible with that revealed in the *Carnival* painting (figs. 237, 238a-c). The paintings show similar fine, wiry, outlines made with a dry drawing medium, occasional little hooks at the end of notations for drapery folds and, in places, sets of short, sometimes curved hatching lines to indicate contours.

A further argument against the use of tracing in any version of the *Census* series is the fact that although the correspondence between the likely cartoon-transferred motifs is close, it is probably not close enough to imply tracing from a common cartoon, for example the Virgin and ox motif in the Mayer van den Bergh and Lons-le-Saunier versions (figs. 239a-b).

⁵⁹⁵ The killing of the pig motif was re-used by Brueghel the Younger for his *Autumn* composition, but on a smaller scale. Since all but one of the signed paintings of *Autumn* carry the 'BREVGHEL' spelling, it can be assumed the latter series followed after the *Census* series rather than pre-dating it.

⁵⁹⁶ A stringed squaring frame or "Graticola" is recommended by Gian Battista Volpato for the transfer of a design from a picture to be copied to a new support (*Modo da tener nel dipinger*, 1670-1700), although the stringed frame is to be placed against the original model rather than the new support: "La Graticola [...] fatta in un telaio, si applica sopra il medesimo quadro, e con l'istesso comparto si bate sopra la tela primata, che essendo maggiore o minore de la pittura si divide con la stessa proportione." (the Graticola, being made on a frame, is applied over the picture [to be copied], and the same number of squares are to be struck on the primed canvas, which, whether it is larger or smaller than the painting, is to be divided in the same proportion), transcript of the Volpato manuscript and English translation by M. P. Merrifield, in MERRIFIELD, p. 736-7.

⁵⁹⁷ *Battle between Carnival and Lent*, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 12045, see Chapter II, figs. 586a-d.

⁵⁹⁸ See 'Historical Copying Techniques', Section 6.2.

7.2.8.g.vi *The notion of a cartoon and a 'substitute cartoon'*

If pouncing were the method used for the transfer of the cartoons in the *Census* series, the artist probably had a set of scaled drawings, otherwise described as cartoons, showing the outlines of the motifs, replete with hatching and indications of tone, as well as a series of cartoons, also known as 'substitute cartoons' for the dirty process of transfer itself. The latter would consist simply of sheets of pounced outlines, as the rubbing on of the carbon dust would have quickly rendered any design on the surface invisible, as was discovered during the author's practical tests. It is highly unlikely that hatchings and other minor indications for tone would appear on such a pounced sheet; hatching for tone is widely used in the underdrawing for the *Battle between Carnival and Lent*, and the hatching strokes are never pounced. The pricked 'substitute' cartoon would therefore only have served as a point of departure for the transfer of the design, a more complete separate drawing serving as a more detailed model for the precise notations of the underdrawing.

To make his 'substitute cartoons', the artist, or one of his helpers would have pounced the main outlines onto separate sheets, the latter in turn pricked for transfer to the panels.⁵⁹⁹ In this way he could safeguard the master cartoons from wear and tear and from being smeared with carbon dust during pouncing.⁶⁰⁰

7.2.8.g.vii *The source of the cartoons: Brueghel the Younger or his father's legacy?*

Although the composition of the original version is slightly smaller in scale than that of the copies, this does not exclude the possibility that certain individual motifs might be the same size, which if the case, would make it feasible that father and son could have used the same cartoons.

Infrared reflectography of the original version, although not revealing any signs of pouncing or a squaring grid, did detect a clearly freehand underdrawing that seemed more neatly and precisely executed in the important foreground motifs (for example, fig. 12), raising the possibility of the use of cartoons in these areas. Tracing can be excluded, on the grounds of the style and character of the carbon-based underdrawing and the fact that if a material invisible to infrared such as red chalk were used as the 'carbon paper', it would surely be visible in places to the naked eye through the thin and often transparent paint layer (see Appendix 1: figs. 768-9).

To test whether father and son might have employed the self-same cartoons, or whether Brueghel the Younger may have made precise copies of the latter for his own use, sections of the author's tracings of the copies were laid directly on top of Bruegel the Elder's original painting and their correspondence assessed. In the lower right corner, the couple and the child on the sled were found to fit well whilst the surrounding motifs did not, as was the case when comparing copy to copy (fig. 240a-b). Tellingly, the Caen tracing had to be turned on its axis versus the original – as was the case when the Caen version was superposed with the other copies.

For the centre right grouping of figures, the privately owned and KMSK versions were both laid separately on the original painting. The motifs corresponding in the copy/copy superpositions also fitted relatively well between original and copies. As with the copy/copy comparisons the possible area of the cartoon was revealed by what did not fit, i.e. the house, the little figure watching the pond, the figures around the cart, the mother and child on the ice and the figure coming out between the trees.

For the Virgin and ox motif, the Caen and KMSK versions were tested over the original (figs 241a-b). Despite very small discrepancies in outline, there is sufficient correspondence between the original and the copies to support the possibility of a common cartoon. Interesting, in both father and son's underdrawings for this motif, the left and right haunches of the ox are indicated in the underdrawing with small but significant 'bumps' (figs. 9b, 130a-j). The rump bone is also indicated similarly in both underdrawings. This also supports the idea of a common drawing for this motif, although the drawing sheet may have been separate from the cartoon.

For the grouping of the killing of the boar, the woman holding a pan, the two children watching and the figures in the lower left corner, the privately owned version was superposed over the original (fig. 242). Although the copy does appear to be more stretched out than the original, the correlation is close nonetheless so the possibility of a common cartoon remains plausible, at least for parts of the motif, and the cartoon may have been in two parts, as was suggested for the copies.

⁵⁹⁹ The actual process of making the 'substitute cartoons' could have been done in one step, the artist placing the cartoon over the sheet to be used as the 'substitute cartoon' on a soft surface, and pricking through the outlines with a needle, making sure to press holes through both sheets (ARMENINI 1587, book 11, p. 104, cited in BAMBACH 1999, p. 285).

⁶⁰⁰ In her study on pouncing and other transfer techniques in the Italian Renaissance, Carmen Bambach describes how many artists would have used both cartoons and 'substitute cartoons', the latter serving uniquely for the actual transfer process, and thus subject to damage, the former remaining intact for future use (BAMBACH 1999, pp. 283-95). Bambach cites reference to this practice in Armenini's *De' veri precetti della pittura* (Ravenna 1586). She relates how both Vasari and Armenini prescribed the use of 'substitute cartoons' to spare 'ben finiti cartoni' from the destruction of the working process (*Ibidem*, p. 285-6). She also points out that these 'substitute cartoons', when they do survive, have no drawing and are grey on the side where the pouncing dust has been rubbed – sometimes on both sides (*Ibidem*, p. 289-90).

In the privately owned version, the lower centre waggon group, plus the cart to its upper left, fitted almost precisely over that of the original painting (fig. 243). When the copies were compared amongst themselves, there was not sufficient correspondence to conclude they were based on a common cartoon. But this evidence suggests that a common cartoon may have indeed have been used by both Bruegel the Elder and Younger for this motif, although perhaps for this copy only.

In the background of the original version, architectural motifs are sketchily underdrawn and the artist clearly toys with other ideas (see for example, fig. 22), suggesting that any preparatory studies by Bruegel the Elder for these motifs were sketches rather than polished studies, unlike the foreground motifs. The fact that the corresponding motifs in the copies are only loosely based on the original for these motifs may mean that Brueghel the Younger also based his copies on these rough sketches but was forced to fill in the details. The resulting variants (Groups 1-4 plus KMSK and Bonnefontenmuseum), would have been copied, without the help of cartoons, onto the panels.

Even if common cartoons were used by father and son for important foreground motifs, they were not necessarily pricked for transfer by Bruegel the Elder. Brueghel the Younger could have used scaled drawings by his father of important foreground motifs and pricked them for his own use, or made 'substitute cartoons'.⁶⁰¹ Scientific examination of the original version revealed no clues as to how Bruegel the Elder might have transferred the motifs from scaled drawings or cartoons to the original panel, although tracing can be ruled out; pouncing or copying by eye alone remain possibilities.

7.2.8.g.viii *Summary*

It is likely that Brueghel the Younger employed pricked cartoons to transfer certain of the non-variable motifs, i.e. those in common with the original version, in all the copies. Certain or all of these cartoons may have been inherited *per se* from his father's workshop or otherwise generated by Brueghel the Younger after full-scale drawings by Bruegel the Elder. The architecture, midground and background figures and trees were clearly not transferred by cartoon and were most likely copied by eye, the models provided by the first finished painting or underdrawing in a group. Whether or not Brueghel the Younger used mechanical aids for these latter motifs, it is likely the buildings were drawn in first as a guide to the positioning and transferring of the cartoons.

7.2.9 **Conclusion**

Pieter Brueghel the Younger's copies of the *Census at Bethlehem* are remarkably standard in their materials and techniques. Apart from the Lille version, on canvas, the copies examined are painted on oak panels, with a white ground, *imprimatura*, highly detailed underdrawing and one or two thin paint layers using a system of reserves, the same motifs systematically reserved in each case. Of the six copies traced and measured, all were painted to exactly the same scale and certain important motifs transferred with the aid of cartoons. Furthermore, all the copies show extremely similar brushwork techniques and of those analysed, all but one revealed the same pigments in corresponding areas. Taken together, the evidence points to a highly organised and streamlined workshop with a mission to produce close replicas of a particular style. The techniques and materials are typical of Flemish painting of the fifteenth to early seventeenth centuries, and parallels can be drawn with the original version by Bruegel the Elder. The painterly style is reminiscent of Antwerp landscape painting in the second half of the sixteenth century and more similar to the style of Bruegel the Elder's followers than the latter master himself.

Despite similarities in drawing and painting technique, the study reveals several distinct artistic personalities in the *Census* series, and these are mirrored in both underdrawing and paint layers. The Brussels, and possibly the Vaduz versions, both signed and dated, stand out as the most accomplished in terms of underdrawing, handling of paint and mastery of anatomy and proportion. Similarities in style between these two versions suggest they may have been painted by the same hand, perhaps Brueghel himself. If this same style is identified in any of Brueghel's other paintings from different periods in his career, the case for their attribution to the master will be strengthened. The Lille version is also particularly well painted and merits further study regarding its attribution. The other *Census* copies, including two further signed versions, display varying degrees of competence. The two Antwerp versions show close similarities to each other in painterly brushwork and characterisation of motif in many places that might suggest they may have been painted by one and the same hand, although this is by no means certain as differences of style also manifest themselves; the same can be said for their respective underdrawings. Whether these two versions might even be by the same hand as the Brussels version, but at an earlier period when the artist was less familiar with the image, is open to debate. The fact that the Mayer version may well have been executed at an early date and appears to have served as copy *princeps* for the Group 1 variant might support its attribution to the master. The KMSK's use of the expensive pigment lapis lazuli for the blues, and the presence of several motifs unique to this version only, including the yellow three-

⁶⁰¹ *Ibidem*.

quarter sun on the horizon, a man with a stick and a dog and a large basket hung sideways under the roof of the 'Save Garde' inn, might also suggest an attribution to Brueghel himself, rather than a studio member who would probably not have initiated such changes. The privately owned version shows a more detailed approach than the latter two copies, yet is less accomplished in terms of portrayal of gesture, probably revealing the work of a separate artist; this hypothesis is strengthened by the presence of a hidden inscription which may well be a signature. The Lons-le-Saunier copy has an idiosyncratic, rapid, confident and slick style of underdrawing and painting that distinguishes it from all the other versions, suggesting yet another hand. The Caen version is close to the Brussels version, both in underdrawing and painterly style; it may well have been underdrawn and painted side-by-side with the latter, but is clearly by a separate, less accomplished artist. The weakly drawn and painted Arras version is executed on a particularly poor quality support and was probably painted by an inexperienced studio member. In the case of the Brussels version, there is sufficient convincing stylistic evidence to suggest that the underdrawing and painting stages were executed by the same hand, rather than the painting being the results of a collaborative effort; the same can be argued for the Lons-le-Saunier and privately owned copies. This may well be the case for all the copies, but the evidence is less easy to qualify.

The fact that there are key elements in the original painting missing in the copies; that several motifs were transformed or misunderstood in the copying process; that one feature (tree branches), present only in the underdrawing of the original, appears to a greater or lesser extent in the copies; and, last but not least, that the colour scheme and time of day in the original painting are entirely different from the copies leads to the hypothesis that the original model for the copies was a compositional drawing or set of drawings by Bruegel the Elder rather than the original painting itself. However, the classification of the thirteen known copies into distinct groups, each with its own particular variations of motif and colour, implies that although Bruegel the Elder's preparatory material formed the basis of the composition, the copies were derived from a series of secondary models, probably one of the paintings in each group, plus cartoons of important motifs. Presumably certain motifs and zones in Bruegel the Elder's preparatory drawing material were not clear or explicit enough, forcing the invention of various details in the first copy of a group, which were in turn copied by the others in a group until there were none left in the studio and the whole process had to start again for further copies. Close cross-comparisons of the variable motifs in the underdrawings and paint layers amongst the copies within a group shows that it is sometimes the underdrawing of the copy *princeps* that provided a model for the rest of the group, although the colours were copied too. This is particularly clear in the case of Group 1, as the Lons-le-Saunier and Mayer van den Bergh versions have similarly located hatchings in their respective underdrawings and may well have been underdrawn and painted side-by-side, as was previously argued for the Brussels and Caen copies for stylistic reasons. It would be logical that Brueghel the Younger himself were responsible for the creation of the copy *princeps* in each group, and that studio assistants executed the rest; this is indeed possible in the case of Group 3 (Vaduz) and Group 4 (Brussels) but is debatable in the case of Group 1 (Mayer) and impossible to assess for Group 2. Why Brueghel created these different variants remains open to debate. He may have been forced to invent a new variant every time there were no paintings left in the studio to copy; alternatively, in view of the strong possibility of the co-existence of paintings from different groupings in the studio at the same time, he may have consciously decided to change certain details from time to time, either to improve the image or for change's sake.

Having established that paintings within a particular grouping of similar copies must have been painted around the same time, the presence of dated paintings in every group of copies except Group 1 may help place undated paintings in an approximate time period. For Group 1, comprising the Mayer van den Bergh, Arras and Lons-le-Saunier panels, dendrochronology on the Mayer van den Bergh version makes a relatively early dating possible, but certainly not before 1596. Dendrochronology of the Bonnefantenmuseum panel established that the panel could have been ready for painting in 1595, suggesting the painting may have been executed in a time period similar to the Mayer van den Bergh panel. The KMSK version, which resembles the paintings in Group 1 in terms of colour and some motifs, could not have been painted before 1604 according to the dendrochronological evidence. Group 2, consisting of three privately owned versions, may have been painted around 1604, the date on one of the paintings. Group 3, comprising the Lille and Vaduz versions, was most likely executed around 1607, the date on the Vaduz version. Group 4, finally, containing the Brussels and Caen versions and a privately owned copy, was probably painted around 1610, the date on the Brussels panel.

The fact that the painted compositions within groups do not superpose sufficiently well to indicate the use of large cartoons suggests that freehand copying of the first painting within a group (or in some cases, the underdrawing), possibly, but not necessarily with the aid of squaring-up and/or the proportional compasses, was the likely method for the transfer of the overall design. The discovery that certain important foreground motifs and groupings correspond almost exactly in size and proportion in all the copies suggest that these were inserted into this overall compositional framework with the aid of common cartoons shared amongst all the groups. The relatively loose style of the underdrawings of these motifs, and the stylistic similarities to the underdrawing in the *Battle between Carnival and Lent* for which pouncing dots were detected, suggests that the cartoons for the *Census* series were transferred to each panel by pouncing, rather than tracing. The fact that the underdrawings of

these cartoon-transferred motifs show remarkably similar drawing notations across the entire series suggest that the artist probably had a set of detailed drawings of these motifs, replete with indications of tone, in addition to pricked sheets for the dirty process of transfer itself. Furthermore, the fact that certain of these motifs also superpose quite well over the original version makes it likely that full-scale detailed drawings of these elements may well have been inherited from the studio of Bruegel the Elder.

CHAPTER II

Battle between Carnival and Lent

One of the most important acquisitions in recent years by the Musées Royaux des Beaux-Arts de Belgique is a rare version of the *Battle between Carnival and Lent* by Pieter Brueghel the Younger,⁶⁰² a copy of his father's great masterpiece in the Kunsthistorisches Museum in Vienna (figs. 244, 245a-b).⁶⁰³ The work is unsigned and undated; nonetheless, it can be comfortably ranked alongside the most exquisitely painted works from the younger Brueghel's workshop. The painting is also striking for its exceptionally close correspondence to Pieter Bruegel the Elder's original version in both motif and colour, imitating it down to the smallest detail.

Of the only three other known copies from Brueghel the Younger's workshop of the *Carnival and Lent* listed by Klaus Ertz, the example from the Muzeum Narodowe w Krakowie in Cracow is the only signed version; unfortunately it went missing during World War Two. Ertz doubts the authenticity of the inscription on the Cracow copy, which he cites in his book as, 'P. Breugel';⁶⁰⁴ indeed, this spelling of the family name was used neither by Brueghel the Younger nor his father. The two other versions are both in private hands; one was auctioned at Christie's in New York in 1989, the other was exhibited and presumably sold by Johnny Van Haeften Ltd. at the Grosvenor House Art & Antiques Fair in London in 1996.⁶⁰⁵ There is a possible fifth version, mentioned by G. F. Waagen in 1857 as forming part of the collection of the Duke of Portland at Welbeck Abbey.⁶⁰⁶ Klaus Ertz argues the latter painting could be one and the same as the Johnny Van Haeften copy.⁶⁰⁷

To the present author's knowledge, there are no copies of the composition by other artists. There are numerous versions of a separate, more simplified interpretation of the subject, consisting of only the central characters 'Carnival' and 'Lent', for which the original model is unknown.⁶⁰⁸ Ertz lists twelve versions of this small format variant, but assigns only one to the hand of Brueghel the Younger.⁶⁰⁹

The current study explores the underdrawing, painting and copying techniques of the version in the Musées Royaux des Beaux Arts de Belgique in Brussels ('Brussels version'). Surprising discoveries during the technical examination, seen in relation to the other copies of the composition are used to help clarify the extent of Brueghel's access to his father's original version as well as to consider the nature of preparatory material for the original painting inherited from the paternal workshop.⁶¹⁰

8.1.1 Panel support

The Brussels version of the *Battle between Carnival and Lent* is painted on an oak panel, the same support and format as Bruegel the Elder's original painting, if slightly larger by a few centimetres. The other copies in the series share similar dimensions, although one out of the four is painted on canvas.⁶¹¹ This format is a standard size used by Bruegel the Elder for his larger-scale paintings as well as for Brueghel the Younger's corresponding copies, for example the *Census at Bethlehem*.⁶¹²

The panel is composed of five planks in the horizontal direction.⁶¹³ The third and fourth planks from the top are radial cuts, the others are false-quarter cuts.⁶¹⁴ Planing-down of the reverse prior to cradling has revealed an empty dowel hole at the join between the second and third planks from the top, showing that the joins were

⁶⁰² Pieter Brueghel the Younger, *Battle between Carnival and Lent*, 121.1-121.4 x 171.3-171.9 cm, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 12045, acquired at the sale of the Baron Lunden collection, June 9 1999, Palais des Beaux-Arts, Brussels, lot. 119 (MARLIER-FOLIE 1969, p. 118, fig. 50; ERTZ 2000, cat. E183). The painting last came on the market in 1855, at the sale of J.B. Blomaert in Ghent, 8-9 October 1855.

⁶⁰³ Pieter Bruegel the Elder, *Battle between Carnival and Lent*, 118 x 164.5 cm, signed below left on a stone, 'BRVEGEL [V and E linked] 1559', Vienna, Kunsthistorisches Museum, inv. 1016.

⁶⁰⁴ ERTZ 2000, p. 253.

⁶⁰⁵ Cracow, Muzeum Narodowe w Krakowie, 116 x 162 cm, signed on inn sign, 'P. Breugel', (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E184); Private collection, sold at Christie's New York, 31 May 1989, lot 88, 117.50 x 165 cm, unsigned (possibly the painting mentioned by MARLIER-FOLIE 1969, p. 117 as belonging in July 1888 to the collector van den Bergh at The Hague (ERTZ 2000, cat. E185); private collection (exhibited by Johnny Van Haeften Ltd. at the Grosvenor House Art & Antiques Fair, London, 13-22 June 1996), canvas, 119.5 x 169 cm, unsigned (possibly the painting mentioned by MARLIER-FOLIE 1969, p. 117 as belonging to the Duke of Portland at Welbeck Abbey – although this could be an entirely separate painting; ERTZ 2000, cat. E186).

⁶⁰⁶ Waagen 1857, p. 515 [cited in MARLIER-FOLIE 1969, p. 117, note 19].

⁶⁰⁷ ERTZ 2000, p. 221.

⁶⁰⁸ MARLIER-FOLIE 1969, pp. 305-6.

⁶⁰⁹ ERTZ 2000, cats. 183-98.

⁶¹⁰ The copy process, and its implications for Brueghel the Younger's access to the original version and other preparatory material was first presented at the *Brueghel Enterprises* symposium in June 2002, see Currie 2002c (forthcoming).

⁶¹¹ [cited note 605].

⁶¹² For a discussion of this format, see Chapter I, Section 7.2.1, note 430.

⁶¹³ Taken from the front, measurements of these planks are: uppermost plank, right: 22 cm, left: 21.9 cm; second plank down, right: 27.1 cm, left: 25.5cm; third plank down: right: 25.7 cm, left 25.2 cm; fourth plank down: right: 21.5 cm, left 22.9 cm; bottom plank: right 25.1 cm, left: 25.6 cm. Measurements according to Pascale Fraiture's unpublished dendrochronology report, 10 April 2002.

⁶¹⁴ Pascale Fraiture's unpublished dendrochronology report, 2002.

originally held together with wooden dowels during assembly of the planks (fig. 246). Study of the x-radiograph reveals that there were three dowels per join, most of which are still present. Unfortunately, the planing-down of the reverse has obliterated any signs of original tool marks or branding.

The lowermost plank has a knot in the wood, visible from the reverse to the right. This implies a careless choice of board by the panel-maker.

8.1.1.a *Dendrochronology*

Dendrochronological study of the painting was able to establish the year 1575 as the *terminus post quem* for the felling of the trees comprising the support and 1586 as the *terminus post quem* for the execution of the panel.⁶¹⁵ Since Brueghel the Younger only became an independent master in 1584-5, the painting could date from the early part of his career.

The dendrochronological analysis also shows that the original wood for the panel support originated in the Baltic, which Fraiture has found to be the usual choice for Brueghel's larger format works.⁶¹⁶

8.1.2 *Ground, barbes and unpainted edges*

The wooden support is primed with a white ground layer⁶¹⁷ that extends to the upper and lower edges of the panel but stops approximately 1 cm from the lateral edges, culminating in a *barbe* (fig. 247a-c).⁶¹⁸ These ungrounded edges are mirrored on the reverse side by deep right-angled cuts, as observed in many other paintings by the artist (fig. 248).⁶¹⁹

The ground appears to be in excellent condition with no loss of adhesion to either the panel support or the paint layer.

8.1.3 *Imprimatura*

With the naked eye, the texture from coarsely applied brushwork, running in various directions and traversing different motifs can be made out in certain areas (fig. 249). Broad, sweeping brushmarks over the entire composition, unrelated to any compositional forms are discernible in the x-radiograph, confirming the presence of an overall, lead white-based *imprimatura* in between the ground and paint layers (figs. 250a-c). This layer is only occasionally visible in infrared suggesting that it contains little, if any carbon-based pigments. In certain faded blues, an ochre-toned layer can be made out underneath. This is most likely the *imprimatura*, the ochre-toned hue either due to the presence of earth pigments, the yellowing of the (presumed) oil medium, discolouration of the varnish or a combination of these factors.

The underdrawing appears to skip the ridges of brushwork in certain areas, implying that the latter was applied on the top of, rather than underneath the *imprimatura* layer, in the same way as in other works by the Brueghel workshop (fig. 251 a-b). In the author's practical tests, the same 'skipping' effect was obtained when drawing freehand with black chalk or natural graphite over the broad brushwork of an oil-based *imprimatura* layer (figs. 756e and 756h).

8.1.4 *Transfer of the design to the panel surface*

Many areas of the painting show clearly defined pounce marks alongside the underdrawing lines, invisible to the naked eye but clearly discernible in the infrared reflectogram (fig. 252). This proves that prior to the underdrawing stage the artist transferred the design, or at least parts of it, by pouncing using a pricked cartoon (fig. 253a-b).

A particularly clear case of pouncing is seen underneath the group of figures including the pot-bellied figure with a guitar in the lower left (fig. 254). The rounded deposits of carbon-based pouncing dust register in infrared as soft-edged dots, varying in density but more or less even in size, the intervals between pounce marks shifting randomly from approximately 1 to 4 mm. The markings appear to be intentionally more closely spaced for finer details such as hands and wider spaced for the external outlines of forms.⁶²⁰ In this particular figure, pouncing can be seen for the overall outlines, for the creases underneath one of the arms and for certain, but not all drapery

⁶¹⁵ Pascale Faiture, unpublished dendrochronology report, 10 April 2002. See note 447 regarding Fraiture's method of calculating the *terminus post quem* for Baltic wood.

⁶¹⁶ See Chapter I, Section 7.2.1.b.

⁶¹⁷ Samples were not taken from this painting.

⁶¹⁸ For discussion on the role of the unpainted edges and *barbes*, see Chapter I, Section 7.2.3.

⁶¹⁹ For a list of other paintings from Brueghel the Younger's workshop showing unpainted lateral edges and corresponding right-angled cuts on the reverse, see Appendix 2.

⁶²⁰ Similarly, Carmen Bambach pointed out that in Piero Pollaiuolo's large-scale cartoon, *Head of Faith*, the face and features are precisely drawn and finely and regularly pricked (10-13 holes per cm) whereas the hair and veil are drawn loosely and pricked less closely and not as carefully (4 holes per cm) (BAMBACH 1999, p. 58).

folds; pouncing can even be made out for the tiny, round underdrawn circle to signify the curled end of a drapery fold in the lower section of the figure's coat.

Interestingly, in the shirt of the figure of 'Carnival' and following the contours of the barrel on which he is seated, the pounce marks have been dragged to give short lines (fig. 255). The cartoon must have been accidentally shifted in this zone.

The use of a cartoon was not reserved for figure groups; certain architectural motifs were also clearly transferred with the aid of a perforated sheet, for instance the stonework of the lower left corner of the church and the large columns inside the church (fig. 256). At the entrance to the church, pouncing can be detected for the small pillow supporting the crucifix and the figure of a monk. Pouncing is present for even the smallest of motifs, such as a child's toupee in the upper right (fig. 257).

Although very clear in many areas, in some places only faint traces of pouncing marks remain whilst in others there are no discernible pouncing dots at all. The most significant zone for which no pouncing can be detected is the upper central and upper left architectural background (fig. 258). Nonetheless, these areas are fully underdrawn, in keeping with the rest of the composition. The pouncing distribution diagram clearly shows that most of the remaining pouncing is confined to the lower left quadrant and the upper centre-right zone, with virtually none detectable elsewhere (fig. 252). There is no difference whatsoever in the underdrawing style or level of detail between the areas with and the areas without pouncing, which, if it were the case, might have implied that cartoons were not used for the transfer of the design in certain zones. More likely is that any remaining pouncing was totally unintentional on the part of the artist, a random aberration that the current author was fortunate enough to chance upon. Moreover, this painting represents the only example of the some forty-seven paintings by the Brueghel workshop examined by the author where pouncing is clearly visible.⁶²¹

8.1.4.a *Possible technical explanations for preservation of pouncing dots in certain areas*

The fact that the pouncing is still so visible in some areas is puzzling from a technical point of view; under normal circumstances, the dark powdery pouncing dots would have been swept away by the artist with a tool such as a pigeon wing or soft piece of bread after underdrawing, so to avoid ugly smearing of the black powder into the paint layer.⁶²² The author's practical tests with the pouncing technique sought to discover what sorts of conditions could lead to permanent dots (Appendix 1, figs. 755-61). Tests were carried out on both tacky and dry underlying layers using a variety of black pigments for pouncing and varying the method of application. Fixed pouncing was obtained by oiling-out the *imprimatura* with a layer of pure linseed oil a few hours prior to placement of the cartoon and rubbing over it with a cloth impregnated with black pigment (black chalk, graphite and charcoal in separate tests, fig. 759). The resultant pouncing is neat and even and impossible to brush away after drawing and during painting. The dots are not always even in density and recall the better preserved areas of pouncing in the *Carnival and Lent*, for example under the guitar player (fig. 254). Application of the cartoon onto a tacky *imprimatura* layer was also tried (fig. 758). In this case, owing to the presence of pigment in the tacky layer, the ideal moment for transfer was difficult to gauge, i.e. when the layer was neither too wet nor dry but still tacky enough to fix the pouncing. As with the test on the pure oil layer, the pouncing dots remain adhered to the surface after wiping and painting, although they are less distinct, varying in density and more sporadic. This may be due to the timing of the transfer, but also to the fact that the tests on the tacky *imprimatura* involved use of the fingers to apply the black pounce rather than a blackened cloth – the blackened cloth method gave a much neater result in other comparative tests on a dry underlayer (fig. 756). Interestingly, the faint and irregular dots produced by the tests on the tacky *imprimatura* are similar to those in areas in the *Carnival and Lent* underdrawing where the pouncing is discernible, yet sporadic, for example at the entrance to the church in the upper right (fig. 758, 256). Other factors seeming to affect the permanence of the pouncing is the type of black pounce used and the medium to diluent ratio in the *imprimatura*.⁶²³

The fact that the pouncing in the *Carnival and Lent* is not evenly visible in all places implies that its permanent nature was not especially desired, and probably due to one or more of the conditions tested. Its patchy appearance might favour the hypothesis whereby the *imprimatura* was still tacky in random zones at the moment of cartoon transfer, over the idea that the layer was less oil-rich than usual, as in the latter case, one would expect to find a more even density of dots throughout the pounced areas of the design, rather than the current, uneven distribution.

⁶²¹ The other paintings in the present study where pouncing is possibly faintly discernible in infrared reflectography include both versions of *Christ Carrying the Cross* and the Lier version of the *Flemish Proverbs*, see figs. 638-9 and 651.

⁶²² see Historical copying techniques, Section 6.2, for contemporary authors' advice on this issue.

⁶²³ See Appendix 1.

8.1.4.b *Examples of 'fixed' pouncing in the work of other artists*

There are examples in the work of other artists where pouncemarks are still present along with the underdrawing, although in most cases, the survival of the pouncing marks would appear to be incidental, rather than intentional. Maryan Ainsworth concludes that Gérard David, in the case of the *Adoration of the Magi* (Munich, Alte Pinakothek), pounced and underdrew his design on a ground layer which was slightly tacky in places, leading to visible pouncing in places, associated with broken-up or congealed brushstrokes in the subsequent underdrawing.⁶²⁴ As in the *Carnival and Lent*, certain important motifs in the *Adoration* composition show no pouncing at all; in these areas the brushstrokes of the underdrawing are even and not beaded-up in any way, indicating that these zones were pounced and underdrawn once the ground was dry.⁶²⁵ Ainsworth made similar observations in the case of four versions of David's *Milk-Soup Madonna*, three of which she attributes to the hand of the master himself (Brussels, Musées Royaux des Beaux-Arts de Belgique; New York, Aurora Trust; Genoa, Palazzo Bianco; San Diego, Deutz Collection). In all four works, she detected pouncing, subsequently gone over with brush and black paint underdrawing, but as the latter's lines are broken up or congealed, she assumes this must be because the artist was working with an oil media on a still-moist aqueous ground layer.⁶²⁶ In the work of the Isenbrant group, in a small scene surrounding *The Madonna of the Seven Sorrows* from the right wing of the Joris van de Velde Diptych, 1521 (Bruges, Onze-Lieve-Vrouwekerk), the figure of Christ is pounced and gone over with a liquid medium, unlike the background architectural elements, for which unjoined pouncing serves alone as the design (figs. 259). Presumably, for this important motif, the artist felt that more guidance was necessary to the painter than mere pouncing marks. An anonymous copy after Marinus van Reymerswaele's (c. 1490-c. 1567) *St. Jerome*, undated (Belgium, private collection) has visible pounce marks for most of the composition including the face, hand and drapery of St. Jerome, the skull and the still-life elements (fig. 260). In this painting, the dots are carefully joined up with a liquid medium, probably because the pouncing was not considered or intended as a guide for the painting stage but simply to act as a transfer mechanism.⁶²⁷ Likewise, the pouncing in the *Fall of Icarus* (Brussels, Musées Royaux des Beaux-Arts de Belgique), a famous copy on canvas after a lost original by Bruegel the Elder is also reinforced by a carbon-based underdrawing, but the pouncing is only visible in a few places of the composition (fig. 261).⁶²⁸

However, in some paintings by other artists, the pouncing itself serves as the design, with no subsequent connecting of the dots with another medium. In these cases, it can be assumed the pouncing was intentionally fixed to the surface in some way, to ensure its function as a guide during painting, and to prevent the pouncing marks from sullyng the paint.⁶²⁹ An example is the *Adoration of the Magi*, c. 1515-20 (Diest, Sint-Sulpitiuskerk) by an anonymous Antwerp master, where the composition of the central panel from the large-scale triptych of was found to entirely transferred by pouncing, the pouncemarks serve as indicators of outline, drapery folds and light and shade, with no underdrawing (figs. 262a-c).⁶³⁰ Another example is a copy after Hieronymus Bosch (c. 1450-1516), *The Temptation of Saint Anthony*, undated (Maastricht, Bonnefantemuseum, on extended loan from Rijksmuseum, Amsterdam) for which continuous pouncing is detected under all the outlines and fold lines of the figures, without underdrawing (fig. 263).⁶³¹ In Hans Holbein's portrait, *Erasmus of Rotterdam*, undated, probably before 1532 (New York, Metropolitan Museum of Art)⁶³² what appears to be unjoined pouncing is seen for the outlines of the face and facial features (fig. 264). Pouncing often stands alone for the transferral of decorative/floral or abstract patternwork for embroidery or the details of carved stone sculpture, for example, in the small scene surrounding *The Madonna of the Seven Sorrows* by the Adriaen Isenbrant group [cited above], where unjoined pouncing underlies much of the decorative architectural stonework (fig. 265). In fresco painting, where pouncing marks were usually fixed in the moist *intonaco* layer, there would have been no danger of the black dust sullyng the subsequent paint layer and there are cases where pouncing is the only underdrawing; however, artists often did join up the pouncing dots with a layer of dark brown or black paint or, in the case of frescos painted *a secco*, black chalk.⁶³³ Mural painters also sometimes reinforced pounced outlines with stylus incisions prior to painting, for example, Pietro Perugino's architectural motifs in the upper register of the wall of the Sistine Chapel.⁶³⁴

⁶²⁴ AINSWORTH 1993, pp. 22-3 and AINSWORTH 1998a, pp. 295-301.

⁶²⁵ AINSWORTH 1993, p. 21.

⁶²⁶ *Ibidem*, p. 23.

⁶²⁷ Anon., 51.5 cm x 66.5 cm, appears to be sixteenth century. The painting was examined with infrared reflectography at IRPA by the author and Simon Egan. I would like to thank Egan for drawing this work to my attention.

⁶²⁸ First published in ALLART 2002b, p. 41, fig. 11. For attribution of the painting, see ALLART 2002a.

⁶²⁹ Various conditions to ensure the survival of pouncing marks are discussed and tested in Appendix 1.

⁶³⁰ PÉRIER-D'ETEREN, 1976-7.

⁶³¹ VAN DEN BRINK 2001, pp. 36-7 and figs. 33-5.

⁶³² AINSWORTH 1990, pp. 177-8.

⁶³³ BAMBACH 1999, p. 77 and note 277.

⁶³⁴ *Ibidem*, p. 77.

8.1.5 Underdrawing

Like all paintings from Brueghel the Younger's workshop, there is a detailed underdrawing of the entire composition, carried out in a dry, carbon-based drawing medium clearly visible in infrared reflectography (figs. 254-258, 266-272). In this particular case, the presence of pouncing proves beyond a doubt that this is a freehand drawing rather than a tracing.

As is typically observed in most of Brueghel's work, the underdrawing lines are thin, crisp and relatively even. In this painting, as with many other larger format works, tapering of the drawing lines and softer-edged strokes can be seen in places, depending on the speed and pressure of application and the sharpness of the drawing point. The forms are described in nervous, wiry lines that stop and start frequently.

Although in general very faithful to the pounced design, in certain places a pounced motif is dropped or altered during underdrawing. Since these small changes are of key importance to establishing the nature of the relationship of the painting with the original version and the other copies, they will be discussed in the context of the copy process (see below, 'Interrelationships between the different versions of *Battle between Carnival and Lent*', Section 8.1.7.b).

Genuine changes between the underdrawing and painting stages are non-existent. Occasionally forms change slightly in placement or size, for instance the broken egg on the ground in the foreground, which in the paint layer is smaller and to the right of its underdrawn image. The only 'changes' noted are in fact omissions during underdrawing of elements that were most likely present in the pounced design, for example, a playing card in the foreground, for which pounced dots, but no underdrawing are present (fig. 255), and the ladder on which a lady is standing in the upper centre, for which neither pouncing nor underdrawing can be made out (fig. 266). Both these details are in the original version by Bruegel the Elder.

In terms of style, the underdrawing can be described as confident, assured and energetic whilst at the same time being meticulously detailed; the artist is clearly searching for precision rather than generalisation of the forms. The modelling of the drowned man's chest in the lower right is especially naturalistically and delicately drawn (fig. 267). Other outlines denote with considerable subtlety the texture of a particular fabric, for example, the rough, uneven edges of a woollen knitted apron of the 'dirty bride' in the centre left (fig. 268).⁶³⁵

Certain interesting traits can be singled out for attention, some of which are also noted in other works from Brueghel the Younger's workshop. Within the draperies, the vast majority of intricate folds are indicated, the end of a fold or sharp curve often drawn in with a little hook or circle (fig. 268). Quite frequently, the draftsman has gone back on lines in the search for the correct one. Diagonal hatching strokes sometimes indicate tone and curved sets of hatching lines occasionally follow around the rounded contours of legs or sleeves, for example for the man with waffles on his hat in the lower left corner (fig. 270). Hatchings can also be joined, forming more of a squiggle, for example in the hollow of the thin cheek of a beggar in the centre right (fig. 271). Two sets of wiggly, zigzag lines are used as a code for the 'soft' transition between different tonalities in the fur coat of the figure carrying waffles in the lower left, recalling similar notations in the *Census* series (fig. 254, see also fig. 107 from *Census at Bethlehem*).

In the architecture, the drawing is vigorous and detailed. The artist quite often doubles back or strengthens the outlines, and draws in short, rather than long lengths, occasionally suggesting tone with sets of lines of different lengths (fig. 258).

Finally, small details, such as the flames emanating from the fire and damages in the plasterwork on the upper right house facade are intimated in the underdrawing with loose, wiry notations (figs. 251b, 272).

It would seem that this underdrawing is amongst the most lively, well-observed and better quality underdrawings from Brueghel's workshop. Might the painting have been the first copy in the series? Perhaps the greater detail was due to the draftsman's close observation of the original model during underdrawing (see below, 'Comparison of original version with the Brussels copy', Section 8.1.7.a.ii)? Maybe the drawing reveals the hand of Brueghel himself or an exceptionally fastidious and talented pupil? Comparison with other underdrawings from the Brueghel workshop may elucidate matters – the drawing appears to fit well into the Core group of underdrawings attributed to the master himself (see below, 'Core group of underdrawings', Section 17.1.1).

8.1.6 Paint layer

The generally excellent condition of the paint and varnish layers in the *Battle between Carnival and Lent* facilitates the study of its painting technique.

⁶³⁵ This rough edge has been smoothed-out somewhat during painting.

8.1.6.a *Evolution of the paint layer and use of reserves*

The painting shows Brueghel the Younger's usual technique reserving spaces during painting for the forms to follow. In this way he reduced the overlapping of different paint layers to a minimum, giving a brighter appearance to the forms as well as speeding up the painting process.

As in other works, the background blue sky paint was applied first, reserving spaces for the buildings (fig. 273a-b). The buildings were applied next, reserves left in the dark paint of the interiors of buildings for the figures set against them, for example the drinking figure silhouetted against a door opening in the upper centre. (fig. 274a-b). The brown paint of the brickwork of buildings, as well as the dark grouting lines were certainly applied prior to the figures, as the drapery paint of several figures slightly overlaps the brickwork in places (fig. 274b). The paint comprising the underlying ground or earth must have been applied prior to the figures, leaving reserves for them, as clear gaps in this background paint are visible in the reflectogram and x-radiograph and draperies occasionally overlap slightly onto the surrounding earth colour (figs. 267, 254). Certain small, final details were not reserved, for example the tools leaning against the wall of the bread shop, which are painted in grey on top of the red brick paint (fig. 276).

Final details to be painted include the bright red outline to the inn sign on the centre left (fig. 277), still-life details such as the bird in its cage in the upper left, leaves on trees and white impasted dots on the figure's red hat in the lower left.

8.1.6.b *Palette*

The artist follows faithfully the colour scheme laid out by his father in the original version. Small differences in tone, contrast and colour today are due to a number of factors including the ageing process, affecting each painting differently according to the pigments used, storage conditions, cleaning and restoration and the state of the varnish.

Although no pigment analysis was undertaken, the artist clearly used more than one blue pigment as certain blue draperies remain intact, but others are totally transformed by fading to a blue-grey (fig. 278a-e). The faded blue pigment has been applied very thickly compared to other colours. Its discolouration, in combination with its lumpy texture, suggests smalt, a cobalt-containing glass that cannot be finely ground if it is to retain its blue colour.⁶³⁶ When applied pure, without an admixture of lead white, the pigment fades more.⁶³⁷ Smalt has been identified by SEM analysis in light blue sky paint in other paintings by Brueghel the Younger, but in these cases, there is little or no fading, probably due to the admixture with lead white.⁶³⁸ The fading of blues in the *Carnival and Lent* is so dramatic that within thinner areas of brushmarks the warmish tone of an underlying layer, probably the *imprimatura*, can be easily perceived.

In this painting, the 'vermillion' reds do not show any signs of discolouration.

8.1.6.c *Handling of paint*

In most areas, the paint appears to consist of a single layer, supplemented by white highlights, darker outlines and other details, either applied wet-in-wet into the first layer, or after the latter was fully hardened. The ochre-toned *imprimatura* or underlayer is often visible at the edges of colour zones or through thin or faded areas of paint.

Pleasing wet-in-wet details include the seams of certain draperies, the rough vertical texture in a blue/green rooftop and the folds in a woman's green skirt, the latter two most probably incised the soft paint with the end of a brush handle (figs. 279-81). A bird-cage was painted so quickly after the bird that the white and black paint of the latter has been dragged downwards with the paint of the bars (fig. 282).

Different fabrics are suggested with idiosyncratic brushwork; dabs of white and dark paint in a green hat imitate the fluffy texture of wool, white dabs of paint on a red base indicate beads on a felt [?] hat, small semi-circles of white paint on a pink base suggest the texture of an animal pelt, perhaps sheep or goatskin and impasted lines of white paint in a diagonal pattern stretched over a face suggest a fine mesh (figs. 283-6). Likewise, the square markings in the waffles in the lower left are painted using fine, raised white lines of paint (fig. 285).

Faces are modelled simply, utilising the ochre-coloured underlayer, probably the *imprimatura*, as mid-tone. Features such as eyes, eyebrows and the general profile are 'drawn on' in fine black and brown paint, and shine and highpoints indicated with dabs and short strokes of opaque white paint (fig. 287a-d). The faces of

⁶³⁶ SPRING *et al.* 2001, pp. 57-8. On smalt discolouration, see also MÜHLETHALER and THISEN 1993, PLESTERS 1969 and BANNISTER 2002.

⁶³⁷ SPRING *et al.* 2001, p. 57.

⁶³⁸ In three versions of the *Census at Bethlehem*, SEM analysis identified smalt as the main colouring matter in the sky; in the Brussels copy however, some fading was noted. In two versions of the *Winter Landscape with Bird Trap*, a version of the *Adoration of the Magi* and the Antwerp version of the *Massacre of the Innocents* (after Van Cleve), smalt was also identified in the sky.

‘Carnival’, ‘Lent’ and certain other important characters show more sophisticated modelling; the cheeks of ‘Carnival’ have additional delicate red strokes to emphasise his well-fed and flushed appearance and grey paint is used to draw attention to the thin, half-starved nature of ‘Lent’ (figs. 288-9).

Small leaves on the tree in the upper right are suggested by dabs of transparent dark green pigment, often resulting in upside down ‘v’ notations, as in many other paintings from the Brueghel workshop (fig. 290, compare for example, with fig. 592a-c from the Ghent version of *Wedding Dance in the Open Air*).

8.1.7 Copy process

In this particular case, the technical examination reveals that a pounced cartoon was used to transfer the design to the panel surface and that the image was subsequently underdrawn in full prior to painting. Although an immensely important breakthrough towards understanding the copy process for this painting, as well as the key to understanding the copy process in many other works from the same workshop, certain familiar and several new questions still remain to be answered. Did Brueghel have access to the original painting? If he did, was the cartoon generated by Brueghel the Younger after the latter or did he obtain it from some other source, such as his father’s workshop? Did Brueghel the Younger use this same cartoon for all of the four known copies? Furthermore, does the evidence throw any light on the working methods of Bruegel the Elder and the sorts of drawings he would have generated for or from his own compositions? As with other compositions, these questions necessitate a review of the documentary sources, but more importantly, cross-comparisons of the original version with the various copies, with particular regard to the pounced design revealed during infrared examination of the Brussels copy.

8.1.7.a *Did Brueghel the Younger have access to the original painting?*

8.1.7.a.i *Documentary sources.*

The location of Bruegel the Elder’s original version is not mentioned in source documents until 1748, when it was recorded as taken from the Treasure Chamber of the Hoffburg Palace into the Picture Gallery of the Kunsthistorisches Museum.⁶³⁹ It is possible that the painting formed part of Archduke Ernst’s collection that he amassed whilst Governor of the Netherlands from 1593-5.⁶⁴⁰ On Ernst’s death in 1595, the painting might have remained in Brussels as part of the collection of Archduke Albert, his successor or could have been inherited by Rudolf II and sent to Prague.⁶⁴¹ Van Mander, in his 1604 *Schilder-boeck*, lists several of Bruegel’s works in the collection of the Emperor, but does not cite the *Battle between Carnival and Lent* in this context.⁶⁴² If the painting were sent to Prague in 1595, Bruegel the Younger would have had ample time to copy it beforehand. Alternatively, the original painting might have formed part of the collection of Antwerp art collector and dealer Filip I van Valckenisse, as his estate inventory in 1614 mentions a ‘Carnival’ by Bruegel.⁶⁴³ As Brueghel the Younger also worked in Antwerp, he might have gained access to this collection. These hypotheses do not exclude the possibility that the painting may have been in the possession of the Brueghel family until one or other collector acquired it.

8.1.7.a.ii *Comparison of original version with the Brussels copy.*

Scale and correspondence of motifs in original and copies.

In terms of format, the original and the Brussels copy are the same.⁶⁴⁴ To establish whether or not both are painted to precisely the same scale and whether the motifs are identically positioned, a tracing should be made of the original composition or the author’s tracing of the Brussels copy placed over the painting. Unfortunately, this was not possible.⁶⁴⁵

Regarding motifs, there are no variants between the copy and the original, unlike in the *Census at Bethlehem* series, where several important differences are to be found.

⁶³⁹ SEIPEL 1998, p. 18.

⁶⁴⁰ ALLART 2001, p. 48.

⁶⁴¹ SEIPEL 1998, p. 18.

⁶⁴² Van Mander mentions later on in his text that Bruegel also painted a picture in which ‘Vasten teghen den Vasten-avondt strijdt’ [Lent fights against Shrove Tuesday]. Original text and translation in MIEDEMA 1994-9, vol. 1 (1994), p. 192, fol. 233 v33.

⁶⁴³ ALLART 2001, pp. 49 and 52.

⁶⁴⁴ See notes 602-3 for dimensions.

⁶⁴⁵ The author sent the tracing of the Brussels copy to the Kunsthistorisches Museum in Vienna as well as a list of specific areas to be examined in infrared. Unfortunately, the painting is under thick glass and cannot be removed from its frame for examination at the present time.

8.1.7.a.iii *Colours*

Brueghel the Younger's colour scheme in the Brussels copy follows his father's model down to the smallest detail, for example the rich colours in the embroidered patterns on cloaks and the yellowish markings in the plasterwork of a house facade (figs. 291a-b, 292a-b). These types of detail would have been difficult to achieve without reference to the original painting.

Although sticking to the same basic colours, the younger Brueghel sometimes increased the brightness of a dull, probably earth red to a red hue resembling vermilion.

8.1.7.a.iv *Handling of paint and characterisation of expression*

In terms of handling of paint, there are few points in common between the Brussels copy and the original version; the latter has been executed in an infinitely more fluid and painterly manner. The different painterly styles can be seen in their respective approaches to constructing faces. Brueghel the Younger accentuates the three-dimensional quality of the faces with white strokes and dabs of white paint, outlining features carefully in paint whilst Bruegel the Elder suggests rather than draws in the basic expressions with quite loose, dark or red, often semi-transparent brushstrokes. In the son's version, faces are often painted in greater detail than their counterparts in the original, giving more individualised expressions. Despite these differences, Brueghel the Younger clearly attempts to imitate the round eyes with large pupils of many of the characters in his father's work as well as the textured appearance of certain fabrics and the comic aspect of various hairstyles (figs. 293a-b, 294a-b, 295a-b, 296a-b-297a-b).

It seems extremely unlikely that Brueghel the Younger could have arrived at the same range of colours as his father's version without having seen and copied it himself at some point; the same can be said for the characters' large round eyes so diligently reproduced in the copy. The fact that there are absolutely no variants of motif in the copy versus the original version only strengthens this view. On virtually every count, Brueghel the Younger's Brussels' *Carnival and Lent* is far closer to Bruegel the Elder's original version than is any copy of the *Census at Bethlehem* to the original work, the most likely reason being that Brueghel the Younger had access to the original painting in the case of the former composition but not for the latter.

8.1.7.b *Interrelationships between the different versions of Battle between Carnival and Lent*8.1.7.b.i *Differences between the pounced design and the underdrawing in the Brussels copy*

A close inspection of the infrared image of the Brussels version reveals a number of small but notable changes between the pouncing stage and the underdrawing. These include the right arm of a woman pulling a cart in the upper centre, almost straight in the pounced design but bent in the underdrawing (fig. 298), a child's hand in the lower left, appearing only in the pouncing stage and replaced by a sheet of paper in the underdrawing (fig. 299), the beard of the man playing dice in the lower left, positioned further forward in the pounced design than the underdrawing and the foot of the latter figure, higher up in the pouncing stage (fig. 300). An example of a motif present in the pouncing stage and dropped during underdrawing is a straight object of some kind originating from the belly of a guitar player (fig. 301). Crucially, for each of these motifs, the underdrawn outline is faithfully followed through to the paint layer and it is the underdrawing, not the pounced design that mirrors the corresponding motifs in Bruegel the Elder's original version.

8.1.7.b.ii *The Christie's variant: A surprising connection to the Brussels version*

The key to understanding the significance of the changes during execution in the Brussels version is given by another variant of the *Battle between Carnival and Lent* composition, sold at Christie's in 1989 (fig. 302).⁶⁴⁶ Of the four known copies, it is the only example to diverge from Bruegel the Elder's original in motif and colour, an observation already noted by Klaus Ertz (figs. 303-6).⁶⁴⁷ Examples of places where the colours differ from the other versions and the original include the flag in the lower centre, and just above, the stripes of the little devil carrying a torch.

A close examination of a reproduction of the Christie's version leads to the realisation that the dropped or altered elements in the pouncing stage in the Brussels copy reappear in the paint layer of the Christie's painting (figs. 307-310). Interestingly, the mysterious motif associated with the guitar player turns out to be a sword. Further comparison of the two images leads to the discovery of further examples of such motifs, only faintly visible in the pounced design of the Brussels painting but clearly present in the paint layer of the Christie's variant, for instance, several extra hooded figures in the upper right procession, an extra child in a basket backpack and an

⁶⁴⁶ Cited note 604.

⁶⁴⁷ ERTZ 2000, pp. 245-7, fig. 183.

additional broken egg in the foreground (figs. 311-13). None of these motifs are included in the painted composition of Bruegel the Elder's original version.

Furthermore, there are several additional motifs common to the Brussels copy and Bruegel the Elder's version that are found neither in the pouncing stage of the Brussels version nor portrayed in the Christie's version's paint layer. These include a caged bird in the upper left and two kneeling figures praying against the left wall of the church (figs. 314-15). In the latter case, there is pouncing, not followed during underdrawing, for the architectural stonework in the space occupied by these two praying figures, indicating that these characters cannot have featured on the pricked cartoon or they would have been reserved in the stonework.

The immediate conclusion to be drawn from this combined evidence is that within the workshop of Bruegel the Younger the same cartoon or cartoons were used to transfer the design for the Brussels and Christie's versions. The same cartoon(s) may well have been used for the Cracow and Johnny Van Haefton copies but infrared examination and/or tracings of their respective painted compositions would be necessary to prove it.

The second point is that for the Brussels copy, and probably for the Cracow and Johnny Van Haefton versions, the artist must have had Bruegel the Elder's original version or an earlier copy of it in front of him during underdrawing and painting, whereas for the Christie's version, the artist had to make do with the cartoon only. In the Brussels copy, the smallest of details were adjusted during underdrawing to bring them in line with the original composition and likewise, other motifs were added, such as the caged bird in the upper left and the two praying figures; furthermore, the colours are identical to Bruegel the Elder's painting. For the Christie's version on the other hand, this is clearly not the case, and colours that do coincide with those in the original must have either been noted down on the cartoon or were reproduced from memory. It is also possible that the artist who painted the Christie's version was a studio assistant who had no knowledge of the original version and therefore was forced to base his painting entirely on the cartoon. Perhaps tellingly, Klaus Ertz, who inspected the Christie's version, describes it as workshop and lacking the quality of the other copies.⁶⁴⁸ Why exactly Bruegel the Younger and/or his workshop would have had access to Bruegel the Elder's original version for the Brussels panel or an earlier copy but not for the Christie's version is not clear. Nonetheless, the provenance of the painting does not exclude the possibility that the original painting remained in the hands of the family until the 1590's, prior to being sold. In this scenario, Bruegel the Younger could have easily copied the original painting but as soon as the latter, and any copies he had made of it were gone, only the cartoon, possible colour notes and memory would have guided the execution of further copies, as with the Christie's version.

8.1.7.b.iii *The extent of the cartoon*

As the Brussels version does not reveal pouncing marks under all parts of the composition, it is not clear whether a cartoon was available for the whole composition or just parts of it. It can be assumed that all features common to both the Brussels and Christie's copies must have featured on the cartoon(s). However, in areas where the two compositions differ and at the same time no pouncing is detected in the Brussels copy, such as in the architecture of the upper centre, the question of whether or not a cartoon was used to transfer the design remains open.

8.1.7.b.iv *The case for a common cartoon used by both father and son*

Clearly, the most likely source of the cartoon used for the Brussels and Christie's copies is the elder Bruegel's workshop. It is unlikely Bruegel the Younger made the cartoon himself as he would not have voluntarily introduced the small changes in motif – indeed, if he introduced these changes on purpose, he would have had no reason to change them back again during underdrawing. It is more likely that he re-used an old, scaled cartoon inherited from his father's workshop, correcting it where necessary during underdrawing by referring to the original painting, rather than proceeding by laboriously tracing the original image and creating a new cartoon.

The pricking of the lost cartoon could have either been done by Bruegel the Elder, to transfer it to another support – either a further drawing, 'substitute cartoon' or preparatory layer of the final painting – or by Bruegel the Younger or member of his studio. The transfer of original designs to other supports through pouncing was common in the Italian Renaissance and used in the workshops of great artists such as Raphael.⁶⁴⁹ Bruegel the Elder could have picked up the technique during his travels to Italy in 1551-4; alternatively, he would have been aware of the practice of pouncing from the numerous workshops in Antwerp, Brussels and Bruges turning out copies of famous artists' works.⁶⁵⁰

⁶⁴⁸ *Ibidem*, pp. 253-4.

⁶⁴⁹ BAMBACH 1999, pp. 13-14, for example, fig. 14 (Raphael, pricked cartoon for an allegory, *The Knight's Dream*).

⁶⁵⁰ See 'Historical copying techniques', Section 6.2 for examples of this practice.

8.1.7.b.v *Implications for the evolution of the original composition*

Since the Christie's version clearly was not painted in the presence of the original painting, the Christie's composition, to a greater or lesser extent, may well represent the pricked design on the cartoon or sections of cartoon. If this is true, the painted appearance of the Christie's version may represent an earlier version of the composition that Bruegel the Elder subsequently modified during drawing, underdrawing or painting. Certain of these modifications are indeed beneficial to the composition, such as the removal of some of the hooded figures in black in the upper right to give a more pleasing upside down 'v' shape to this block and the addition of the two figures kneeling against the wall of the church, without which there is a rather empty space. Also, the architectural arrangement in the upper centre in the original composition is far more dynamic than the Christie's townscape, and encourages the eye to move from one side of the image to the next rather than providing a visual brake as in the latter painting.

8.1.8 Conclusion

In many respects, the Brussels copy of the *Battle between Carnival and Lent* is typical of the production of Brueghel the Younger's workshop. Standard features include the format, unpainted lateral edges and corresponding reverse cuts, white ground, thickly brushed-on *imprimatura*, detailed underdrawing above the latter and the use of one or two paint layers whilst carefully reserving forms. Nonetheless, in both the underdrawing and paint layers, the delicate, fresh and masterly handling of the medium sets the painting apart from many of the more routine workshop productions, despite the lack of a signature. The underdrawing fits well into the Core group of underdrawings tentatively attributed by the present author to the master (see below, 'Core group of underdrawings', Section 17.1.1).

More unusually, this painting reveals dramatic new evidence regarding the copying technique in Brueghel's studio. Pouncing marks revealed by infrared reflectography alongside the underdrawing indicate that a pricked cartoon was employed to transfer the image prior to the underdrawing stage, or at least large parts of it. Quite apart from giving precise information on the transfer process in this particular painting, the part of the underdrawing that is accompanied by pounce marks can be used as the 'Rosetta stone' to investigate other works from the artist's workshop where pouncing is suspected: if the level of detail, style and notations of an underdrawing in another painting are directly comparable to that in the pounced areas of the *Carnival*, then the likelihood of the use of erasive pouncing to transfer the image in the comparative work under investigation is vastly increased.

Unexpected evidence regarding the origins of the cartoon used for the *Battle between Carnival and Lent* results from the observation of small differences in motif between the pouncing and underdrawing stages. That these are not random occurrences is proven by the fact that all the motifs featuring solely on the pounced image correspond to those in the painting stage of a privately owned version of the composition sold at Christie's in 1989, suggesting that both images were transferred using one and the same cartoon. Since the Brussels version's composition was 'corrected' during underdrawing in line with the original version by Bruegel the Elder, as well as imitating precisely its colour scheme at the painting stage, it can be surmised that the artist had access to the original painting or an earlier copy of the latter whilst underdrawing and painting. For the Christie's version on the other hand, where both motif and colour vary considerably from the original version, the artist had to make do with the cartoon only. The source of the cartoon is most likely to be Bruegel the Elder's own workshop; the image on the cartoon, reflected partly or wholly in the Christie's composition, may represent an earlier version of the composition by Bruegel the Elder that he subsequently modified during a subsequent compositional drawing, underdrawing and/or painting of his celebrated final image. The pricking of the cartoon could either have been done by Bruegel the Elder, or later, by Brueghel the Younger.

8.1.8.a *A final note: Preliminary observations of a technical nature regarding Bruegel the Elder's original version.*

Several useful observations can be made on the technique and evolution of the original composition based on an examination of good photographic details and two x-radiographic plates.

Fine greyish underdrawing lines, probably in a dry medium such as black chalk, can be made out in many areas where the drawing diverges slightly from the painted forms in areas of light paint, for example, for the left section of the tail of a fish and the fold line in a lady's apron (fig. 316), for the right outline of the arm of a figure carrying two jugs and for the left arm of a lady in red (fig. 317), for various head coverings and the edge of a low table (fig. 318). Quite often the final positions of feet are not in the same spots as their underdrawn outlines (fig. 318). From this it can be deduced that there is a full outline drawing of the composition underneath the paint, as with the similar format *Census at Bethlehem*.

During painting, the artist clearly reworked certain motifs slightly. An example is given by the fish platter held by 'Lent'; at an initial painting stage the platter was almost square rather than oblong (fig. 319a-b). The artist

covered over the initial shape but it is clearly visible today as a *pentimento* as well as showing up on the x-radiograph. A moderately different arrangement was also conceived for the rooftops in the upper centre of the composition as the painterly reserves are not always respected in the final paint layer (fig. 320a-b). As neither of these observations can be clearly linked with the Christie's version's composition, they might represent a further reworking of the image during execution.

Interestingly, one drapery at least shows traces of fingerprints in a dark glaze, breaking up and giving a particular texture to the paint much in the same way as has been noted in several other works by Bruegel the Elder including the *Winter Landscape with Bird Trap* (fig. 321, compare with others in Bruegel's work, figs. 388 and 389a-e).

Only detailed examination of the original image with infrared reflectography, and full x-radiography, in combination with a precise comparison of the scale and layout of the composition with the copies will elucidate further the issues concerning the kinds of preparatory material employed by Bruegel the Elder, his own method or methods of transfer and the evolution of the composition during underdrawing and painting.

CHAPTER III

Sermon of Saint John the Baptist

Bruegel the Elder's version of the *Sermon of Saint John the Baptist* in the Szépművészeti Múzeum in Budapest, signed and dated in the lower right, 'BRVEGEL M.D.LXVI' (fig. 322) is generally cited as the original model for both Brueghel the Younger and his brother Jan Brueghel the Elder's copies.⁶⁵¹ The composition ranks amongst Brueghel the Younger's most popular large format subjects. Around twenty-four copies by Brueghel the Younger survive to the present day, ranging from his mid- to late career. Dated works span from 1601 right up until 1636, just before the artist's death in 1637/8.⁶⁵²

Of the thirty-one versions listed by Klaus Ertz in his 2000 monograph on Pieter Brueghel the Younger, five are signed and dated with the signature typical of Brueghel the Younger,⁶⁵³ one carries an inscription 'P. BRVEGEL', 1565',⁶⁵⁴ another an inscription, 'P. BREVGEL. F' with the date '156.'⁶⁵⁵ and two, possibly three are signed only.⁶⁵⁶ Ertz excludes seven on his list from the Brueghel workshop, of which two he attributes to Jan Brueghel the Elder.⁶⁵⁷ A further, small format version by Jan Brueghel is in the Bayerische Staatsgemäldesammlungen (Alte Pinakothek) in Munich (fig. 374).⁶⁵⁸ This painting, dated 1598, is the earliest known copy of the composition. Bruegel the Elder's composition also inspired other artists, for example Pieter Balten.⁶⁵⁹

Four copies of the composition attributed to Brueghel the Younger form part of the current study, three from Belgian public collections and a further signed version from a private collection (figs. 323-6).⁶⁶⁰ Of these, the version from the Stedelijk Museum Wuyts-Van Campen en Baron Caroly in Lier is signed and dated 1624, the Groeningemuseum, Bruges version has no inscription and the Koninklijk Museum voor Schone Kunsten, Antwerp version bears a false signature and date, 'P. BREVGEL.F' / 156.', not corresponding in style, nor spelling to any signature by Brueghel the Younger. The privately owned version's signature is most probably genuine, but has been wrongly retouched by a later restorer to read, 'P. BREVGEL'; close examination reveals that the last 'E' is most probably a reinforcement of an 'H', and the 'L' the remains of an 'E'; the remains of the original 'L' are possibly seen as a vertical stroke to the right of the current 'L'. The correct spelling of this signature would indicate an execution date during or after 1616.⁶⁶¹ Both the signatures in the Lier and privately owned copies are located in the lower right, as in Bruegel the Elder's Budapest version.

As well as discussing technique, style and copying practice in the selected versions, the problematic issue of the Budapest version as original model will be considered. Strangely, although the Budapest version is extremely

⁶⁵¹ Pieter Bruegel the Elder, *Sermon of Saint John the Baptist*, 95 x 160.5 cm, signed and dated 1566, Budapest, Szépművészeti Múzeum, inv. 51.2829. For detail of signature, see fig. 387a.

⁶⁵² Bonn, Rheinisches Landesmuseum, inv. G.K 32, 111 x 175 cm, signed and dated, 'P. BRVEGHEL 1601' (MARLIER-FOLIE 1969, no. 1; ERTZ 2000, cat. E331); private collection (Esslingen/Neckar, coll. Dr. Gisbert Armbruster, 10 April 1975), approximately 110 x 165 cm, signed and dated in lower right, 1636 (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E335).

⁶⁵³ Bonn, Rheinisches Landesmuseum [cited above]; St. Petersburg, Hermitage, inv. 3519, transposed from wood to canvas, 107.5 x 167 cm, signed and dated, 'P. BRVEGHEL, 1604 [1609?]' (MARLIER-FOLIE 1969, no. 2; ERTZ 2000 cat. E 332); Berne, Ludwig coll., 1969, 92 x 172 cm, signed and dated, 'P. BREVGHEL, 1620' (MARLIER-FOLIE 1969, nos. 4 and 5; ERTZ 2000, cat. E333); Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 44, 104.5-104.9 x 169.3-169.6 cm (measurements taken by author), signed and dated, 'P. BREVGHEL 1624' (MARLIER-FOLIE, 1969, no. 3; ERTZ 2000, cat. E334); Esslingen/Neckar, private collection [cited above].

All technical data from ERTZ 2000 unless specifically mentioned.

⁶⁵⁴ London, Sotheby's, 9 April 1986, no. 12, 109.5 x 162.5, inscribed, 'P. BRVEGEL. 1565' (MARLIER-FOLIE 1969, p. 57; ERTZ 2000, cat. E342).

⁶⁵⁵ Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 777, 108.2 x 170.7-170.8 cm, signed and dated, 'P. BREVGEL.F', plus the remains of a date '156.' (MARLIER-FOLIE 1969, no. 6; ERTZ 2000, cat. 336).

⁶⁵⁶ Private collection (sold at London, Sotheby's, 16 December 1999, no. 8, former coll. Grazia), 119 x 167 cm, signed 'P. BREVGEL' MARLIER-FOLIE 1969, no. 7; ERTZ 2000, cat. E340); private collection (Johnny Van Haefton, 2002, no. 10), 113 x 163 cm, no signature mentioned in Van Haefton catalogue, although cited by Ertz as signed, 'P. BRVEGHEL' (MARLIER-FOLIE 1969, no. 9; ERTZ 2000, cat. F353); Paris, coll. R. De Balkany, canvas, 117 x 169 cm, signed (information regarding signature from MARLIER-FOLIE 1969, no. 8; ERTZ 2000, cat. F351); another signed version, not listed by Ertz, sold at Drouot, Piasa on 18 December 1996, no. 17, measuring 117 x 173 cm, signed in lower right (strengthened according to sale catalogue), 'P. BRVEGHEL'.

⁶⁵⁷ Jan Brueghel the Elder, Basel, Öffentliche Kunstsammlung, Kunstmuseum, inv. 139, 115 x 164 cm (MARLIER-FOLIE 1969, no. 25; ERTZ 2000, cat. A356); Dresden, Staatl. Kunstsammlungen, Gemäldegalerie, canvas, 110 x 164 cm (MARLIER-FOLIE 1969, no. 26; ERTZ 2000, cat. A356a). In the Dresden catalogue, this painting is attributed to either Jan Brueghel I or his son Jan Brueghel II. Ertz also suggests that Jan Brueghel the Younger might be responsible. Ertz adds that a further version might possibly be by one or other of the Jan Brueghels on the basis of the style of the tree branches (Münich, Bayerische Staatsgemäldesammlungen, Alte Pinakothek, inv. 1885, 113.5 x 170 cm [ERTZ 2000, cat. F350]).

⁶⁵⁸ Munich, Bayerische Staatsgemäldesammlungen, inv. 834, 41 x 59 cm, signed and dated, 'BRVEGHEL 1598' (MARLIER-FOLIE 1969, no. 24; ERTZ 1979, cat. 51).

⁶⁵⁹ Pieter Balten, *Sermon of Saint John the Baptist*, Schoten, private collection, see MARLIER-FOLIE 1969, pp. 58-9, fig. 21.

⁶⁶⁰ Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 44 [cited note 653]; Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 777 [cited note 655]; Bruges, Groeningemuseum, inv. 0.1561, 118.1-118.7 x 167.9-168 cm, unsigned (MARLIER-FOLIE 1969, no. 13; ERTZ 2000, cat. E338); Private collection (sold at London, Sotheby's, 16 December 1999, no. 8, former coll. Grazia) [cited note 656].

⁶⁶¹ ERTZ 1998, p. 19.

similar to Jan and Pieter's copies, the cloak of the gypsy wife in the foreground is yellow in the former but blue in the latter, and the Budapest version is several centimetres shorter in height than the copies.

9.1.1 Panel support

The four paintings in the study are painted on oak panels, as is Bruegel the Elder's version in Budapest. Amongst the copies outside the scope of the present study attributed to Brueghel the Younger or his workshop, only two are on canvas;⁶⁶² all the rest are on wood panel. Bruegel the Elder's version and the four copies in the study share the same, large-scale format.⁶⁶³

9.1.1.a Panel construction, tool marks and dendrochronology

The panels comprise four to five horizontally placed planks.⁶⁶⁴ The x-radiograph of the Antwerp version reveals that the joins were kept in place during gluing by dowels, four per join; the Lier support, unusually for Brueghel's large format panels, has no dowels.⁶⁶⁵ Curiously, unlike the copies, Bruegel's Budapest version consists of at least five, vertically aligned oak planks, which is extremely unusual for a large, landscape format panel.⁶⁶⁶

The Lier version's support is particularly poorly conceived. In terms of cut, the uppermost plank appears to be radial but the remainder are most likely false quarter. There is a knot in the wood near the top edge of the uppermost plank, a normally inadmissible defect, visible from the back of the panel; this has been filled with a lead-white filler, probably prior to the original painting being executed (figs. 323b, 327c). There are further defects in the panel surface along the uppermost join of the top plank, including one in the centre of John the Baptist's face and another in the red drapery of a figure in the upper right (fig. 327a-b, d-e); these have also been filled with a lead white filler – again, most likely before the original paint layer was applied.⁶⁶⁷ The left edge of the panel has not been cut straight, possibly when the panel was made (fig. 328). Both upper and lowermost planks are warped, the joins are opening up in places and the second from bottom and bottom planks are split right along their lengths, all attributable to a poor choice of wood (fig. 329).⁶⁶⁸ The panel is also quite thin for its size, although there is a small chance that this might be due to later thinning. On the reverse, the left edge is roughly bevelled for several centimetres inwards, which may well be an original feature; the other sides are also bevelled, but to a lesser extent, the bevels extending to around 0.5 centimetres in from the edges (fig. 323).

Unlike the Lier support, the Bruges panel is soundly constructed of radially cut boards⁶⁶⁹ and the joins remain well-adhered.⁶⁷⁰ The planks do not appear to have been planed-down at all on the reverse side during restoration, as there is still a difference in level between some of them and the central board is quite thick (approx. 2 cm). There are also saw marks in the upper four planks and traces of cleavage on the fourth plank down, near the left edge, and on the bottom plank in various places. Despite the excellent overall quality, there is what appears to be a knot in the wood, visible from the front of the painting, approximately 8 cm above the painted knot in the large tree in the lower left (fig. 330).

The Antwerp panel is in relatively good condition, despite a pronounced convex warp. Unfortunately, a thick later layer of wax prevents the observation of any tool or brand marks. Like the Bruges version, the panel does not appear to have been thinned at any point, as the differences in level between the various planks are preserved and the panel is relatively thick in the centre (approx. 1.3 cm). Three of the four planks are false quarter rather than radial cuts which, in conjunction with uncontrolled climatic conditions, probably caused the warping.⁶⁷¹

⁶⁶² Paris, coll. R. De Balkany, signed [cited note 656]; also Valenciennes, Musée des Beaux-Arts, inv. P. 46. 1. 203, 105 x 160 cm, unsigned (MARLIER-FOLIE 1969, no. 14; ERTZ 2000, cat. F355).

⁶⁶³ For discussion of formats, see Chapter I, Section 7.2.1.

⁶⁶⁴ Lier: 4; Antwerp: 4; Bruges: 5; private collection: 5.

⁶⁶⁵ X-radiographs were totally unrevealing in the case of the Bruges version (see note 670) and could not be taken in the case of the privately owned version, for safety reasons.

⁶⁶⁶ The vertical wood grain is visible along the unpainted lower edge, see fig. 322. Discoloured retouching along four of the joins allows the identification of at least five vertically disposed planks. Examination of the original painting would be necessary to establish precisely how many planks are present.

⁶⁶⁷ I would like to thank Bob Ghys for examining the x-radiographs with me and for pointing out the likelihood of an original filling material.

⁶⁶⁸ Owing to the irregular and dirty state of the edges, dendrochronology was deemed impossible in this case.

⁶⁶⁹ Bob Ghys, private conversation (2 December 2002).

⁶⁷⁰ The strange green paint layer on the reverse of this painting was probably applied during restoration in the belief that it would cut down on the response of the panel to changes in humidity, thus preventing warping. Unfortunately, this layer, most probably lead white with a little green pigment, rendered the x-radiography of this panel totally useless; the only image registered in the x-radiographs was the wood grain on the reverse of the panel.

⁶⁷¹ Information regarding planks from Pascale Fraiture's unpublished dendrochronology report, 22 May 2000.

The privately owned version's panel has been thinned to approximately 2 mm, glued to another oak panel and cradled, resulting in a peculiarly flat surface with minor distortions. This unusually radical intervention renders impossible any meaningful observations regarding the nature and quality of the original wood support.

9.1.1.b Dendrochronology

Only the Antwerp panel was analysed by dendrochronology. In this case, the radially cut upper plank was the only one to provide a secure *terminus post quem* for the execution of the painting: 1588.⁶⁷² The four planks were found to originate from the Baltic region, although all coming from different trees and perhaps different locations. A Baltic origin is typical for Brueghel's large format panels.⁶⁷³

9.1.1.c Branding

The Bruges panel displays a clear example of the brand of the Guild of St. Luke in Antwerp. Two hands and the castle of Antwerp have been heat-branded into the wood, in the lower part of the plank second from top, slightly to right of centre, the hands facing right (fig. 331). This corresponds to Jørgen Wadum's iron number 3, whose period of use has been found to be 1618-26, giving an approximate time period for the execution of the painting.⁶⁷⁴

There is no way of knowing whether the privately owned and Antwerp versions were originally branded owing to the thinning of the former and the layer of wax on the latter. The Lier panel, whose reverse may well still be intact, has no brand marks of any kind. This is hardly surprising; had an inspector examined the panel he would no doubt have rejected it for its many defects.⁶⁷⁵

9.1.1.d Conclusions regarding dating of the four paintings

The various strands of evidence reveal that the Antwerp version could have been painted any time from 1588, the privately owned version during or after 1616, the Bruges version probably between 1619 and 1626 and the Lier version in 1624.

9.1.2 Ground, barbes and unpainted edges

All four panels are prepared with a white ground. Cross-sections from the Lier and Antwerp versions reveal at least two layers of ground (fig. 337a-e).⁶⁷⁶

Typically for large format paintings by Brueghel the Younger, both the Antwerp and privately owned versions show ungrounded and unpainted lateral edges with *barbes* (figs. 332a-c, 333a-b). In the case of the Antwerp copy, these unpainted edges are mirrored on the reverse by right-angled cuts, signs of the previous attachment of battens to prevent the panel from warping during execution (fig. 324b).⁶⁷⁷ Unfortunately, the radical thinning of the privately owned version has removed any possible evidence of the latter.

The Bruges version presents the unusual case of having an ungrounded and unpainted edge on its right side, but a grounded, primed (*imprimatura*) but unpainted edge on the left (figs. 334a-c). On the reverse, there are right-angled cuts along both lateral edges. The possible sequence of events leading to this idiosyncratic arrangement might have involved the gluing together of the planks, the making of right-angled cuts in the two lateral edges and the application of battens, the removal of the left batten for some unknown reason, the application of the ground and *imprimatura* layers and lastly, the painting of the composition. The painter would have taken care not to paint right up to the left edge of the panel in the knowledge that it would be hidden underneath the rebate of the frame, although occasional slight overlapping of the paint layer over the centimetre of ground and priming along the left edge would have been inevitable (fig. 334b). Another painting by Brueghel the Younger's workshop displays a similar, but not identical phenomenon. The large format *Kermis with Theatre and Procession* provides the only other example in the study of a painting with grounded, primed but unpainted lateral edges; however, in this case neither edge is painted.⁶⁷⁸ Like the Bruges panel, the unpainted edges also correspond to right-angled cuts on the reverse.

⁶⁷² See note 447 for details regarding Fraiture's standard calculation to obtain the *terminus post quem* for Baltic wood.

⁶⁷³ See Chapter I, Section 7.2.1.b. and Chapter IV, Section 10.2.1.b. for discussion on the geographical origins of the wood used in Brueghel's supports.

⁶⁷⁴ Jørgen Wadum, personal correspondence, 21 May 1999.

⁶⁷⁵ See Chapter I, Section 7.2.1.a for discussion of the new 1617 guild rules on the standards to be maintained in the manufacture of panels for painting.

⁶⁷⁶ No sampling was authorised on the Bruges and privately owned versions.

⁶⁷⁷ For discussion of this issue, see Chapter I, Section 7.2.3.

⁶⁷⁸ *Kermis with Theatre and Procession*, 110.35 x 110.6 cm, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 6870 (see Chapter VIII, Section 14.4 and fig. 655a-c).

In the case of the Lier version, the paint extends right up to the edges of the panel on all four sides and there are no corresponding right-angled cuts; instead, rough bevels are present on the reverse, probably related to framing (fig. 335). Together with the unusually poor quality of the wood planks, the lack of dowels between the joins and the unevenly cut edges, this panel represents an anomaly amongst Brueghel the Younger's large format panels.⁶⁷⁹ Possibly Brueghel was forced to put together the panel himself or perhaps he bought it cheaply from a less reputable source in this case, due to a problem in supply from his usual panel-maker.

9.1.3 Imprimatura

In all four paintings, infrared reflectography reveals the presence of an overall, broadly brushed-on, carbon-based *imprimatura* layer (fig. 336a-d.). In the Antwerp and Lier versions, the *imprimatura* is also clearly visible in the x-radiographs, indicating a lead white content. The *imprimatura* can be observed in cross-sections from the Lier and Antwerp versions as a thin, medium-rich layer on top of the ground, containing white and acicular black particles of diverse sizes (figs. 337a-e). In the Antwerp version, red particles are also present. Cross sections of the Antwerp version also showed a layer of yellowed medium in between the ground and *imprimatura* layers, which is either part of the *imprimatura* or a separate isolation layer.⁶⁸⁰

In the Bruges version, the grey, streaky *imprimatura* lies exposed all along the unpainted left edge (fig. 334a) and in all the copies, the *imprimatura* can be made out with the naked eye through certain lighter areas of paint (fig. 338a-d).

In the Lier version, the brushstrokes of the *imprimatura* are mostly vertical in the uppermost two-thirds of the painting and horizontal in the lower third. In the Bruges version, the *imprimatura*'s brushwork is horizontal and diagonal in all areas except for a strip of approximately 6 centimetres down the right edge where the strokes are vertical. The Antwerp version shows mainly diagonal brushwork, with an upper right to lower left slope. In the privately owned version, a full assessment was not possible due to the lack of infrared images at the borders; however, in the middle section of the painting, diagonally applied strokes are clearly present under all the forms, with an upper left to lower right slope.

A grey, streaky *imprimatura* is frequently seen in Brueghel the Younger's paintings, both in smaller and larger format compositions, for example, in the *Winter Landscape with Bird Trap* (Antwerp, Museum Mayer van den Bergh, see Chapter IV, Section 10.2.3).⁶⁸¹

Susan Urbach mentions that the original version of the *Sermon of Saint John the Baptist* is underdrawn on top of 'the large and coarse brushwork of the ground', going in different directions. This layer is probably a white *imprimatura* similar to that encountered in the original version of the *Census at Bethlehem*.⁶⁸²

9.1.4 Underdrawing

A detailed underdrawing is present in all four paintings and clearly visualised in infrared reflectography. It can also be seen with the naked eye in lighter colours. In the Lier, Antwerp and privately owned versions, several areas show the drawing material lying on the highpoints of the *imprimatura* brushstrokes whilst skipping the interstices, proving that the underdrawing was applied after, rather than before the *imprimatura*. (fig. 338a-b).⁶⁸³

As in most paintings attributed to Brueghel and his workshop, the underdrawing encompasses the entire composition. It is meticulous and precise for figures and buildings but loose and sketchy for trees, foliage, rocks and earth patterns. In addition to the careful delineation of forms and drapery folds, loosely drawn hatchings for tone and shadow are frequently encountered, often situated in the same places in all four versions. As in the important foreground motifs in the *Census series*, the latter observation suggests that there was a common model drawing, including indications of hatching and probably made to scale, shared amongst all the copies.

In each copy, the underdrawing is lively and vigorous, the strokes varying in density and thickness and often tapering at the ends. These characteristics point to the underdrawings having been executed freehand, rather than mechanically transferred via a stylus (tracing) or the pantograph. Nonetheless, the artist must have followed now-invisible markings of some kind whilst drawing the main composition as the correspondence of

⁶⁷⁹ A few other paintings in the present study are also executed on supports of dubious quality, almost certainly not the work of a professional panel-maker; these include: *Return from the Kermis*, 48.4-48.5 x 78.4-78.5 cm, signed, 'P. BREGHEL.' (Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 10830), see fig. 676b; *Census at Bethlehem*, 118.7 x 168.1 cm, unsigned (Arras, Musée des Beaux-Arts, inv. 934.2) see fig. 75. Others are doubtless of equally low-quality, but the frequent planing-down and application of cradles to the reverse sides often masks the evidence.

⁶⁸⁰ No medium analysis was carried out on this layer.

⁶⁸¹ See Chapter I, Section 7.1.4 for history of tinted and streaky *imprimatura* layers in Flemish painting of the sixteenth and seventeenth centuries.

⁶⁸² URBACH 1999, p. 133. For the *Census at Bethlehem*, and examples of other cases of a coarsely applied, white *imprimatura* layer in Bruegel the Elder's work, see note 389, figs. 4-5.

⁶⁸³ See Chapter VII, Section 13.1.4.a for description of cross-sections from two paintings where the drawing layer is clearly situated above the *imprimatura*.

outline amongst the copies is too perfect for the drawings to be have been copied purely by eye (see below, ‘Evidence for the use of cartoons’, Section 9.1.6.c.i).

No adjustments or changes can be observed at the stage of underdrawing. Certain minor painted features, however, are not underdrawn in any of the copies examined. These include ferns in the lower left, a boat in the upper right, tiny figures in the distant landscape, toadstools in the lower centre and embroidered patterns on foreground draperies including the red ‘T’ on the back of the blue cloak of the standing figure to the far right (figs. 339a-e; for discussion of the significance of these omissions, see below, ‘Variants within the copies’, Section 9.1.6.b).⁶⁸⁴

For the main part, the underdrawings are strictly adhered to during the painting process. A key exception is the figure having his fortune read in the Lier version, known as the ‘Spaniard’ owing to his dress; he appears in the underdrawing but is not followed through to the final paint layer. In the Antwerp version this figure is present at both underdrawing and painting stages whereas in the privately owned and Bruges versions he is present in neither (fig. 340a-i, see below, ‘Variants within the copies’, Section 9.1.6.b and ‘Evidence for the use of cartoons’, Section 9.1.6.c.i). Two further minor alterations during painting affect all four versions: the small twisted tree to the immediate right of the distant buildings, which diverges considerably from its underdrawing and the thin trees in between the set of trees in the upper right corner, never faithful to their drawn outlines. In the case of the Antwerp version, these intermediary trees do not appear at the painting stage at all.

The Bruges version is the only copy studied to show an underdrawn and painted white cross in the sky. This is not visible in photographic reproductions of Bruegel the Elder’s Budapest version.⁶⁸⁵

9.1.4.a *Style*

Three of the four versions present a similar overall drawing style; however, the Antwerp version stands out as significantly different to the rest over a whole range of motifs, for example, in faces, hands, draperies and distant buildings (figs. 341-6).

Unlike the Bruges, Lier and privately owned versions, whose drawing lines are bold and confident, the Antwerp version appears hesitant and searching, the lines generally finer and more wiry. The drawing lines and hatchings in the Antwerp version, although similar to the other copies, do not always delineate forms and folds in such a convincing and masterful manner. Sometimes, the draftsman of the Antwerp version included additional, light hatchings for tone whilst for other motifs, certain traits are missing versus the other versions.

Amongst the Lier, Bruges and privately owned versions, in some areas the privately owned version is somewhat weaker than the other two in terms of mastery of form and lacking in subtlety. Although boldly applied, the privately owned copy’s underdrawing is also less anatomically precise and more formulaic in its manner of drawing faces. This is manifest in certain details (for example, fig. 346); nonetheless, these differences are not as obvious or conclusive as those observed between the Antwerp version and the others.

Although it is always difficult to make cross-series’ comparisons, the drawing style of the Lier version would seem to correspond to that of the Core group of underdrawings of a similar style, probably by the master himself (see below, ‘Core group of underdrawings’, Section 17.1.1). The privately owned and Bruges versions may possibly form part of this group, but the evidence is not as straightforward. The Antwerp copy certainly falls outside the Core group and most likely represents the hand of a workshop assistant.

9.1.5 **Paint layer**

The four paintings’ appearances differ considerably due to the condition of their respective varnishes. The privately owned version, recently cleaned and revarnished, displays its true colours, although some abrasion of glazes may have taken place; the other three paintings suffer in one way or another from the effects of degraded varnish: severely yellowed in the case of the Antwerp version, blanched in the Lier copy and crackled in the Bruges painting. Despite these hindrances, raking light examination highlights the particular brushwork in each version.

9.1.5.a *Evolution of the paint layer and use of reserves*

The four paintings have a paint layer structure typically found in Bruegel the Younger’s workshop: the artist(s) worked from background to foreground, with no overlapping of motifs, infilling small areas of the same colour according to the underdrawing. Each version follows the same pattern, with reserves for the same motifs. Very slight overlapping at the junction of two motifs can help establish which was painted first. The sky appears to have been painted first, the artist reserving spaces for large and small trees and the buildings on the horizon (fig

⁶⁸⁴ According to Gustav Glück, the embroidered ‘T’ signifies membership of the religious confraternity of Saint Antony (GLÜCK 1937, p. 31).

⁶⁸⁵ Close examination and infrared examination of the Budapest version would be necessary to verify whether this motif is genuinely absent.

347a-b). Likewise, for the multitude of figures, the figures at the rear were painted first, reserves systematically left for the motifs to follow. The figures at the back are clearly reserved in the paint layer of the trees, and heads, including small details such as beards, are reserved in the draperies of the figures behind them; even the protruding tree root in the right foreground has been reserved in the dark drapery paint of the figure behind (figs. 348-50).

9.1.5.b *Palette and paint layer structure*

For the most part, the copies of the *Sermon of Saint John the Baptist* follow closely the colours of Bruegel the Elder's Budapest version, both for the major figures in the foreground and background draperies, with the exception of the gypsy wife's cloak and certain browns, blacks and ochres which are frequently transformed to dark blue. In the more faithful copies, such as the Bruges and privately owned versions, even the embroidered patterns on draperies imitate the colours of the Budapest version.

The copies, as in Bruegel the Elder's version, present a rich tapestry of contrasting tones and hues, offset by the deep shade provided by the backdrop of trees. As is typical in the work of both Bruegel the Elder and Pieter Brueghel the Younger, red is judiciously placed in diverse parts of the image to animate and unify the scene and to guide the eye around the dense throng of people. The composition pivots around the circular, light coloured hat of the gypsy wife in the foreground. In Bruegel the Elder's version, this figure is even more of a focal point than the corresponding motif in the copies owing to the light yellow colour of her cloak, replaced in the copies by a rich blue that melds into the surrounding colours, considerably lessening the visual impact of the motif (for discussion of the possible reasons for this colour change, see below, 'A painted replica by Bruegel the Elder as model for the copies?', Section 9.1.6.a.i).

Selected cross-sectional analysis of the Lier and Antwerp versions generally shows one to two layers of paint above the ground and *imprimatura* layers (fig. 337a-e).⁶⁸⁶ In the Lier version, glassy, sometimes triangular-shaped particles in a paint sample from the sky are characteristic of the appearance of smalt; one particle in this sample is bluer in its centre than at the edges, typical of partially faded smalt. In a grey shadow from a red drapery, the paint layer structure is slightly more complex, comprising two opaque red layers interlaid with transparent red glazes. In the Antwerp version, a sample from the sky reveals two layers of light paint, both containing large, glassy fragments characteristic of smalt; in this case these glassy particles are totally colourless.

As commonly observed in other paintings from Brueghel's workshop, certain reds show discolouration to mauve.⁶⁸⁷ This occurs in the Antwerp and Lier versions, to a minor extent the Bruges version but not in the privately owned copy (fig. 351a-c). As discussed in relation to the *Census* series, this is typical of the pigment vermilion.⁶⁸⁸

9.1.5.c *Handling of paint*

Faces are modelled in a typical 'Brueghelian' manner, described in detail for the *Census* series. The paint is applied sparingly, leaving discernible the light-toned, streaky *imprimatura*. Some overall coverage is rendered with a fine coating of pinkish or ochre-coloured paint and the features are lightly drawn on with brown painted lines. Three dimensionality is achieved using short, fine, vertical white strokes beneath the eye sockets, darker black or brown strokes in the hollows under the cheek bones and blended red paint for the middle parts of the cheeks (fig. 352a-d).

Draperies show a variety of brushwork techniques to suggest a range of exotic clothing. Most are painted in one or two layers, the decorative elements applied either wet-in-wet into the layer below or on a dry underlayer, depending on the desired effect. In the case of the slashed draperies for the Berber captain⁶⁸⁹ in the lower right, the 'cuts' in the fabric are suggested by light brown dashes incised wet-in-wet into the yellow underlying paint; the corresponding dashes in the Antwerp version however, appear to have been applied once the yellow paint was dry (fig. 353a-d). In contrast, the 'squares' pattern in the puffed sleeve of this figure are painted on a dry white paint layer, the pattern representing embroidered decoration rather than cuts (fig. 354a-d). Likewise, the intricate design on the gypsy wife's white sleeve is carefully painted in red on a dry white underlayer (fig. 355a-d). The neckline of the gypsy man's patterned cloak is decorated with a green glaze stripe (darkened to brown in the Antwerp and Bruges versions), a wavy pattern picked out in the glaze whilst the latter was still soft, using the back of a brush or other sharp-tipped instrument (fig. 356a-d); likewise, in the privately owned version, a wave pattern is incised into the still-soft, red glaze paint of another figure's pink coat (fig. 357). For the fall of folds in the pink fabric of the standing figure to the right of the large tree in the lower left, there is a thin, overall, pinkish

⁶⁸⁶ Cross-sectional analysis with the optical microscope only.

⁶⁸⁷ See Appendix 2.

⁶⁸⁸ See Chapter I, Section 7.1.6.c. For further discussion of its possible cause, see Chapter VII, Section 13.1.5.d.

⁶⁸⁹ I would like to thank Jacques Debergh for identifying this figure.

base tone, followed by transparent, dark red paint for the depths of the folds and thicker white and pinkish paint for the modelling of the folds themselves (fig. 358a-d). The more complex full skirt of the woman in the lower left is similarly rendered in all four copies: the depths of the folds are marked in dark black paint, the mid tones in greyish paint, the upper parts of folds in thin, light grey paint and finally, the highlights suggested by thin, loosely applied, raised zigzag lines of white paint (fig. 359a-d). The dark sleeve of a figure in the far left is somewhat differently modelled in the four versions. In the Bruges and privately owned versions, a dark blue base colour is given a similar zigzag highlight right down the light part of the sleeve; in the case of the Bruges version, this highlight is incised into soft paint without using additional paint whereas in the privately owned version it is applied in white paint. The Lier version's corresponding sleeve does not have a light-coloured zigzag highlight; instead, the rounded shape is suggested by bold, dark folds in a transparent blue or black pigment. The Antwerp version's green sleeve is a weakly-executed combination of the brushwork styles of the other three copies (fig. 360a-d). As in so many paintings from the Brueghel workshop, dark blues are often applied in textured strokes in all four copies (fig. 361a-d).

Landscape and vegetation details are rendered with delicate and suggestive brushwork, for example the grass and earth patterns on the ground in the lower right of the privately owned version. The combination of transparent green and light brown paint in this zone has been arranged in a sweeping perspectival pattern to create a luminous corner that attracts, then guides the eye into the main scene (fig. 362a-b). The articulation of the composition through earth patterns is a compositional device used in other paintings from the Brueghel workshop, for example, *Bridal Procession* (see fig. 661a). In the trees, leaves are abbreviated in a typical manner, using sets of impasted dabs of pale green or yellow paint over a darker background (fig. 363a-d); leaves are also sometimes indicated with upside-down 'v' shapes, probably by dabbing the paint on using the ends of the hairs of a relatively stiff brush (fig. 364a-d). Tree trunks are typically painted with a layer of ochre-coloured paint as a base coat, followed by the 'drawing on' of the bark in dark brown paint (fig. 365a-c).⁶⁹⁰ The ferns in the lower left are painted similarly in the Lier, Antwerp and privately owned versions: on a simple stem and side branches, short dashes suggest the finer fronds; unlike the other versions, the Bruges copy depicts the ferns in a brown glaze and the fronds are loosely incised into the soft brown background paint using a sharp instrument (fig. 366a-d).

9.1.5.d *Style and attribution*

Although the basic brushwork is similar in all four versions, the Antwerp version rarely masters form in a convincing manner and tends to be more schematic in its approach than the other three copies. This difference in quality is observed over a wide range of motifs from faces to background trees (figs. 350, 352, 361, 367-70). The painting is clearly executed by a less accomplished hand than the other three versions.

The Lier, Bruges and privately owned versions each individually show an extremely high level of artistic achievement. Differing material conditions make it hard to identify genuine differences; nonetheless, the Lier version may show a more subtle mastery of form than the other two copies and most likely represents the master's touch.⁶⁹¹ The debate over the attribution of the Bruges and privately owned versions remains open although an authorship in common with the Lier version is a strong possibility.

9.1.6 *Copy process*

9.1.6.a *The Budapest version by Bruegel the Elder*

The attribution of the Budapest version of the *Sermon of Saint John the Baptist* to Bruegel the Elder has rarely been questioned.⁶⁹² Indeed, close-up details from the paint surface only serve to further this view; the manner of modelling heads is entirely typical of the master (fig. 371a-b). Susan Urbach's recent publication of details from the underdrawing would also seem to confirm that this painting was the original version of the composition (fig. 372a-d). She points out several changes between the drawing and painting stages to show that the image evolved during execution, such as St John the Baptist's 'unnaturally long forefinger, the *digito monstrans* [...], the characteristic and traditional attribute of the Precursor',⁶⁹³ which is shorter in the paint layer than the underdrawing, and the latter's head, 'sketched in two or three positions'.⁶⁹⁴ Urbach also points out that the woman with the full skirt in the lower left has a bigger nose in the underdrawing, although this is more of a minor adjustment than a genuine change. She also observes that the figure having his fortune read in the

⁶⁹⁰ No photograph was available for the privately-owned version for this detail.

⁶⁹¹ I would like to thank Régine Guislain-Witterman for discussing the issue of painterly style with me, particularly concerning the Lier version, which she considers the best-painted of the four copies in the study.

⁶⁹² Klaus Ertz expresses certain doubts regarding the authenticity of the Budapest version, although stating that he has no proof for his instinctive feelings, see ERTZ 2000, p. 365. He suggests carrying out dendrochronology on the painting, to establish whether it is technically feasible that Bruegel the Elder could have painted the work.

⁶⁹³ URBACH 1999, p. 131.

⁶⁹⁴ *Ibidem*.

foreground is not visibly underdrawn, adding that ‘a line under his head indicates that the figure was originally not planned in the composition’. She concludes that ‘this very important portrait of a contemporary of Bruegel⁶⁹⁵ [...] is an addition to the original composition done by Bruegel himself during the painting process’. However, since there is a painterly reserve for this figure’s head in the dark paint of the drapery paint behind him, he must have been planned from a very early stage and there was probably originally a basic outline for his head in the underdrawing, despite the fact nothing could be detected by infrared reflectography.⁶⁹⁶

Urbach’s published underdrawing details of the Budapest version also reveal that the main motifs are drawn in a dry medium with simple, neat, clean outlines and no hatching (figs. 372b, d). This leads her to suggest that the main figures may have been made to scale on a cartoon prior to being transferred to panel.⁶⁹⁷ Other figures are more sketchily drawn and the artist appears to have been searching for the correct outline, as in the figure of Christ, *Saint John the Baptist* and the figures in the upper right corner, suggesting they may have partially evolved during the underdrawing process, and may not have been fully worked out on a preliminary cartoon. Comparable observations were made on Bruegel the Elder’s *Flemish Proverbs* and *Census at Bethlehem* by Rebecca Duckwitz and the author respectively and similar explanations proposed.⁶⁹⁸ Urbach offers no opinion as to whether the transfer process of the purported cartoons in the *Sermon of Saint John the Baptist* was carried out using tracing, pouncing or even by eye alone although cites Terez Gerszi’s assessment of the underdrawing as a ‘freehand outline drawing by the master, directly executed on the panel’,⁶⁹⁹ which would favour the pouncing or unaided freehand drawing options. Urbach proposes that Bruegel’s sons may have used these self-same cartoons for the execution of their copies.⁷⁰⁰

If Urbach’s hypothesis is correct, and Bruegel’s sons had access to detailed cartoons for the main motifs of the composition, these would still not have provided enough information to justify the extremely close correspondence in the design, intricate colours and possibly even brushwork technique⁷⁰¹ of embroidered patterns on some foreground draperies between the more faithful copies and the Budapest version (fig. 373a-c). Most likely is that one or both of the sons were able to study the painted composition at some point, and may also have inherited cartoons.

9.1.6.a.i *A painted replica by Bruegel the Elder as model for the copies?*

In view of the close correspondence between the Budapest version and the copies, it would indeed be logical that the former painting was copied by one or both of Bruegel’s sons. However, Auner claims that the Budapest version was already in Hungary in 1569-70, as part of the private collection of the Batthyányi family, which, if true, would have made access difficult.⁷⁰² The sources also mention the existence of a possible second version. A *Sermon of Saint John the Baptist* by Bruegel the Elder is listed in the estate inventory (1633-1650) of the collection of Archduchess Isabella, Governess of the Netherlands⁷⁰³ and the stated measurements of the painting in this document do not fit to the current dimensions of the Budapest version.⁷⁰⁴

If Auner’s claim is correct, and the Budapest version was already in Hungary in 1569-70, then the painting in the collection of the Archduchess could well represent a second version by Bruegel the Elder.⁷⁰⁵ Evidently, Bruegel’s sons would have had far more chance of seeing the latter than a painting in Hungary; moreover, the Archduchess’s version might possibly still have been in the hands of the Bruegel family up to around 1600, the

⁶⁹⁵ *Ibidem*, p. 131, note 20 for possible identification of this portrait.

⁶⁹⁶ Régine Guislain-Witterman, private conversation, 19 December 2002.

⁶⁹⁷ URBACH 1999, p. 133.

⁶⁹⁸ On the underdrawing of Bruegel the Elder’s *Flemish Proverbs* (Berlin), see DUCKWITZ 2001, pp. 72-6, figs. 10-18. On the *Census*, see Chapter I, Section 7.1.5.

⁶⁹⁹ URBACH 1999, p. 133.

⁷⁰⁰ *Ibidem*. To test whether the same cartoons could have been used by father and sons, Urbach stresses the necessity of measuring exactly some foreground figures in the Budapest version and comparing them with some important copies.

⁷⁰¹ Although verification with the Budapest version would be necessary, photographic reproductions seem to show that Bruegel the Elder may also have incised the same patterns into soft paint for embroidery and painted the light brown slashes in the standing figure on the right’s intricate trouser hose wet-in-wet into the yellow paint.

⁷⁰² AUNER 1956, pp. 117-18. Susan Urbach says that the provenance of the Budapest version has not been and should not be traced further back than 1896 in view of the current policy of restitution that might cause its removal from the public domain to a certain noble family (private conversion, 1999). In the summary catalogue of the collection of the Szépművészeti Múzeum, Budapest, Urbach gives the provenance of the painting as ‘from the Batthyány Castle, Nagycsákány’ (URBACH *et al.* 2000, p. 28). Bianconi states the painting was bequeathed to the museum by Count Ivan Batthyány (BIACONI-TOLNAY 1981, p. 106).

⁷⁰³ ALLART 2001, p. 49.

⁷⁰⁴ The stated measurements in the inventory are 4 7/11 feet high by 7 2/11 feet wide. If using the Brussels foot for reference (1 foot = 27.57 cm [WADUM 1998b, p. 169, note 3]), which would be logical in view of the location of the Archduchess Isabella’s collection in the palace in Brussels, these measurements are equivalent to 127.8 x 198 cm. The Budapest panel measures 95 x 160.5 cm. Even supposing the inventory included the frame in the measurements, by taking an equal amount away from each measurement, there is no means of arriving at 95 x 160.5 cm.

⁷⁰⁵ The idea that Bruegel the Elder made more than one version of several of his compositions was proposed by Dominique Allart, see ALLART 2001, p. 51.

painting only sold to her at a later date.⁷⁰⁶ A similar scenario was proposed for the *Battle between Carnival and Lent*.⁷⁰⁷

Compared to the Budapest version, both Pieter and Jan's copies of the *Sermon of Saint John the Baptist* give a considerably larger amount of empty space to the sky between the landscape and the top of the support. Despite claims to the contrary,⁷⁰⁸ Susan Urbach verifies that the Budapest version has not been cut down along the top edge, citing the presence of a *barbe* and unpainted edge.⁷⁰⁹ Urbach proposes that this important difference in composition might be due to the copies having been made after another panel or prototype or simply the fact that a larger sky reflects changes in taste in landscape painting.⁷¹⁰

Another strange anomaly between the Budapest version and all Bruegel's sons' copies is the colour of the gypsy wife's robe in the centre foreground, yellow with a red stripe in Bruegel the Elder's painting and blue, sometimes with a red stripe, in the copies. This might be explained if the model used by Pieter and Jan did not show a yellow-coloured robe but could also represent a conscious choice on the part of the two sons. Symbolically, the colour yellow on a robe of a gypsy would have supported his or her identification as a heretic, whereas blue did not carry this connotation. Could the younger Brueghels have wanted to defuse the significance of this potentially offensive motif in a period of Counter Reform?⁷¹¹ Pieter Bruegel the Younger also sometimes omits the motif of the 'Spaniard' having his palm read; this choice may also have been guided by religious considerations. Georges Marlier suggested that certain clients would have been shocked by the presence of this irreverential figure in a scene where Saint John the Baptist is actively preaching.⁷¹² However, Klaus Ertz disagrees, pointing out that if Jan Bruegel, a devout and pious catholic, included the figure in his copies, it could not have been offensive to the contemporary audience.⁷¹³ Roger Marijnissen even suggests this figure might be a portrait of the patron of the painting, possibly Balthasar Bathányi.⁷¹⁴

Konrad Renger suggests that in view of the early date of Jan Bruegel's Munich version (1598),⁷¹⁵ Jan's painting may have been the model for his brother Pieter's versions (fig. 374a).⁷¹⁶ He argues that Jan's particular interest in landscape painting would have motivated him to increase the proportion of sky versus landscape and his replacement of sober browns, blacks and ochres in the Budapest version by bright blues represent the sort of typical adaptation Jan Bruegel made to his father's colour schemes.⁷¹⁷ Notable changes to bright blue versus the original include the gypsy wife's robe in the foreground, the sleeve of the oriental figure on the far left, the cap of the figure immediately above the pilgrim in the foreground and the drapery of the small child to the right of the Berber captain in yellow to the right; other mid- and background draperies are also blue in place of black or light grey. Jan's large format Basel version is almost identical to the Munich copy in terms of colour, although a few corresponding draperies that are blue in the Munich version, in the Basel copy retain the black or light grey hue of Bruegel the Elder's version (fig. 374b). Jan's Basel version imitates even more closely the earth and grass patterns of the original version than the small format Munich copy, probably on account of its larger scale. The motifs in Jan Bruegel's copies are so close to the Budapest version that it is hard to imagine the artist not seeing it; furthermore, the placement of the signature in the lower right, on a specially painted brown rectangle has been faithfully followed by Jan for his signature in the Munich version. The colours in Jan's Munich and Basel copies, where they are not changed to blue, follow precisely those in Bruegel the Elder's

⁷⁰⁶ MARLIER-FOLIE 1969, p. 52.

⁷⁰⁷ See Chapter II, Section 8.1.7.b.iv.

⁷⁰⁸ *Ibidem*, p. 50 and ERTZ 1998, p. 48 and note 3.

⁷⁰⁹ URBACH 1999, p. 129 and URBACH *et al.* 2000, p. 28. Examination of a reproduction of the Budapest painting unframed shows traces of what appears to be a *barbe* and perhaps a slightly reduced unpainted edge along the top of the panel (fig. 322).

⁷¹⁰ URBACH, 1999, p. 129.

⁷¹¹ On colour symbolism during the period, see VEROUGSTRAETE and VAN SCHOUTE 2002 (forthcoming).

⁷¹² MARLIER-FOLIE 1969, p. 54.

⁷¹³ ERTZ 2000, p. 371. Urbach is in agreement with Ertz on this issue (private conversation, September 1999).

⁷¹⁴ MARIJNISSEN 1988, p. 304. Marijnissen gives a good summary of the various opinions related to this figure (*Ibidem*, p. 304).

⁷¹⁵ Cited note 658.

⁷¹⁶ Private conversation, June 2002.

⁷¹⁷ RENGER 2002, pp. 82-3. Bright blues are particularly dominant in Jan Bruegel's version of the *Triumph of Death*, signed and dated 'BRVEGEL F. 1597 (Graz, Steiermärkischen Landesmuseum Joanneum, inv. 58), after the original version by Pieter Bruegel the Elder (Madrid, Prado), his *Visit to the Farm* (Kunsthistorisches Museum, inv. 674), undated, the composition probably taken directly from a lost grisaille by Bruegel the Elder and his *Crucifixion*, 1595 (Vienna, Kunsthistorisches Museum, inv. 626), the latter composition most likely influenced by a lost painting by Bruegel the Elder. A further example is a small version of the *Wedding Dance in the Open Air*, probably taken after a lost original painting by Bruegel the Elder, attributed to Jan Bruegel by Jacqueline Folie, which has an overwhelming predominance of bright blues compared to any of Pieter Bruegel's versions of the same composition (MARLIER-FOLIE 1969, p. 203, fig. 123 and see Chapter VII, Section 13.1.6.f of this volume). Jan's version of the *Massacre of the Innocents* composition after Van Cleve's model (sold at London, Christie's 16 December 1998, no. 27; MARLIER-FOLIE 1969, p. 340; ERTZ 2000, cat. E340, colour ill. fig. 238) also shows the use of more bluish hues than Pieter's many copies. The contrasts between Pieter and Jan's copies of their father's works are evoked by Yoko Mori in a subsection to her 2001 catalogue essay entitled, 'Differences between the two brothers and their individual characteristics' in MORI 2001, pp. 51-2.

Budapest version, for example the embroidered decoration on the gypsy family's robes and the Berber captain's dress.⁷¹⁸

Pieter Brueghel's copies for the large part include the blue draperies of the Basel copy rather than the colours of their counterparts in the Budapest version, if generally more muted in hue than in Jan's version and often quite dark (fig. 375),⁷¹⁹ with the exception of one or two copies where the blues are bright and intense (fig. 376).⁷²⁰ Since some of Pieter's copies do not show the same proportion of blue draperies as Jan's versions, certain colours remaining faithful to the Budapest version's colour scheme, it suggests that although Pieter may have been influenced by his brother Jan's copies, he still may have seen a version by his father at first hand (fig. 377). It is unlikely however, that Jan copied a version of Pieter's for his Munich copy as the peculiar patterns in the grassy foreground on the right in the latter version are closer to the Budapest version than to any of Pieter's extant copies. It is quite conceivable that the brothers worked side-by-side on their copies, with an original version by their father in front of them, perhaps in Pieter's workshop. Their painting in the same studio would have been most convenient whilst they were working on similar copies of the same works; furthermore, it is possible, although not proven that Pieter, as the eldest son, would have inherited any graphical material from his father's workshop such as cartoons and drawings. As Jan had only returned from Italy in 1596,⁷²¹ he may well have earned his living by working on copies after Bruegel the Elder's paintings in his brother Pieter's workshop, before setting up on his own and creating his own original compositions; if this were indeed the case, it would not be such a coincidence that Jan's dated copies after paintings by Pieter Bruegel the Elder mostly date from 1597-8.⁷²² The brothers' working in the same workshop would also make it less surprising that Jan Brueghel's large format version of the *Sermon of Saint John the Baptist* from Basel⁷²³ has unpainted lateral edges and *barbes* in the same way as almost all of Pieter's large format paintings (fig. 378).⁷²⁴

Key differences between all the copies and the Budapest version, such as the colour of the gypsy wife's robe and the difference in the amount of visible sky might favour the hypothesis of one or both of the sons' initially copying a replica by their father comprising these alterations, possibly the painting mentioned in the Archduchess Isabella's inventory. On the other hand, there are various historical and aesthetic arguments to suggest these changes were in fact conscious decisions on the part of Bruegel the Elder's sons, which would maintain the Budapest version as the possible original model. Furthermore, apart from these changes, the fidelity in colour and motif of Jan's copies, and many of Pieter's copies, to the Budapest version, argue strongly in favour of the sons' having seen it at some point.

9.1.6.b *Variants within the copies*

Although the overall figural composition remains the same in all Pieter Brueghel the Younger's and Jan Brueghel the Elder's copies of the *Sermon of Saint John the Baptist*, several minor motifs and colours are not always identical from copy to copy. These include the number of tiny heads at the very back of the crowd, the small boat and tiny figures in the upper right distant landscape vista, the ferns in the lower left corner, the toadstools in the lower centre, the intermediary trees in the upper right, the embroidered pattern on the wrap of the gypsy boy in the foreground, the figure having his palm read and the colour of the cloak of the oriental figure in the far left. As with the *Flemish Proverbs* and the *Census at Bethlehem* series', certain of these variations were found not to be random and the copies can be roughly split into two groups (Groups 1 and 2, figs. 379a-c, 380a-c, see also chart recording the variable motifs, Appendix 5).⁷²⁵ Compared to the *Census* series however, these variants are less strictly adhered to and there are several small exceptions.

Of the twenty-two copies compared,⁷²⁶ thirteen copies were found to form part of Group 1, including the Bruges, privately owned and to a certain extent, the Lier version. This group also encompasses all the copies attributed to Jan Brueghel. Group 1 is noticeably more faithful to the Budapest version than Group 2, common features including a second line of heads in the trees in the upper left background, a small boat in the distant landscape vista just below the castle, tall ferns in the lower left corner, toadstools on the profile of the mound in the

⁷¹⁸ A colour reproduction of Jan Brueghel's purported Dresden version [cited note 657], could not be obtained.

⁷¹⁹ Darkening of blue could either be due to a change in the pigment, such as azurite or the presence of discoloured varnish.

⁷²⁰ Other examples of this type may exist, but may be masked by discoloured varnish coatings.

⁷²¹ Jan Brueghel's presence in Antwerp is confirmed on 10 October 1596 (ERTZ 1998, p. 21).

⁷²² Apart from the compositions mentioned in note 717, Jan Brueghel also made versions of the following works by or thought to be by his father: *Adoration of the Magi*, *Christ and the Adulterous Woman*, *Christ Carrying the Cross*, *Bridal Procession* and *Wedding Dance in the Open Air*.

⁷²³ Cited note 657.

⁷²⁴ To test this assertion, it would be necessary to verify whether unpainted lateral edges are rare or common in panels by Jan Brueghel.

⁷²⁵ On the *Proverbs* series, see DUCKWITZ 2001, on the *Census* series, see Appendix 4. Klaus Ertz also splits up the *Sermon of Saint John the Baptist* copies into two groups, but on a totally different basis. He divides them into copies by and around Jan Brueghel the Elder's model type (group 2) and by and around Pieter Brueghel the Younger (group 1), citing Jan's model as having more developed and lace-like tree branches, see ERTZ 2000, p. 368.

⁷²⁶ Paintings included in the database are only those for which images could be consulted.

foreground, a series of narrow trees in between the trees in the upper right and the rich embroidery pattern on the wrap of the gypsy boy in the foreground. The privately owned version in the study and another copy⁷²⁷ do not include the toadstools, and of these, the former does not show the second line of heads. Four copies also include a stripe on the gypsy wife's cloak, as in Bruegel the Elder's Budapest version. Seven versions are signed from this group, three carrying the 'BREVGHHEL' spelling, signifying a date of execution during or after 1616, one spelt 'BRVEGHHEL', suggesting a date during or prior to 1616; three further versions are noted in the literature as 'signed', with no specification as to spelling and one is signed 'BRVEGEL 1565'.

Nine paintings from the author's database make up Group 2, which includes the Antwerp version. These are characterised by a notable absence of certain features, such as the second line of heads in the upper left, the small boat just below the castle, the toadstools in the foreground, the full quota of intermediary trees in the upper right and the pattern on the gypsy boy's wrap. The stripe on the gypsy wife's cloak is always absent in this group and the ferns in the lower left, although present, are shorter and more curved. One painting in Group 2, although conforming in many respects to the rest of the group, shows several features characteristic of Group one, namely the second line of heads in the upper left, the intermediary trees and the small boat.⁷²⁸ Two paintings in the group carry a signature, both of which are dated, one 1601 and one 1636.

Revealingly, infrared examination of the four copies in the study show that many of the variable elements, such as the toadstools, boat, ferns and embroidered decoration are not indicated in the underdrawing (fig. 339). This suggests that they were not present on any preliminary drawing or cartoon but were copied or remembered from a painted model. Certain of the variable elements, such as the intermediary trees in the upper right and the extra heads in the upper left background are underdrawn however, as was the case with the variable motifs in the *Census* series. Interestingly, in the Lier version, one of these extra heads has been underdrawn, but forgotten during the painting process.

Unfortunately, as so few versions are dated, it is impossible to confirm whether there are any genuine tendencies as to the chronology of the two groupings. The limited dates available suggest the group may have co-existed, as there is a painting in Group 1 dated 1620 and one with the 'BRVEGHHEL' signature (thus dated 1616 or before) and two dated works in Group 2, inscribed 1601 and 1636 respectively.

The variable motif of the 'Spaniard' does not conform specifically to either variant. His presence or absence appears to be entirely random although he is always in Group 2. This supports the view that the motif was consciously left out or included on a case-by-case basis, perhaps for religious reasons. This enigmatic figure is present in most versions, featuring in at least sixteen copies, including examples dated 1601, 1624 (underdrawing only) and 1636; he is absent in at least eight copies.

The possible co-existence of the two main groups of similar copies is difficult to explain. There is no straightforward explanation based on the current state of knowledge on Brueghel's working and business practices and the evidence uncovered by the present study. Further documentary evidence on Brueghel's place of work, the division of labour in his studio and whether or not he subcontracted work elsewhere may one day help provide some answers.

9.1.6.c *Transfer process: Use of cartoons*

The key question of how exactly Brueghel managed to transfer the complex composition for the *Sermon of Saint John the Baptist* was approached in the same manner as for other series': through the superposition of the author's tracings of copies of the composition and observing the character of the underdrawing lines. The aim was to establish whether or not cartoons were used, and if so, whether these were specific to group or to motif and whether pouncing or tracing was the method of transfer.

9.1.6.c.i *Evidence for the use of cartoons*

The author was able to trace three of the four painted compositions of the copies in the study.⁷²⁹ Once overlaid and closely cross-compared, it becomes immediately apparent that the entire figural composition of the three works, plus the buildings on the horizon, line up almost perfectly (figs. 381a-c, 382a-c, 383a-c). Only the uppermost parts of trees and distant mountains vary from one painting to the next. The closest match is obtained when the Bruges and Antwerp versions are superposed; the Lier/Antwerp and Bruges/Lier alignments show a very slight left/right shift of 1-2 mm in the former case and 2-3mm in the latter case. This could suggest that the cartoon of the composition existed in two pieces, and that these were not precisely aligned for one or more of the transfers.

⁷²⁷ Bern, coll. Ludwig 1969 (ERTZ 2000, cat. E333).

⁷²⁸ Belgium, private coll., 1991 (ERTZ 2000, cat. F345).

⁷²⁹ The privately owned version could not be traced as it had just been varnished when the examination took place.

Interestingly, when the two underdrawings of the ‘Spaniard’ are superposed (Lier and Antwerp), the match is sufficiently good to suggest this motif was present on the cartoon (fig. 384a-c).⁷³⁰

As the three traced paintings form part of different groups, it can be shown that the cartoon or cartoons were shared between the two groups, distinctions only arising later.

It is noteworthy that this composition, unlike the *Census at Bethlehem*, may well have been transferred using one large cartoon. This might be explained by the fact that the main composition of the *Sermon of Saint John*, unlike the *Census*, is a tightly compacted mass of figures, and would have been difficult to split up into separate zones for inclusion on separate sheets.

9.1.6.c.ii *Cartoons: Tracing or pouncing?*

In all four copies, it is clear that the lively and energetic underdrawing, encompassing strokes varying in density and thickness, could only have been applied freehand. As suggested for the *Census* and other series’, and demonstrated graphically in the case of the *Carnival and Lent*, the most likely explanation for the transfer of the cartoon(s) is the application of the design through pouncing, followed by joining up of the dots in a dry drawing medium. As in the vast majority of paintings by Brueghel, not a single trace of pouncing can be discerned; however, the author’s practical tests prove that the complete absence of pouncing is perfectly feasible (Appendix 1, figs. 756-7). Indeed, the pouncing dust was probably actively removed by the artist after underdrawing to avoid sully the paint.

9.1.6.c.iii *The source of the cartoon(s): Brueghel the Younger or his father’s legacy?*

Unfortunately the Budapest version could not be taken out of its frame for measuring or tracing, therefore the possibility that Bruegel the Elder or another artist traced the composition, and that the latter sheet was used as a cartoon by Brueghel the Younger for his copies cannot be tested.

Various possibilities can be considered regarding the origin of Brueghel the Younger’s cartoon(s). His father could have made a scaled cartoon of the main motifs of the composition prior to underdrawing the Budapest version. This is likely in view of the schematic and detailed underdrawing of the main figures in the Budapest painting, with no hatching or changes; the background figures were probably partially developed during underdrawing, in view of their more sketchy and searching nature. His father could also have made a small-scale drawing or full-scale cartoon of the composition after finishing the Budapest panel that he subsequently re-used for a second version, perhaps the painting mentioned in Archduchess Isabella’s inventory.⁷³¹ Finally, Brueghel the Younger himself could also have generated his own cartoon of the composition, either by copying the original model himself, scaling-up a small-scale drawing by his father or Jan Brueghel’s 1598 copy (or perhaps by copying Jan’s large format, undated Basel version) or by combining cartoons of important motifs inherited from his father with his own observations or tracings of the original version. Brueghel the Younger’s cartoon would have included indications of drapery folds and some hatchings for tone and would probably have been supplemented by a pricked ‘substitute cartoon’ for the actual process of transfer itself, as was suggested for the *Census* and *Carnival and Lent* series’. There are other examples of Brueghel the Younger making his own cartoons; his many copies of the *Peasant Lawyer*, clearly based on two cartoons, one per format, are not derived from any material inherited from Bruegel the Elder, as the model was invented by another, unknown artist (see below, Chapter VI).

9.1.7 Conclusion

Of the four copies of the *Sermon of Saint John the Baptist* studied in detail, the Lier version is the only one painted on a poorly constructed panel bearing no relationship to Brueghel’s usual supports. Not only does the panel suffer from warping and deformations due to a choice of low quality wood, there are neither dowels nor unpainted lateral edges. Nonetheless, the ground, *imprimatura* and paint layers evolve similarly in all four copies, conforming to the standard practice established in the *Census* series. Each work is painted on a white ground, followed by a grey, streaky *imprimatura* and a detailed underdrawing. Owing to the presence of similarly situated drawing notations such as fold lines and tonal hatching, it is likely that a separate, common, scaled model drawing or cartoon, replete with such notations, was used for all the copies. Keeping closely to the underdrawn outlines, the figures are painted systematically from background to foreground, reserving spaces for the motifs to come. Deft use of wet-in-wet brushwork in several of the foreground draperies in all the versions suggests highly decorative exotic clothing.

⁷³⁰ The underdrawings of both versions were traced and superposed on computer by Sophie De Potter using Adobe Photoshop, taking care to retain the original proportions and scale.

⁷³¹ The suggestion that Bruegel the Elder made drawings of his own finished compositions specifically for the purpose of replicating them was made by Dominique Allart (various private communications since 2001). The same idea was noted by Lorne Campbell in his discussion of Bruegel the Elder’s *Adoration of the Magi* (London, National Gallery, inv. 3556) (CAMPBELL 2002, p. 180); Yoki Mori also suggested Bruegel the Elder, or his assistants, may have made tracings of finished works (MORI 2001, p. 49)

Stylistically, the Antwerp version stands out as considerably weaker than the others at both the drawing and painting stages. The artist of this version worked in a hesitant and schematic manner and rarely mastered form as convincingly or naturalistically as in the other three copies; differences are seen over a wide range of motifs from figures to trees. The Lier, Bruges and privately owned versions on the other hand are highly accomplished in terms of underdrawing and painting style; unfortunately, diverse material conditions affect their appearance in different ways making detailed stylistic comparisons difficult, although it does seem that the Lier version's drawing style conforms to the 'Core group of underdrawings attributed in this study to the master (see below, 'Core group of underdrawings', Section 17.1.1). At the painting stage, the Lier version may represent the highest level of achievement, but again, diverse material conditions affect judgement and as all three copies are close in style, they may still represent the work of a single hand.

Although the Budapest version by Bruegel the Elder is normally acknowledged as the model for Pieter and Jan's versions, the existence of a possible second version by Bruegel the Elder must also be considered, given that there is a *Sermon of Saint John the Baptist* by Bruegel the Elder listed in the Archduchess Isabella's inventory that does not conform to the Budapest version in size. A separate model might also explain differences in the amount of sky space in the Budapest version versus the copies, as well as the change in colour of the gypsy's robe in the centre foreground; alternatively, these adjustments could have been conscious decisions on the part of one or both of the Brueghel sons. In the latter scenario, it seems more likely that Jan Brueghel was the initiator of the changes and that Pieter Brueghel was influenced by his brother; nonetheless, a comparison of their respective copies with the Budapest version suggests that the two artists may have both worked after the latter or close replica, even if Pieter were somewhat influenced by his brother's interpretation of their father's original colour scheme.

As with the *Census at Bethlehem* and *Flemish Proverbs* series', Brueghel the Younger's copies of the *Sermon of Saint John the Baptist* can be split up into variants, in this case two main groups. Variable motifs remaining consistent according to group are relatively minor and include patternwork on drapery, a small boat, a row of extra heads in the upper left background and small toadstools in the foreground. Group 1 is markedly more faithful to the Budapest version than Group 2. Unlike the *Census* paintings, these groupings do not appear to be chronologically ordered, although there are not enough dated panels to elaborate on the issue.

Again, as with the *Census* series, the existence of separate groups of similar copies is independent of the use of cartoons. When tracings of the painted compositions of two paintings from Group 1 (Lier, Bruges) and one from Group 2 (Antwerp) are superposed, the large crowd of figures, plus the distant buildings align so precisely that it can be concluded a common cartoon, possibly on one large sheet, must have been used for transferral of the image to panel. This is unlike the *Census* series where only the most important figural motifs were transferred with the aid of cartoons. As with the latter series however, pouncing is the more likely transfer technique in view of the freehand nature of the underdrawings, although no traces of pouncing dust remain. Again, a 'substitute cartoon' was likely to have been used for the actual transfer process to avoid dirtying the master document. Whether Brueghel the Younger re-used a cartoon or cartoons by his father, or generated his own, is impossible to know for sure in the light of existing evidence. Further technical investigation into the Bruegel the Elder's Budapest version and Jan Brueghel's copies might help elucidate the issue.

CHAPTER IV

Winter Landscape with Bird Trap

10.1 The original version by Pieter Bruegel the Elder

Pieter Bruegel the Elder's *Winter Landscape with Bird Trap* entered the collection of the Musées Royaux des Beaux-Arts de Belgique (MRBAB) in 1973 as part of the Delporte bequest.⁷³² The painting was 'rediscovered' in 1927 after a signature and date of 1565 were revealed during restoration (fig. 385).⁷³³ Much controversy accompanied its initial attribution to Bruegel the Elder, including the suggestion it was an 'obvious forgery'.⁷³⁴ Since then, various art historians have from time to time expressed doubts as to the painting's attribution to the artist, on stylistic grounds.⁷³⁵ A further complication derives from claims of another 'original' version, also apparently signed and dated by Bruegel the Elder (1564), in the former Hassid collection (fig. 460).⁷³⁶ The technical study attempts to clarify these sensitive issues, in particular to establish whether the MRBAB *Winter Landscape with Bird Trap* was indeed the first version of the composition and whether it could have served as model for Bruegel the Younger's many copies.⁷³⁷

10.1.1 Signature and date

The signature and date were applied with a fine brush to the lower right corner of the painting using a lead white-based paint (fig. 386a-b).⁷³⁸ The upper register contains the name 'BRVEGEL', and the lower register the date in Latin numerals, 'M.D.LXV'. Invisible to the naked eye, but perceptible in infrared reflectography are two black horizontal placement lines above and below the 'Bruegel' name (fig. 386b). An examination of the inscription and date under the binocular microscope reveals fine drying cracks corresponding to those in the black paint layer on which they are applied.⁷³⁹ The inscription therefore cannot have been applied long after the black paint layer. This might be taken to imply that the signature is authentic and the matter closed to further discussion. However, an x-radiograph of the inscription reveals the presence of further painted letters concealed beneath the black paint layer (fig. 386c). The painted letters 'B, V and G' appear to be present in between the two registers of the final painted inscription, commencing just after the 'R' in the latter. The letter 'M' is painted underneath the letter 'D' of the date. The hidden 'M' is slightly larger than the 'M' in the final version on the surface of the painting. This suggests the presence of a similar lead white-based painted signature and date underneath the uppermost inscription, but displaced slightly down and to the right. Since systematic radiography of Bruegel's works has not been done, it is impossible to know whether or not there is a precedent for such reworked inscriptions in his wider oeuvre.

Turning aside from technical considerations, it is useful to compare the calligraphy of the uppermost painted inscription to other works by Bruegel the Elder (figs. 387a-m). In keeping with Bruegel's paintings after 1558, the *Winter Landscape with Bird Trap* is signed 'BRVEGEL' in Roman upper case, without the initial 'P' for Pieter and dots are used to separate the first two letters of the date. The layout of the inscription, with the word 'Bruegel' and the date appearing on different registers is not unusual; a very similar arrangement is seen in *Sermon of Saint John the Baptist*, 1566 (fig. 387a) and other inscriptions also show the name and date on

⁷³² Musées Royaux des Beaux-Arts de Belgique, inv. 8724, legacy of Mrs Delporte-Livrauw and Dr. Franz Delporte. The painting was purchased by Dr. Delporte in 1927 at the Brussels gallery Louis Manteau, prior to which its provenance is unknown.

⁷³³ The painting was first exhibited in an exhibition entitled 'The Exhibition of Flemish and Belgian Art 1350-1900' at The Royal Academy, Burlington House, London in 1927, cat. no. 224. It was mentioned by Paul Lambotte in *Apollo* in January 1927 (LAMBOTTE 1927, p. 1) and discussed by Max Friedländer in his review of the exhibition in *Der Cicerone* in the same year (FRIEDLÄNDER 1927, p. 216). Friedländer accepts the painting's attribution to Pieter Bruegel the Elder. A. P. Laurie, Professor of Chemistry at the Royal Academy of Arts, also published a brief scientific examination of the painting in *The Connoisseur* in 1928, supporting its claims to authenticity (LAURIE 1928, pp. 160-1 and fig. III [showing a detail of the lower right corner with the signature]).

⁷³⁴ 'This picture was exhibited at the Flemish exhibition and the statement was made that it was an obvious forgery. It was suggested that an old crackled panel had been taken, the old paint removed, and a new picture painted upon the surface.' (LAURIE 1928, p. 160).

⁷³⁵ Many of these opinions are verbal. Gustav Glück, in 1951, wrote 'after initial hesitation I am now inclined to accept Max J. Friedländer's favourable opinion, that the present painting is to be regarded as an original' (GLÜCK 1958, p. 44, no. 32). Fritz Grossmann in 1973 stated that the Delporte version was the best and probably the original version but that some doubts had occasionally been expressed regarding its authenticity (GROSSMANN 1973, p. 199). He repeated this opinion in the third revised edition of his book (GROSSMANN 1973, p. 199). Roger Marijnissen, writing in 1969, mentions that the attribution to Bruegel of the Delporte version was contested in the years following its 1927 publication but does not give his own opinion (MARIJNISSEN 1969, note 131). Klaus Ertz discusses his reservations in ERTZ 1998, pp. 369-72.

⁷³⁶ The case for this painting is discussed in relation to the copies, see Section 10.2.6.f, fig. 459.

⁷³⁷ On this subject, see CURRIE 2002d (forthcoming). A forthcoming volume of IRPA's *Scientia Artis* by the author and Dominique Allart will also discuss this issue as part of a wider historical and technical study of winter scenes by Bruegel the Elder and Brueghel the Younger in Belgian public collections (ALLART and CURRIE 2003 [forthcoming]).

⁷³⁸ The white pigment was not analysed, but as the inscription is clearly visible in the x-radiograph, the only possible identification is lead white.

⁷³⁹ A. P. Laurie also noticed this during his examination in 1928: '...the microscope showed that the cracks in the signature were continuous with those in the surrounding paint, therefore proving the signature to be of the same date as the picture.' (LAURIE 1928, p. 161).

separate registers (figs. 387b, c, d, i, k). That the letters in the *Winter Landscape* signature are not precisely even in height also has precedents in Bruegel's work, for example, the *Suicide of Saul*, 1562 (fig. 387d). Furthermore, like that in the *Winter Landscape*, Bruegel's inscriptions are often not completely straight, for example, the *Two Monkeys*, 1562 (fig. 387e), where the letters bend up almost absent-mindedly to the right. In the *Winter Landscape*, the two horizontal placement lines for the word 'Bruegel', now invisible to the naked eye, serve as approximate guides only (fig. 386b). Another example of a signature with placement lines, albeit more rigorously conceived, is the *Conversion of Paul*, 1567 (fig. 387j). The fact the *Winter Landscape* signature is painted white is not common, but there is a precedent in the *Fall of the Rebel Angels*, 1562 (fig. 387b).

In terms of writing style, parallels to the *Winter Landscape* signature can also be drawn with other works. Its slightly clumsy and uneven lettering can be likened to the signature in the *Suicide of Saul* as well as to inscriptions on a pen and ink drawing, *Calumny of Apelles*, mid. 1560's (fig. 387m). The oddly written 'B' in the *Winter Landscape* signature is not dissimilar to its counterpart in the *Suicide of Saul* (fig. 3d) and in the pen and ink drawing, *Painter and the Connoisseur*, c. 1565 (fig. 387m). The slightly spread 'M' and the upper horizontal stroke of the 'E's', the latter extending to the left of the vertical stroke, resemble those in other signatures, as for example in *Two Monkeys* (fig. 387e).

With this context in mind, it would appear that the visible signature *Winter Landscape with Bird Trap* fits very well in Bruegel's oeuvre; nonetheless, the presence of a more crudely painted version underneath remains a troubling enigma. Unless further evidence is found, the authenticity of the former cannot be fully supported.⁷⁴⁰

10.1.2 Fingerprint

Another form of signature, albeit involuntary, may also feature on the *Winter Landscape with Bird Trap* (fig. 388). This is a finger- or thumbprint, pressed into the glaze paint of the hole in the ice in the foreground of the painting. This was probably intentional on the part of the artist, in order to break up the dark glaze somewhat. It is interesting to note that fingerprints were also used to modify dark glazes in at least four other works firmly attributed to Bruegel the Elder, the *Census at Bethlehem*, the *Triumph of Death*, the *Flemish Proverbs* and the *Battle between Carnival and Lent* (fig. 389a-e). If forensic science were able to establish that any of these prints matched that in the *Winter Landscape with Bird Trap*, the authenticity of the latter would be as good as proven. At the very least, the comparisons show that the adjustment of dark glazes using the fingers in the *Winter Landscape with Bird Trap* is typical of Bruegel the Elder's working practice.⁷⁴¹

10.1.3 Support

The painting is executed on a single oak board, measuring 36.9-37 cm in height and 55.35-55.4 cm in width, the grain of the wood running horizontally (fig. 390a). The panel has been lined with an additional oak plank, the latter finished with chamfered edges to give the appearance of an untouched original panel. The primary support is only around 0.6 cm thick and was probably thinned to accommodate the new 'lining'.

The fact that the oak panel has been consolidated at some stage with a plank of similar wood is unusual and there are no obvious technical reasons, for example, worm damage, which might explain why this treatment was necessary. In the nineteenth century, panel supports were often radically restored; thinning-down prior to cradling was common practice and considered a good method to prevent warping.⁷⁴²

An unidentified wax seal with the letters, 'PMS' or 'JMS' is present on the back of the secondary support, most probably the mark of a nineteenth century collector (fig. 390b).

10.1.3.a Dendrochronology

Dating the original support, or at least establishing the terminus post quem for the cutting down of the tree from which it made, was the logical step to remove any doubts regarding the age of the panel. To this end, a dendrochronological study was carried out by Joseph Vynckier at IRPA in 1993.⁷⁴³ The oak was found to originate from the Baltic region where there is a minimum of nine and a maximum of thirty-six sapwood rings.⁷⁴⁴ Unusually, the panel includes six sapwood rings, the youngest dating from 1551, enabling a relatively

⁷⁴⁰ Solubility tests on the black layer between the two inscriptions during cleaning might cast light on the matter.

⁷⁴¹ The use of fingerprints to modify glazes is not a new practice, for example, the author observed fingerprints all around the chin-line in a portrait, *Paul of Nigro*, 1518 (Bruges, Groeningemuseum, inv. 1280) by Adrien Isenbrant (c. 1480-1551) and Jørgen Wadum recently pointed out that Joachim Wtewael, in *Mars and Venus Surprised by Vulcan* (1601), pressed his fingers into a still-soft green glaze in order to obtain a textile-like appearance (WADUM 2002b, p. 69).

⁷⁴² See note 433, on the practice of cradling and its purpose.

⁷⁴³ All information concerning this analysis are taken from Joseph Vynckier's unpublished report of 25 June 1993.

⁷⁴⁴ In 50% of cases the number of sapwood rings varies between 13 and 19 (Vynckier's report, *ibidem*).

precise dendrochronological estimation of date.⁷⁴⁵ Taking into account the minimum number of sapwood rings possible, the tree could have been felled in 1554 at the earliest and ready for painting around two years later, after seasoning.⁷⁴⁶ This makes it perfectly feasible the painting was executed during the lifetime of Bruegel and does not cause a conflict with the painted inscription.

10.1.4 Ground and imprimatura

The panel is primed with a thick, white ground layer, in common with traditional sixteenth century practice.⁷⁴⁷ It extends to the edges of the panel on all four sides. The ground can be visualised in a loss to the upper left edge of the painting (fig. 391a-b). The damaged edge also reveals a thin grey-blue layer above the ground. Although an *imprimatura* layer cannot be ruled out, the evidence given by the x-radiograph appears to suggest that the grey-blue layer is in fact an underlayer for the sky paint. In the x-radiograph, vigorous vertical brushstrokes are faintly visible in the majority of the sky area including the uppermost part of the rooftop of the house on the far right. That these strokes are not discernible in the x-radiograph in other parts of the painting further supports the hypothesis that they are part of a light blue underlayer for the sky.⁷⁴⁸ Lacking cross-sections, it is impossible to verify the presence or absence of an *imprimatura*; however, where such a layer has been identified in Bruegel's work, it is characterised as a coarsely brushed-on lead white layer, clearly visible in x-radiography, its brushwork often visible through the thin paint (see above, Chapter I, Section 7.1.4). No such evidence can be seen in the *Winter Landscape with Bird Trap*. In view of its small size, the most appropriate comparison would be with small format *Adoration of the Magi* (Winterthur, Oskar Reinhart coll.), a painting for which few doubt Bruegel the Elder's authorship.⁷⁴⁹ Like the *Winter Landscape*, no *imprimatura* can be made out in the x-radiograph of this painting (fig. 396).

It is possible that a tinted or yellowed oil underlayer of some kind was applied to the painting, in view of its extremely yellow tonality, particularly in abraded areas; unfortunately, the existence, nature and extent of the latter would be impossible to assess without extensive sampling.

10.1.5 Underdrawing

Through infrared reflectography, it can be seen that the entire composition of the *Winter Landscape with Bird Trap* is laid out in the underdrawing. The drawing lines are also occasionally discernible with the naked eye (fig. 392, 393a-e). In the landscape background, dark underdrawing is exposed in many areas owing to abrasion of the paint layer, although sometimes deliberately concealed by later retouching. The underdrawing is relatively coarse and sketchy in nature and has been rapidly applied in a dry medium such as black chalk or charcoal. There is no hatching or cross-hatching. Outlines are clearly discernible for snow-clad rooftops, branches of trees and landscape features. No drawing lines are detected for the horizon line or for distant figures and it is not clear whether the artist underdrew the mid- and foreground figures. The underdrawing betrays an active search for the correct outline; for example, the arched tops of the two gabled windows on the house second from the right have been vigorously sketched in several times (fig. 394a). Other small adjustments during drawing include the lower edge of the church spire (fig. 394b).

The most significant observation in the infrared reflectogram for the study of the copies relates to the bird trap, the motif defining the meaning and subsequent interpretation of the painting for generations of art historians (fig. 395a-b). Astonishingly, this motif is neither present in the underdrawing nor reserved in the snow paint (figs. 392, 395-6). Most other forms, even small trees, are reserved in the snow paint. This suggests the artist did not intend to include the bird trap motif in his initial composition, or had planned to put it elsewhere. It is possible that a mysterious set of underdrawing lines, lying approximately 15 cm to the right of the painted bird trap correspond to an initial sketch for the trap (see fig. 392). These lines could otherwise represent branches, a hillock, the outline of a building or even a fallen gate or contraption to hold up drifting snow. White paint strokes in relief following these drawing lines indicate that the artist had started to paint some sort of form in this zone (fig. 397a-c). The artist later filled over the compositional 'gap' on the right with a twisted tree, which is clearly a last-minute addition to the composition as its place was not reserved in the snow paint unlike the other major trees. It serves as a framing element for the composition.

⁷⁴⁵ The curve was dated by Joseph Vynckier using reference curves REF.1, REF.2, REF.3 and REF.4 taken from FLETCHER 1977, pp. 335-52. These curves were advanced by 4 years on the advice of Peter Klein (personal communication between Joseph Vynckier and Peter Klein).

⁷⁴⁶ The earliest possible execution date is calculated using Pascale Fraiture's method rather than Joseph Vynckier's method (on their methods of calculation, see notes 447 and 450 respectively).

⁷⁴⁷ No samples were taken. It is likely that the white ground consists of chalk in animal glue as was typical in the period.

⁷⁴⁸ Bruegel's *Census at Bethlehem* also has two layers of paint in the sky (see Chapter I, Section 7.1.6.c).

⁷⁴⁹ For discussion of the authorship of the *Adoration of the Magi*, see Chapter V, Section 11.1.

10.1.5.a *The place of the underdrawing in the evolution of the composition*

Both in style and in view of the changes during the drawing process, the underdrawing would seem to form part of a creative process, and is far removed from the systematic approach to be expected from a copy or second version. Most important, to forget to draw and reserve the bird trap would be almost unthinkable in a copy, as the motif represents a critical and dominant presence in the final composition. The underdrawing in the MRBAB version of the composition, with its spontaneous nature and minor adjustments, clearly represents an early stage in the evolution of the image, and probably was not based on much more than a rough preliminary sketch.

10.1.5.b *The underdrawing within the context of other underdrawings in works of art by Bruegel the Elder*

Placing the style and character of the underdrawing of the MRBAB's *Winter Landscape with Bird Trap* within the context of Bruegel's larger oeuvre is an important issue when considering authenticity. Owing to its small scale and wintry subject matter, the obvious work for comparison is the *Adoration of the Magi*, 1563 (Winterthur, Reinhardt collection, fig. 461). Infrared reflectography of the latter painting, carried out with an infrared vidicon detected an underdrawing in certain areas only. That the examination was not more revealing is either due to the infrared equipment used or the thickness of the paint layer (figs. 398a-b).⁷⁵⁰ As in the *Winter Landscape*, the drawing medium also appears to be dry, but the lines appear slightly finer and less sketchy. In both paintings, the underdrawing indicates outlines of forms only. As in the *Winter Landscape*, some minor underdrawn elements in the *Adoration* are not carried through to the painting stage, for example, outlines of fallen branches in the ice in the lower right of the composition and an outline of a tree branch near the upper edge of the panel. The nature of the line and the small adjustments during drawing in the *Winter Landscape* resemble underdrawings in some of Bruegel's larger compositions, for example, *Haymaking* (private collection, Hungary),⁷⁵¹ where a hat and the hemlines of skirts have been adjusted during both drawing and painting stages (fig. 399), and the *Tower of Babel* (Vienna, Kunsthistorisches Museum),⁷⁵² in which loose and spontaneous underdrawing comprises many adjustments in the architecture (fig. 400a-b). The freely drawn outline of a wooden log in the *Winter Landscape* can also be compared to a similar detail in the *Census at Bethlehem* (fig. 401a-b), although for the most part, the drawing line in the *Winter Landscape* is coarser than that detected in the *Census*.

Infrared reflectography also detected a black chalk drawing underneath a pen, ink, wash and gouache drawing on blue paper by Bruegel the Elder, *Wooded Landscape with a Distant View toward the Sea* (fig. 402).⁷⁵³ The loose, sketchy style of this underdrawing recalls the underdrawing in the *Winter Landscape*.

On balance, it would seem that the type and style of underdrawing for the *Winter Landscape* is compatible with Bruegel's wider oeuvre.

10.1.6 **Paint Layer**

10.1.6.a *Condition*

The condition of this particular painting heavily influences its visual appearance and merits some brief remarks. Most striking is the overall warm tonality. In the sky, which would certainly not have been yellow originally, this is most likely attributable to an old, yellowed varnish layer. In the distant landscape and frozen pond however, this may be due to a combination of the yellow varnish with an original tinted or yellowed oil underlayer of some kind. A somewhat cooler tonality would be more appropriate to the setting of ice and snow, although large swathes of abrasion in the landscape background are currently conveniently masked by this yellow filter.

In many areas in the far distant landscape, the underdrawing appears to stand exposed on the underlayer, with only thick white impasted highlights and black painted tree trunks remaining in places (fig. 393a-e). The figures on the ice are also heavily abraded and retouched (see below for further discussion, Section 10.1.6.e).

⁷⁵⁰ I would like to thank Dr. Mariantonia Reinhard-Felice, Chief Curator for allowing me to be present for the infrared reflectography study of the *Adoration of the Magi*, carried out by Karoline Beltinger and Mrs. English from the Schweizerisches Institut für Kunstwissenschaft, Zurich on 13 September 1999. The equipment consisted of a Grundig vidicon camera (FA70H Autophon Typ : SN70B).

⁷⁵¹ *Haymaking*, 117 x 161 cm, unsigned, 1565, private collection, formerly Prague, Narodni Galerie v Praze.

⁷⁵² *Tower of Babel*, 114 x 155, signed and dated 1566, Vienna, Kunsthistorisches Museum, inv. 1026.

⁷⁵³ *Wooded Landscape with a Distant View toward the Sea*, 26 x 34.4 cm, pen, ink and wash drawing on blue paper, signed and dated at lower left, '1554 brueghel', The Fogg Art Museum Harvard University Art Museums, The Maida and George Abrams Collection, inv. 1999.132. Infrared reflectography carried out with an Inframetrics InfraCAM SWIR camera by Henry Lie at the Strauss Center for Conservation, Harvard University.

Furthermore, there are large zones of filling and retouching in the frozen river, applied during restoration.⁷⁵⁴ These areas are clearly discernible with the naked eye as they appear whiter and contain larger drying cracks than the original paint (fig. 403). The horizon line and buildings on it are also largely concealed by retouching and painted cracks (fig. 404a-b).

10.1.6.b *Paint layer structure: Use of reserves and evolution of the paint layer*

In general, the painting seems to have been executed rapidly in several stages, with some features painted wet-in-wet.

In the sky, the x-radiograph reveals a light-coloured underlayer applied in thin, vertical strokes. This may correspond to the grey-blue layer lying above the ground (see above, fig. 391a-b). Above the grey-blue layer is a paler layer which corresponds to the top layer of sky paint. This smoothly brushed-on upper layer is criss-crossed with a combination of age cracks and drying cracks and has suffered some abrasion and retouching. The sky seems to form a continuous layer unlike that in a copy by Brueghel the Younger (Antwerp, Mayer van den Bergh museum), where the tree trunks are reserved in the sky paint (see fig. 438a-b).

For the landscape and frozen pond, it is impossible to gauge the original layer structure owing to the lack of cross-sections and abrasion to the paint. Deep snow on the ground is intimated by thick, white paint using a coarse brush. The artist reserved spaces in the snow paint of the right foreground and rooftops for the tree trunks to follow, traces of white snow paint spilling over somewhat into these spaces (fig. 396).

Whilst the snow paint was still soft, the artist indicated smaller trees and details of branches wet-in-wet using a small brush. He employed this technique with particular success in the snowy rooftops of houses (fig. 405a). Icicles were also delicately incised into soft paint (fig. 405b). He then waited for the paint to harden before painting the larger tree trunks to the right, further foliage details, the trap and the figures, for example the two small dark figures to the left of the river bank, applied in thin, fluid paint on top of thick snow paint (figs. 406). Other final details include birds, thick dabs of snow on the branches of trees and further blue icicles (fig. 407, 408a-b).

The artist also concealed certain painted elements at an advanced stage. These are visible today as *pentimenti* owing to the fact that oil paint becomes more transparent on ageing. For example, he narrowed the right edges of the two tree trunks to the immediate left of the bird trap with a thin layer of white paint (fig. 395). The figure with the rope on the left river bank wore a type of hat until the artist decided to paint it out using white snow paint (fig. 409). Just above this figure, a sloping form, which might have been an extension to the lower right corner of the snow-clad rooftop of the house to the left, was concealed by the artist during a later stage of painting (fig. 410a, also visible in x-ray, fig 410b). More significantly, an unidentified form between the bird trap and the right edge of the panel was started in white paint before being abandoned and painted over with brown undergrowth (see above, Section 10.1.5, in discussion regarding underdrawing, figs. 396b, 397a-b).

10.1.6.c *Palette*

The condition of the painting makes a true assessment of the coloration impossible; nonetheless, it can be said that the overall palette is restrained in hue and lacking in sharp contrasts in keeping with the unifying and blanketing effect of fallen snow. Thin, light, opaque, ochre hues tint the houses along the riverbank and transparent browns are used for those closer to the viewer and to the edges of the panel. Hints of red in the draperies of figures and in birds provide signs of life in the wintry landscape.

As mentioned above in relation to condition, the artist may possibly have applied a yellowish or ochre-tinted underlayer to warm the final overall effect. Some of the copies also appear to have a warm-toned underlayer or *imprimatura*, for example, that in the National Museum of Romania in Bucharest,⁷⁵⁵ perhaps in deliberate imitation of the original version's tonality.

No pigment analysis was carried out.

10.1.6.d *Composition and motifs in the context of Bruegel's other winter scenes*

The *Winter Landscape with Bird Trap* has intimate links with the compositions and motifs of other winter scenes by Bruegel the Elder between 1558 and 1566. The lower left quadrant in *Hunters in the Snow*, 1565 (Vienna, Kunsthistorisches Museum) is particularly similar to the lower right zone of *Winter Landscape*, but in reverse,

⁷⁵⁴ The last major restoration treatment was carried out by Van de Weyken before the purchase of the painting by Dr. Delporte in 1927. Old fillings, presumably dating from Van de Weyken's intervention, are clearly visible; these are also distinguishable in a 1935 photograph of the painting in an exhibition catalogue (CAT. BRUSSELS 1935). The yellowed varnish layer probably dates from Van de Weyken's restoration.

⁷⁵⁵ Bucharest, Muzeul National de Arta al României, inv. 8201/235, 38.6 x 56.2 cm (ill. in CAT. MAASTRICHT-BRUSSELS 2001-2, fig. 33, p. 171). The author examined this painting with the naked eye during the *Brueghel Enterprises* exhibition.

and the distant town on the horizon is comparable in both paintings (fig. 411a-b). Several specific motifs in the *Winter Landscape with Bird Trap* are also observed in other paintings: these include the bird trap, an example found in the centre background in *Hunters in the Snow* (fig. 412); the pollarded tree, featured in the lower right of *Gloomy Day*, 1565 (fig. 413, Vienna, Kunsthistorisches Museum); and the hole in the ice, seen in the *Winterthur Adoration of the Magi* (1563), *The Hunters in the Snow* and the *Census at Bethlehem*, 1566 (figs. 388, 414a-d). Links between figure motifs are also common: two small dark figures to the left of the river bank in the *Winter Landscape with Bird Trap* recall similar details in the *Hunters in the Snow* and the *Adoration of the Magi* (fig. 415a-c); children on ox jaw-bone sleds are also present in the *Hunters in the Snow*, the *Census at Bethlehem* and in *Skaters outside St. George's Gate at Antwerp*, a drawing by Bruegel for an engraving (fig. 416a-d).⁷⁵⁶ Further parallels can be made for the children playing with toupees (fig. 417a-c), the game of curling (figs. 418, 417b) and a man walking with a stick (figs. 419a-b). Lastly, a pair of figures in the upper right part of the river in the *Winter Landscape* appears to be a direct inversion of a motif in the upper centre of the upper pond in *Hunters in the Snow* (fig. 420a-b).

10.1.6.e *Characterisation of motifs and handling of paint in comparison with other winter scenes by Bruegel the Elder*

Regarding characterisation of motif, the figures on the frozen river give some cause for doubting their attribution to Bruegel the Elder. Despite similarities in pose to other paintings by Bruegel, many of these characters do not show the subtlety of movement and gesture to be expected from a great master. For example, the stance of a man without skates is unclear; his raised arm signifies neither the gesture of a skater nor that of a player of curling (fig. 421). Sometimes a pose in *Hunters in the Snow* is more logical than its counterpart in the *Winter Landscape*, for example, in the *Hunters*, on the northernmost river bank, a figure helps his unstable skating companion off the ice; in the *Winter Landscape's* corresponding motif, the figure nearest the river bank to the left of a boat either pulls another figure towards him via a rope or a stick or is being pulled further onto the ice himself, the gesture unclear (fig. 422a-b). It is not even possible to ascertain whether the rightmost figure leans or is seated on the boat. Furthermore, in many instances, the corresponding figures in Bruegel the Younger's copies of the *Winter Landscape* are more convincingly executed than those in the original version.

In terms of the handling of paint, several details in the *Winter Landscape with Bird Trap* recalls the manner in which still life details and birds are painted in other works by Bruegel the Elder (figs. 401a-b, 425a-c). The relatively crude painting style for the two children running might possibly recall that of the child scaring the birds in the *Census at Bethlehem* (fig. 422a, 423) and the shorthand manner in which pinkish paint is applied to certain faces is more or less compatible with other works (fig. 424a-b, 422a). Thick dabs of paint for snow on trees, buildings and gates also resemble similar motifs in the *Census at Bethlehem* (fig. 426a-b); the same can be said for the ably-painted wet-in-wet and wet-on-dry icicles (figs. 405b, 407). Nonetheless, the handling of paint in the figures in the *Winter Landscape* is not always entirely typical of the artist. This may be in great part due to restoration, which might also partially explain the clumsy gestures and poses already discussed. However, discounting obvious and probably relatively recent retouching (fig. 427a), the bulk of the red paint used in the figures' draperies has none of the thinness, subtlety and lightness of handling consistent with the work of Bruegel. The red paint often spills over the edges of the figures onto the ice in an artless manner (fig. 422a, 427b-d). The red and grey-black paint used to paint the woman with the child in the centre of the ice also gives rise to doubts, particularly when the motif is compared to a similar one in the *Census at Bethlehem*, although the appearance of clumsiness might possibly be attributable to abrasion (fig. 428a-c). The red paint is sometimes affected by the same drying cracks as the frozen river paint suggesting a far from recent origin. The original paint for the figures is most likely so damaged that the painting was heavily restored at some point, distorting the appearance of the figures to a great extent, although when and why this intervention took place would be impossible to assess without cleaning.

The fact that drapery colours in Bruegel the Younger's copies correspond to the colour scheme of the original version makes it likely the current colours in the latter do indeed reflect their original appearance. To what extent the figures we see today are painted by Bruegel the Elder himself is impossible to verify;⁷⁵⁷ nonetheless, the drapery colours are typical of his work and correspond, albeit more vividly, to those in the backgrounds of the *Census at Bethlehem*, *Adoration of the Magi* and *Hunters in the Snow*.

10.1.7 Conclusion

The dendrochronological dating of the panel support makes it entirely feasible that the MRBAB version of the *Winter Landscape with Bird Trap* was painted within Bruegel's lifetime. The signature compares favourably in style to other inscriptions by Bruegel the Elder although the presence of another, seemingly identical inscription

⁷⁵⁶ Motif of child on ox-bone jaw sled also features in the engraving by Frans Huys, *Skating Scene in Front of the Gate of St. George in Antwerp*, after Pieter Bruegel the Elder, 23.2 x 29.9 cm, c. 1561, Brussels, Bibliotheque royal Albert 1^{er}, cabinet des Estampes.

⁷⁵⁷ The true condition of these figures would probably become clearer during a full restoration treatment.

underneath the signature raises doubts as to its authenticity. Nonetheless, the changes of mind, particularly in relation to the bird trap motif and the spontaneity that characterise the underdrawing and early stages of painting are compatible with other works by Bruegel the Elder as well as being uncharacteristic of a copy. Furthermore, many motifs recall those in other winter scenes by the great master. Certain deft and inspired brushwork betrays the hand of a highly accomplished artist, for example the snow-covered spire with its minute icicles, painted wet-in-wet into the underlying layer. However, a true assessment of the figures on the frozen pond is impossible due to their abraded and restored appearance; whereas in conception and colour scheme they are typical of Bruegel during the mid-1560's, their execution is not always entirely convincing, raising unsolvable questions as to the extent of their restoration and how much is left of the master's touch.

The sketchy nature of the underdrawing, with its various adjustments, suggests that the composition was not fully worked out on a cartoon prior to drawing on the panel surface; a preliminary rough sketch is more likely, probably not to scale. This is important to remember in the consideration of the likely material consulted by Brueghel the Younger to generate his multiple copies.

10.2 The copies by Pieter Brueghel the Younger

There are more copies of the *Winter Landscape with Bird Trap* attributed to Pieter Brueghel the Younger than any other subject (fig. 429a-f). Many of these are faithful versions, most likely painted in Brueghel the Younger's studio but there are also numerous weaker copies, not always succeeding in replicating the original composition in every detail, deriving from Brueghel the Younger's studio or outside. In 1969, Marlier listed fifty versions; more recently Klaus Ertz catalogued one hundred and twenty-seven, of which forty-five he gives to the hand of the master, fifty-one he considers questionable and thirty-one he eliminates from his oeuvre altogether.⁷⁵⁸ At least one further version has appeared on the market since Ertz's complete catalogue of Brueghel's works was published in 2000.

The composition of the *Winter Landscape with Bird Trap* also inspired other Dutch and Flemish artists, testimony to the success of the theme, for example, Jan Brueghel (1568-1625),⁷⁵⁹ Abel Grimmer (c. 1570-before 1618),⁷⁶⁰ Gillis Mostaert (1534-1598),⁷⁶¹ Hendrick Avercamp (1585-1634),⁷⁶² Pieter Gysels (1621-91)⁷⁶³, Matthew Molanus (c. 1590-1645)⁷⁶⁴ and an anonymous Antwerp master recently dubbed the 'Rosenborg master' (fig. 430a-j).⁷⁶⁵ A faithful copy by an unknown artist, signed and dated G[?] VAN HOE[T] F 160[4] also exists (fig. 430j).⁷⁶⁶ However, by far the largest number of copies derives from the workshop of Pieter Brueghel the Younger.

Only seven, possibly eight of Brueghel the Younger's versions of the composition are both signed and dated, the dates ranging from 1601 to 1626.⁷⁶⁷ Eight further copies are signed only,⁷⁶⁸ five carrying the 'P. BRVEGHEL'

⁷⁵⁸ MARLIER-FOLIE 1969, pp. 242-3; ERTZ 2000, vol. 2, pp. 605-30.

⁷⁵⁹ Jan Brueghel the Elder, *Winter Procession*, Milan, Ambrosiana (see ERTZ 2000, vol. 2, pp. 584-5, fig. 493) and a follower of Jan Bruegel the Elder [?], attribution suggested in ERTZ 2000, p. 584; *Winter*, roundel, unknown location, painting illustrated in ERTZ 2000, vol. 2, p. 584, fig. 444, cat 602. Another version of the latter composition is given to Jacob Grimmer (c. 1526-c. 1590) by Georges Marlier and illustrated in MARLIER-FOLIE 1969, fig. 293, p. 452. Klaus Ertz also illustrates a painting seemingly identical to Marlier's fig. 293 as by an unknown master, see ERTZ 2000, fig. 446, p. 550.

⁷⁶⁰ Abel Grimmer, *Winter*, 30 x 43 cm, signed and dated (faint traces of date), Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 4666 and Abel Grimmer, *The Bird Trap*, 50 x 66 cm, see CAT. DE JONCKHEERE 1999-2000, painting also illustrated in ERTZ 2000, vol. 2, p. 584, fig. 492.

⁷⁶¹ Gillis Mostaert, *Winter Landscape with Skating Scene*, 25.5 x 35 cm, Cat. De Jonckheere 1999-2000, cat. 14. This painting, that Klaus Ertz attributes to Mostaert with a question mark (ERTZ 2000, p. 797), includes various Bruegelian motifs, notably the figures with dogs in the lower right, derived from Bruegel the Elder's *Return of the Hunters*, 1565 (Vienna, Kunsthistorisches Museum) and the small tree and figures on the bend of the river from the *Winter Landscape with Bird trap*. Interestingly, the De Jonckheere catalogue entry also mentions that the reverse of the panel carries the mark of Michiel Claessens, Brueghel the Younger's usual panel-maker. Since Mostaert died in 1598, this would be an extremely early example of Claessens' panel stamp, unless of course the attribution to Mostaert is incorrect.

⁷⁶² Hendrick Avercamp, *Winter Landscape*, 29.5 x 46.4 cm, c. 1605?, Vienna, Kunsthistorisches Museum, inv. 140.

⁷⁶³ Pieter Gysels, *Winter Landscape with Bird Trap*, copper panel, 22 x 28.5 cm, National Gallery, Prague, inv. O 10143, attributed to Pieter Gysels by Lubomír Slavíček in Cat. Tokyo, 1990, p. 3. It is one of a pair of paintings depicting the same landscape view in winter and summer. The *Winter Landscape* is illustrated in colour in CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 27, p. 166.

⁷⁶⁴ Matthew Molanus, *Winter Landscape with Bird Trap* (Paris, Gal. D'Art St. Honoré 1999), see ERTZ 2000, p. 585 and fig. 494.

⁷⁶⁵ Jørgen Wadum recently linked the style of a version of the *Winter Landscape with Bird Trap* (Brussels, private collection) with that of fifteen paintings by an anonymous Antwerp artist in the Winter room in the Rosenborg Palace near Copenhagen (WADUM 2002a [forthcoming]). He thus refers to this unknown hand as 'The Rosenborg Master'. Wadum pointed out that The Rosenborg Master's composition of the *Winter Landscape* is somewhat stretched-out compared with Bruegel the Elder and Brueghel the Younger's versions and recalls instead the composition of a small-scale version on copper belonging to the Národní galerie v Praze in Prague, inv. O 10143, 22 x 28.5 cm, illustrated as cat. 27 in the *Brueghel Enterprises* catalogue (CAT. MAASTRICHT-BRUSSELS 2001-2).

⁷⁶⁶ *Winter Landscape with Bird Trap*, 39 x 56 cm, private collection. In addition to a signature and date, there is the inscription 'BREVGEEL INVENTOR'. The painting is illustrated in CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 29, p. 167 and is listed in Marlier-Folie 1969 as no. 17 and in Ertz 2000 as cat. A786.

⁷⁶⁷ Vienna, Kunsthistorisches Museum, inv. 722, 39 x 57 cm, signed and dated, 'P.BRVEGH[.] 1601 (MARLIER-FOLIE 1969, no. 1; ERTZ 2000, cat. E682); Swiss private collection, 40 x 56 cm, signed and dated, 'P.BRVEGHEL 1604' (MARLIER-FOLIE 1969, no. 2; ERTZ 2000, cat. E683); Bucharest, Muzeul National de Artă al României (inv. 8201/235), 38.6 x 56.3 cm, signed and dated, 'P.BRVEGHEL 16[.]

signature locating them before or during 1616, two signed ‘P. BREVGHEL’, implying an execution date during or after 1616,⁷⁶⁹ one incomplete, ‘P..B(R).EG(H)[..]’ and one merely recorded as ‘signed’.

The current study investigates the Antwerp Mayer van den Bergh museum version in detail (fig. 431a-b).⁷⁷⁰ An abraded signature and date were recently discovered during microscopic examination by Astrid Smeets and Catharina van Daalen in the lower right, similarly placed to the inscription in the original version.⁷⁷¹ The signature carries the ‘BREVGHEL’ spelling; the date reads ‘16[-]2’, the missing number probably a ‘2’, as the presence of the letter ‘A’ stamped into the reverse of the panel indicates a manufacturing date of 1621-22 (see below, ‘Branding’, Section 10.2.1.d).

10.2.1 Panel support

The Mayer van den Bergh version of the *Winter Landscape with Bird Trap* is painted on oak panel, as are the vast majority of paintings attributed to Brueghel the Younger and his studio of this subject.⁷⁷²

10.2.1.a Panel size

The panel measures 38.4 x 56.5 cm, making it approximately a centimetre larger in both dimensions than the original version by Pieter Bruegel the Elder. A review of other copies in the series shows that this is the standard format used for the wood supports, plus or minus a few centimetres.⁷⁷³ The dimensions of the Mayer van den Bergh copy correspond to 1' 4 " x 2 Antwerp feet.⁷⁷⁴ This format was frequently employed in Brueghel's work, for example in the series' of copies of the *Wedding Dance in the Open Air*, *Adoration of the Magi* and *Visit to the Farm*. It may well conform to a standard, commercially available panel size in the seventeenth century.⁷⁷⁵ That the Mayer van den Bergh panel still maintains its original thickness of approximately 4 mm as is proven by the survival of the brand marks of the Antwerp Guild of Saint Luke on the reverse (fig. 432b).

10.2.1.b Panel construction and dendrochronology

The panel support consists of a single, broad plank, horizontally aligned in keeping with the landscape format of the painting. Panels made up of one board only are not unusual in Brueghel's work. Examples examined by the author include the *Wedding Dance in the Open Air*, 40 x 55.5 cm (Ghent, Museum voor Schone Kunsten), the *Peasant Lawyer*, 54.5 x 87.5 cm (Groeningemuseum, Bruges) and the *Return from the Kermis*, 48.5 x 78.5 cm

(MARLIER-FOLIE 1969, no. 4; ERTZ 2000, cat. E684; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 33); London, Christie's 04.07.1997, 38.6 x 56 cm, signed and dated, 'BREVGHEL 1622' (not listed in MARLIER-FOLIE 1969; ERTZ 2000, cat. E685); Berlin, unknown auction, 1925, n° 24, 40 x 57 cm, dated 1625 (not listed in MARLIER-FOLIE 1969; ERTZ 2000, cat. E686); Belgian private collection (bequest of former Coppée collection), 40 x 56 cm, signed and dated, 'P. BREVGHEL 1626' (MARLIER-FOLIE 1969, cat. 3; ERTZ 2000, cat. E687); Brussels, Gal. Arens, 1926, 37.5 x 56 cm, signed and dated, (date not specified in catalogue) (MARLIER-FOLIE 1969, no. 5; ERTZ 2000, cat. F731 (according to Ertz, someone says that this painting is signed and dated). A further copy: Los Angeles, Gal. Guttman, 51 x 61 cm (MARLIER-FOLIE 1969 no. 46; ERTZ 2000, cat. A797) is also signed and dated, 'P. BRUEGHEL 1607' but Ertz excludes it from Brueghel the Younger's studio. The recently discovered signature and date on the excellent Mayer van den Bergh museum copy places it amongst this small category of signed and dated versions by Brueghel the Younger. Details taken from ERTZ 2000, vol. II, pp. 605-630 and MARLIER-FOLIE 1969, pp. 242-3.

⁷⁶⁸ Amsterdam, Gal. Watermann before 1889, 36.6 x 57.6, signed, 'P. BRVEGHEL' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E690); Brussels, Gal. Finck, former collection of de Kerckhove D'Ousselghem, Vosselare, 40 x 57 cm, signed (MARLIER-FOLIE 1969, no. 49; ERTZ 2000, cat. E693); France, private collection, 37 x 56 cm, signed, 'P. BRVEGHEL' (MARLIER-FOLIE 1969, no. 12; ERTZ 2000, cat. E700); Madrid, Prado, inv. 2045, 40 x 57 cm, signed, 'P. BRVEGHEL' (MARLIER-FOLIE 1969, no. 6; ERTZ 2000, cat. E708); Paris, Ader Tajan, 18 December 1991, lot. 37, 39 x 57 cm, signed, 'P. BREVGHEL' (not listed in MARLIER-FOLIE 1969; ERTZ 2000, cat. E715); Toledo, Museum of Art, inv. 54.77, 38.7 x 56.6 cm, signed, 'P. BRVEGHEL' (MARLIER-FOLIE 1969, no. 7; ERTZ 2000, cat. E721); Paris, Gal. Gombert, 1999, 39 x 57, signed, 'P. B(R).EG(H)[..]' (not listed in MARLIER-FOLIE 1969; ERTZ 2000, cat. E717a); private collection, 39.5 x 57 cm, signed, 'P. BREVGHEL' (MARLIER-FOLIE 1969, no. 19; ERTZ 2000, cat. E717); New York, Gal. Koetser, David M. after 1955, 40 x 55 cm, signed, 'P. BRVEGHEL' (MARLIER-FOLIE 1969, no. 8; ERTZ 2000, cat. E711); Paris, Gal. De Jonckheere before 1990, 38.5 x 56.5, signed (MARLIER-FOLIE 1969, no. 10; ERTZ 2000, cat. E716).

⁷⁶⁹ ERTZ 1998, p. 19.

⁷⁷⁰ Antwerp, Mayer van den Bergh, inv. 55, museum cat. 145, 38.4 x 56.5 cm, signed and dated, 'P. BREVGHEL/ 16[-]2' (after Astrid Smeets and Catharina van Daalen, very faint). The painting was acquired by Fritz Mayer van den Bergh in Cologne in 1894 (NIEUWDORP and KOCKELBERGH 1996, pp. 13-14). According to Georges Marlier, the provenance is as follows: Coll. John. Bapt. Ciolina-Zanolli, Cologne; Coll. Vve Franzisca van Clavé-Bouhaben, Cologne sale, 4 juin 1894, n 205, as 'Brueghel de Velours', 130 fr; originally from Duschnitz coll. in Vienna (MARLIER-FOLIE 1969, p. 244, no. 16). The painting is Klaus Ertz's catalogue number E692 (ERTZ 2000) and *Brueghel Enterprises* exhibition catalogue number 22 (CAT. MAASTRICHT-BRUSSELS 2001-2).

⁷⁷¹ Microscopic examination carried out by Astrid Smeets and Catharina van Daalen as part of their research at the Bonnefantenmuseum during the Maastricht leg of the *Brueghel Enterprises* exhibition, see SMEETS 2002 (forthcoming).

⁷⁷² Of the few copies on copper and canvas, none are firmly attributed to Brueghel the Younger. For these copies, see ERTZ 2000, cats. F732, F758 (MARLIER-FOLIE 1969, p. 250, no. 3), A781, A782, A785 (MARLIER-FOLIE 1969, p. 250, no. 1), A790 (MARLIER-FOLIE 1969, p. 245, no. 27), A791 (MARLIER-FOLIE 1969, p. 245, no. 28), A793, A795, A796a, A804 (MARLIER-FOLIE 1969, p. 247, no. 42).

⁷⁷³ ERTZ 2000, pp. 605-30.

⁷⁷⁴ The Antwerp foot is 11 inches or 28.68 cm (VEROUGSTRAETE-MARCO and VAN SCHOUTE 1989, p. 76).

⁷⁷⁵ See discussion of new 1617 regulations on panel formats in Chapter I, Section 7.2.1.

(Brussels, Musées Royaux de Beaux-Arts de Belgique).⁷⁷⁶ Interestingly, Pascale Fraiture's recent dendrochronological research shows that the wood used to make the panels for the *Winter Landscape with Bird Trap* and the aforementioned *Wedding Dance in the Open Air* and *Peasant Lawyer* originates from local sources rather than Baltic region.⁷⁷⁷ This might come as somewhat of a surprise in view of currently known dendrochronological data on Flemish painting from the fourteenth to mid-seventeenth centuries. However, Fraiture's recent research on a range of panels by Brueghel the Younger during the *Brueghel Enterprises* exhibition shows that the use of local wood was indeed his preferred choice for small format paintings. Of seven versions of the *Winter Landscape* analysed by Fraiture, only one panel was found to be made from Baltic wood.⁷⁷⁸ Four out of five of Brueghel the Younger's copies of the *Adoration of the Magi* and two further small format versions of the *Peasant Lawyer* were also found to be painted on locally produced wood.⁷⁷⁹ On the other hand, larger works tend to be painted on panels made with Baltic oak.⁷⁸⁰

In terms of dating, Fraiture identified 1579 as the terminus post quem for the Mayer van den Bergh panel and therefore calculated 1592 as the earliest date for the execution of the painting.⁷⁸¹ This is considerably in advance of the date inscribed on the painting, 16[2?][2].

10.2.1.c *Tool marks*

The panel is in excellent condition attesting to the high quality of the wood. There is a slight warp of 0.5 cm. No tool marks are distinguishable on the surface of the painting, the result of careful smoothing down of the panel prior to application of the ground layer. The lower and lateral reverse edges are bevelled, most likely an original adaptation of the panel to facilitate framing (fig. 432a). There are no other obvious tool marks on the reverse of the painting.

10.2.1.d *Branding*

Brand marks characteristic of the Antwerp Guild of Saint Luke are burned into the reverse of the painting (fig. 432b). This indicates the panel underwent a quality control by the Dean of the guild after its manufacture, before the application of ground and paint.⁷⁸² The branding is sufficiently clear to identify a castle and two hands, markings characteristic of the Antwerp guild. Jørgen Wadum, who has identified the marks of many typical irons used by the guild, correlates the brand marks with his iron number 1, suggesting a date for the panel of between 1617 and 1627. A further clue as to the date of the support is the letter 'A', also heat-branded into the reverse of the panel (fig. 432c).

Van Damme first suggested that the 'A' brand refers to a particular year⁷⁸³ and Wadum's later research on panels signed and dated by Rubens found that it represents the year 1621-22.⁷⁸⁴ Interestingly, Wadum also discovered another of Brueghel's copy of the *Winter Landscape*, signed and dated 1622, also marked with the Antwerp brand and the 'A' mark on the reverse.⁷⁸⁵

The presence of guild marks on the back of the panel also suggests that the panel was not made in Brueghel's studio but by one of an increasing number of specialised panel-makers for easel painting. Before the new guild

⁷⁷⁶ See Chapters VII, VI and IX respectively. The dendrochronology on the Ghent *Wedding Dance* was first reported in CURRIE 2001a, p. 122 and note 3.

⁷⁷⁷ All dating and information regarding the origins of the wood from Fraiture's analysis in unpublished reports, private communications and FRAITURE 2002 (forthcoming). Dendrochronology was not carried out on *Return from the Kermis*.

⁷⁷⁸ These seven versions were analysed by Fraiture as part of her research on the *Brueghel Enterprises* exhibition (FRAITURE 2002 [forthcoming]). These are Antwerp, Museum Mayer van den Bergh [cited note 770]; Wrocław (Breslau), Muzeum Narodowe, inv. VIII-1764, 37 x 58 cm (CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 23; not in MARLIER-FOLIE 1969 or ERTZ 2000); The Netherlands, private collection 39 x 56 cm, inscribed in lower right, 'BREVGEEL INVENTOR and G[?] VAN HOE[T] F 160[4]' (CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 29; MARLIER-FOLIE 1969, no. 17; ERTZ 2000 A786); The Hague, private collection, 41.2 x 57 cm, signed, 'BRVEGEL', marked 'BR' (CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 30; possibly MARLIER-FOLIE 1969, no. 26; not in ERTZ 2000); Private collection, 51 x 67 cm (CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 31; not in MARLIER-FOLIE 1969; ERTZ 2000, cat A799); Private collection, 39.4 x 57.4 cm, (CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 32; MARLIER-FOLIE 1969, p. 247; ERTZ 2000, cat. F738); Bucharest, Muzeul National de Arta al Romaniei [cited note 767]. Three of these examples are unlikely to be from Brueghel the Younger's workshop. These are the Wrocław and two privately owned versions (CAT. MAASTRICHT-BRUSSELS 2001-2, nos. 23, 29, 31). The only panel not found to be made from local wood is the Bucharest version.

⁷⁷⁹ See Appendix 2. All these paintings are attributed to Brueghel the Younger.

⁷⁸⁰ See Appendix 2.

⁷⁸¹ To the date of the last heartwood ring, Fraiture adds eleven years for the missing sapwood rings, the minimum number for local wood, plus two years for seasoning. Seasoning for local wood estimated at between two and eight years in the sixteenth and seventeenth centuries (this estimate results from studies carried out by J. Bauch and D. Eckstein, University of Hamberg, cited in Fraiture's unpublished dendrochronology report on the Ghent *Wedding Dance in the Open Air*, 12 May 1999).

⁷⁸² See WADUM 1998a for discussion of the use of the Antwerp brand.

⁷⁸³ Van Damme found the 'A' mark associated with a clover mark in *Marriage at Cana*, anon., cat. 26, Nokere, coll. Baron Em. Van Zuylen van Nyevelt, and surmised that the letter was not a panel-maker's mark but probably a date, see VAN DAMME 1990, fig. 4, p. 204.

⁷⁸⁴ WADUM 1998a, p. 198. These dated Rubens sketches, now in the Alte Pinakothek in Munich, were mostly commissioned in 1621.

⁷⁸⁵ *Winter Landscape with Bird Trap*, signed and dated 1622, New York, private collection.

rules of 1617,⁷⁸⁶ the Antwerp brand is only occasionally found on the reverse of panels, for example Brueghel's *Good Shepherd*, signed and dated 1616.⁷⁸⁷

10.2.2 Ground layer

Like Bruegel the Elder's original version, the wooden support of the Mayer van den Bergh *Winter Landscape with Bird Trap* is primed with a white ground layer extending right up to the edges of the panel. After application over several sessions,⁷⁸⁸ the dried ground layer would have been smoothed down ready for painting.⁷⁸⁹ The ground layer is relatively thin and the horizontal wood grain of the panel surface still clearly visible in raking light. It is in excellent condition and there is no loss of adhesion to either the panel support or the paint layer. Scanning electron microscopy identified the ground as chalk (calcium carbonate) and high pressure liquid chromatography identified a glue medium.⁷⁹⁰ This also proved to be the case in other paintings by Brueghel the Younger where analysis was carried out.

10.2.3 Imprimatura

Directly above the ground lies a thin, grey, medium-rich, streaky priming or *imprimatura* layer. This is visible with the naked eye through light areas of paint and can be clearly distinguished over the entire surface of the painting in the infrared reflectogram (figs. 433, 435a-c.). It can occasionally be seen exposed in the spaces between two fields of paint (fig. 433c). It has been applied with sweeping horizontal brushstrokes in most places, in keeping with the landscape format of the painting and in vertical strokes near the right edge and parts of the lower left edge. The vertical orientation of the latter strokes was presumably to facilitate application as the brushmarks do not correlate with any particular compositional form. Examination of cross-sections from the sky and water with the optical and scanning electron microscopes reveal a simple mixture of charcoal,⁷⁹¹ lead white and white chalk in the *imprimatura* (fig. 434a-c). To give an idea of the possible medium of the layer, a cross-section was stained with a freshly-made solution of acid fuchsine to test for the presence of protein. Although the ground layer stained positively for protein, the *imprimatura* did not react with the stain at all, making an oil-based medium more likely (fig. 434b).⁷⁹² The priming layer appears to have impregnated the ground to some extent and as a result the transition between the two layers is only possible to distinguish with the scanning electron microscope.

The grey tone of the *imprimatura* would have provided a useful neutral tinted surface on which to paint. In this case, the grey priming layer also contributes to the overall cool tonality of the snowy landscape, as it is faintly visible through the thin paint layer. Its streaky appearance also serves to lend vibrancy to the painting although in certain places, such as the trees, its dominant underlying horizontal strokes flatten slightly the contours of their trunks (fig. 433b). The *imprimatura* is slightly more noticeable today than it would have been when the work was freshly painted owing to the increased transparency of the oil medium on aging.

The streaky *imprimatura* in the Mayer van den Bergh *Winter Landscape with Bird Trap* is entirely characteristic of Brueghel the Younger's work.⁷⁹³ A further signed copy of the same subject examined at IRPA (private collection) has a similar, carbon-containing, horizontally applied, streaky priming layer, clearly visible with the naked eye and in the infrared photograph (fig. 433d).⁷⁹⁴ A cross-section of the sky from the latter painting reveals the layer as thin, medium-rich and composed of lead white, chalk and black, splintery particles typical of charcoal (fig. 434c). As with the Mayer van den Bergh version, a staining test for protein produced a negative result making an oil medium more probable (fig. 434d).⁷⁹⁵ Hélène Verougstraete-Marcq also describes a *Winter Landscape*, signed by Brueghel the Younger, as having a grey, streaky *imprimatura* covering the entire surface of the panel.⁷⁹⁶ Grey priming layers, often with a streaky character, are not only confined to Brueghel's winter scenes and have been frequently detected in both small and large format paintings by the artist, for example in

⁷⁸⁶ For a discussion of these new rules, see Chapter I, Section 7.2.1.a.

⁷⁸⁷ See Chapter X, Section 16.1. For more exceptions, see WADUM 1998, pp. 181-2 and WADUM 1993, p. 98.

⁷⁸⁸ The cross-sections show at least two layers of ground.

⁷⁸⁹ See note 461 regarding the historical use of 'mare's tail', for this process.

⁷⁹⁰ HPLC by Karijn Lamens at IRPA under the direction of Janka Sanyova and Jan Wouters. The closest match was aged collagen (match 0.994039).

⁷⁹¹ The splintery, elongated appearance and irregular size of the black particles suggests the use of charcoal. SEM analysis of the black particles did not identify phosphorus, which eliminates the possibility of bone black.

⁷⁹² Due to its extreme thinness, it is impossible to separate the *imprimatura* layer from the paint and ground layers for medium analysis by reliable methods such as gas chromatography/gas spectrometry (GC/MS) or HPLC. Staining tests were carried out by Cécile Glaude at IRPA under the supervision of Janka Sanyova.

⁷⁹³ See discussion of streaky *imprimatura* and its history in Chapter I, Section 7.2.4.

⁷⁹⁴ Private collection, 39.5 x 57 cm, signed, 'P.BREVGHEL' (MARLIER-FOLIE 1969, no. 19; ERTZ 2000, cat. E717; Cat. Antwerp 1998, no. 132). This painting came to IRPA in 1982 for examination. A sample from the sky was taken and mounted by Leopold Kockaert; this sample was recently re-examined by the author and analysed with SEM.

⁷⁹⁵ Staining test carried out by Cécile Glaude at IRPA under the supervision of Janka Sanyova.

⁷⁹⁶ Brussels, private collection, 30.4 x 54.3 cm (VEROUGSTRAETE-MARCO and VAN SCHOUTE 1987, p. 24 and figs. 25-6).

the Ghent version of *Wedding Dance in the Open Air*,⁷⁹⁷ the MRBAB copy of *Kermis with Theatre and Procession* and the Groeningemuseum copy of *Sermon of Saint John the Baptist*.⁷⁹⁸

Jørgen Wadum recently pointed out the use of a streaky *imprimatura* in a version of *Winter Landscape with Bird Trap* by the ‘Rosenborg Master’.⁷⁹⁹ In this painting, the *imprimatura* was applied over the entire surface of the painting as a routine measure, without exploitation of its potential aesthetic qualities as a mid-ground and unifying layer; it is entirely masked by the opaque paint layers above and only remains visible in infrared light.

10.2.4 Underdrawing

Visible in places with the naked eye as dark greyish lines, the underdrawing in the Mayer van den Bergh panel was revealed in its entirety using infrared reflectography (fig. 435a-c). No cross-section includes the drawing layer so it is not possible to establish whether it lies above or below the *imprimatura*; however, samples containing underdrawing from two different paintings of different formats by Brueghel the Younger show the underdrawing clearly above the priming, suggesting this may have been Brueghel’s usual layer structure.⁸⁰⁰

As with most underdrawings in Brueghel the Younger’s paintings, the drawing lines are thin, regular, and skip the texture of the underlying layer in places, suggesting a dry drawing medium rather than an ink or paint. That the drawing lines are so clearly visible in infrared implies a carbon-based substance; the neatness and even quality of the lines exclude the likelihood of charcoal and point to a material such as natural graphite or black chalk, which both leave a greyish mark.⁸⁰¹

As would be expected from a copy, the composition of the *Winter Landscape with Bird Trap* is precisely detailed in the underdrawing. This is in marked contrast to the underdrawing of the original version by Bruegel the Elder, which is more cursory and spontaneous. In the copy, only the outlines of forms are marked and there are no indications of shade or contour. The drawing lines are mostly uniform, but show light variations in density and thickness and taper slightly in places. Nonetheless, outlines of buildings are often wobbly. There is a rare correction during drawing for the diagonal of the roof gable of the pink house in the centre-left. Here, the artist straightened his initial outline and the straighter line has been followed in the paint layer. Buildings on the distant horizon are rendered quickly with short lines, leaving small gaps between strokes. Each tiny figure on the frozen pond is indicated, often briefly. Trees on the horizon are noted with short vertical and diagonal dashes and trees in the distant landscape have brief outlines for their trunks and short dashes for upper branches. With its emphasis on outlining and little or no indication of tone or contour, the underdrawing is similar in nature to that observed in many other paintings by Brueghel the Younger and/or his workshop, for example, in the privately owned copy of the *Winter Landscape* discussed above in relation to the *imprimatura* and in copies of the *Adoration of the Magi* (see figs. 474a-b).

Small adjustments in outline between the drawing and painting stages can be seen in a few places, for example, the seated figure in the small boat to the centre left of the ice, whose left profile is painted a few millimetres to the right of the drawn outline and the raised left arm of the figure to the left of the mother and child motif, which is slightly shorter and positioned higher in the underdrawing than the paint layer (figs. 436a-b).

Curiously, the *Holy Family on the Flight to Egypt* motif is not underdrawn and not reserved in the surrounding paint; neither is the figure of a man leading a loaded mule across the bridge (fig. 437a-b).⁸⁰² These two motifs do not feature in Bruegel the Elder’s original version. This implies that if Brueghel and his assistants habitually copied the subject from a standard model or cartoon, it is more than likely these figures were not part of the latter. They were probably an afterthought during painting on the whim of either Brueghel himself or a particular client, perhaps to impart a religious overtone to the scene. It was recently suggested that the Holy Family group was added some time after the completion of the painting, owing to their large scale versus the other figures and their allegedly different painting style.⁸⁰³ However, this motif, as well as the figures on the bridge, has been noted in at least five other copies of the composition.⁸⁰⁴ Furthermore, one of these, from a

⁷⁹⁷ For a detailed account of the techniques of this painting see CURRIE 2001a and this thesis, Chapter VII.

⁷⁹⁸ See Chapters VII, X and III respectively.

⁷⁹⁹ WADUM 2002 (forthcoming).

⁸⁰⁰ The *Massacre of the Innocents* (Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 832) and the *Wedding Dance in the Open Air* (Ghent, Museum voor Schone Kunsten, inv. 1914 C-J), see Chapter VII, Section 13.1.4.a, figs. 567-9.

⁸⁰¹ For discussion on the characteristics and availability of these two materials, see Chapter I, Section 7.2.5. See also author’s practical reconstructions, Appendix 1.

⁸⁰² The black tonality of the man’s legs in the infrared reflectogram is due to the absorption of carbon in the finely applied black strokes of paint, not the underdrawing.

⁸⁰³ SMEETS 2002 (forthcoming).

⁸⁰⁴ Belgian private collection 1995, bequest of the former Coppée Collection [cited note 767]; Rome, coll. Hartmann, Jorgen B., 1954 (ERTZ 2000, cat. E691, p. 607); London, Phillips, 6 April 1995, no. 55, 41 x 57 (MARLIER-FOLIE 1969, cat. 48; ERTZ 2000, cat. A794); London, Christie’s 8 December 1995, no. 9, 39.1 x 56.8 (MARLIER-FOLIE 1969, no. 18; ERTZ 2000, cat. E704); London, Christie’s 4 July 1997, no. 32, 38.6 x 56 cm, signed and dated, ‘BREVGHEL 1622’ (ERTZ 2000, cat. E685); there also seem to be figures on the bridge (but no Holy couple in the centre left) in: Canada, private collection, 1977, 41 x 56 (MARLIER-FOLIE 1969, no. 48; ERTZ 2000, cat. E694).

private collection in New York, is signed and dated 1622, and, like the Mayer van den Bergh version, stamped with an 'A' on the reverse.⁸⁰⁵ It is possible that the latter paintings were executed side-by-side, in view of their similar composition and date. The Holy Family motif was most likely added whilst the painting was still in the Brueghel studio, perhaps by another hand within the workshop. Examination of the New York version would be necessary to judge whether these extra motifs are executed in a similar painterly style in both paintings, which might suggest the same hand was responsible.

10.2.5 Paint layer

The excellent condition of the paint and varnish layers in the Mayer van den Bergh *Winter Landscape with Bird Trap* facilitates assessment of the painting technique.

10.2.5.a Use of reserves

As in Bruegel's original version, Brueghel the Younger reduced the number of paint layers to a minimum, in part by the use of reserves. Painting the sky and snow first, he left spaces for the major forms to follow, using the underdrawing as a guide. There are reserves for all major tree branches and trunks, the bird trap, the wooden frame on lower left near the edge of the river and the small figure to the right of the Holy couple. Examination with the naked eye and with the aid of the x-radiographs show that the reserves in this copy are neater and more extensive than those in the MRBAB version – helping strengthen the argument that the latter is the first version of the composition (fig. 438a-b, 439a-d, 440a-d). A telling example is provided by the bird trap motif, neither underdrawn nor reserved in the original but clearly drawn and reserved in the copy. Another such motif is the twisted tree to the right, a late addition to the original but clearly underdrawn and reserved in the copy (fig. 441a-b).

The Holy Family motif and the figure on the bridge are not reserved in the Mayer van den Bergh copy, hardly unexpected in view of the absence of underdrawing for these forms. Brushstrokes from the thick underlying snow paint can be clearly distinguished through the thin paint of the Holy Family. As in the original version, the small-scale figures on the frozen pond are not reserved either, but the reasons for this are doubtless more mundane. Reserving such small gaps whilst painting the ice would have interrupted the even flow of the brushwork. The underlying ice paint can be glimpsed through certain figures suffering slight abrasion, such as the red paint of the trouser hose of the figure in the lower left corner, or through thinner areas of paint, such as in the white headdress and blue drapery of the child on the ox-jaw sled (fig. 442, for original version see fig. 416a).

10.2.5.b Palette

The painting's overall coolness is enhanced by the expanses of white, snow-covered earth, the clear pale blue sky and the green frozen river. Bright red touches in figures and birds and warm earth colours for houses provide welcome relief in an otherwise bleak winter scene.

10.2.5.c Paint layer structure and pigment analysis

The artist carefully modulated his tones and colours to create harmonious and translucent effects, using only one or two thin paint layers. This is clearly revealed in cross-sections from the blue sky, frozen river and brownish-red paint of a house which display single layers of paint above the *imprimatura* and ground (fig. 434a-d).⁸⁰⁶ Scanning electron microscopy was used to identify the blue pigment in the sky as smalt, a cobalt-containing glass. Likewise, in the sky of a privately owned copy of the *Winter Landscape with Bird Trap*,⁸⁰⁷ smalt was also identified as the main colouring matter.⁸⁰⁸ The frozen ice colour was found to contain a small amount of azurite, in addition to smalt. A sample from the reddish-brown colour of the house paint revealed the presence of an iron oxide pigment; no vermilion was detected.

10.2.5.d Handling of paint

The style of brushwork in the Mayer van den Bergh panel is precise and confident, if somewhat formulaic in character – hardly surprising in view of the number of copies of the composition that Brueghel and his studio must have already produced by this time. Certain fine tree branches are painted wet-in-wet into the underlying layer, such as distant trees on the horizon and dark tree branches profiled against snowy rooftops (fig. 443). The town on the horizon was painted wet-in-wet into the last layer of whitish snow paint (fig. 444). For most of the

⁸⁰⁵ WADUM 2002 (forthcoming).

⁸⁰⁶ Cross-sections were only taken from the extreme edges of the painting.

⁸⁰⁷ See note 794 for details on this painting.

⁸⁰⁸ Elements identified in smalt particles of the privately owned copy with SEM: As, Co, Fe, Ni, K, Ca; elements identified in smalt from the Mayer van den Bergh version with SEM: As, Co, Fe, Ni, K, Ca. This similarity in composition may indicate a common source for the pigment.

intricate tracery of tree branches, as well as the thick dabs of white snow paint the artist waited until the background was dry before continuing (fig. 445). This also applies to figures, which are painted on top of dry paint and enlivened by the addition of tiny impasted highlights for facial features, white aprons and head-dresses (figs. 442). Light blue icicles, a trademark of Brueghel the Younger's studio, and also seen in his father's original version, are suspended from various buildings (fig. 448a-c).

10.2.6 Copy process

10.2.6.a *Model for the copies*

Did Brueghel the Younger actually see his father's MRBAB version? Could his model have been instead a drawing by his father handed down through the family, made either prior to or after the original painting?⁸⁰⁹ Unfortunately, as there are no specific references to the whereabouts of Bruegel the Elder's MRBAB version in sixteenth and seventeenth century documents, it is impossible to prove through documentary sources that his son had access to it.⁸¹⁰ Cross-comparison of the original version with the copies goes some way to elucidating the problem.

10.2.6.b *Infrared reflectography and x-radiography of the original version*

As demonstrated above, the technical examination of the Bruegel the Elder's *Winter Landscape with Bird Trap* confirms its status as the original version of the theme. The artist clearly reworked the composition during both the underdrawing and painting stages, the most striking change located near the centre right edge where an unidentified motif was drawn, the zone roughly covered over with white paint and the subsequent compositional 'gap' filled by a twisted tree. The bird trap motif, so crucial for the interpretation of the image, appears to have been added as an afterthought during painting, as the motif is neither underdrawn nor reserved – unless of course the abandoned motif to the right is in fact a rough indication of the trap. Crucially, in all the copies, the final paint layer of the original version is reflected; in the case of the Mayer van den Bergh and privately owned copies, the final image of the original version is clearly present at the underdrawing stage – the bird trap and twisted tree are present whilst the suppressed motif on the right is missing.

The overall sketchy nature of the underdrawing in the original version, comprising several small adjustments, suggests that it was not based on a detailed preliminary scaled cartoon; if anything, a rough sketch is indicated. This implies that Brueghel the Younger did not have recourse to a cartoon of the composition made prior to the original painting that he could have used for the transfer process and subsequently adjusted during underdrawing in line with the final painted image, as was discovered for the *Battle between Carnival and Lent*.⁸¹¹

Furthermore, in the Mayer van den Bergh and at least one privately owned version, the signature occupies the same location as in the original, in the lower right corner.⁸¹²

Taken together, this evidence suggests that Brueghel the Younger based his copies on the original painting or replica of it rather than a preliminary compositional drawing by his father.

10.2.6.c *Scale and correspondence of motifs in original and copies*

Further evidence that the copies are based on the composition of the original painting rather than a preliminary drawing is provided by a test of scale and correspondence of motifs. The author's tracing of the painted composition of the Mayer van den Bergh copy was placed over Bruegel the Elder's original painting (fig. 446a, 60c).⁸¹³ This revealed a 100% correspondence in scale between the two compositions; motifs are also located in the same places, with minor exceptions. Similar results were obtained when a traced image of a photographic reproduction of the aforementioned privately owned copy by Brueghel the Younger was laid over a reproduction of the original version (fig. 446b).⁸¹⁴ The alignment in both cases is particularly close in the figures and the central group of houses. Where Bruegel senior modified the outlines of certain motifs during underdrawing or painting, for instance the church spire, whose lower profile was moved down during underdrawing and the

⁸⁰⁹ Georges Marlier suggests that Brueghel the Younger probably did not have had the original version in front of him when he made his copies, see MARLIER-FOLIE 1969, p. 243.

⁸¹⁰ For a systematic survey of documentary sources referring to paintings by Bruegel the Elder, see ALLART 2001, pp. 46-57.

⁸¹¹ See Chapter II for full discussion of this issue.

⁸¹² The catalogue of the 1998 Brueghel-Breughel exhibition (CAT. ANTWERP 1998) states that in the case of catalogue number 132 [cited note 794], the signature is in the lower right. Other paintings where signatures have been observed in the lower right by the author include *Bridal Procession* (fig. 661c), *Sermon of Saint John the Baptist* (fig. 323c) and larger format *Massacre of the Innocents* (fig. 659d). The signature in the large format *Adoration of the Magi* is also located in the lower right (fig. 497b). In the latter three cases, the signature in the original version is also located in the lower right corner.

⁸¹³ This was done in the Musées Royaux des Beaux-Arts de Belgique in Brussels, the glazing having been removed.

⁸¹⁴ This version is cited in note 794. As the author did not examine this painting personally, the infrared photograph of the painting (unframed) was printed to scale according to the measurements in the IRPA dossier and the underdrawing of the composition traced onto transparent film. The outlines of the painted composition were traced where the underdrawing was not distinguishable.

bottoms of tree trunks on the right, narrowed during application of the snow paint, the copies correspond to the final painted outlines. Certain minor motifs do not correspond precisely however, such as the distant town on the horizon (although this is largely retouched in the original), the upper parts of trees, certain branches of bushes in the lower right, the birds and the upper profile of the bird trap.

These minor differences are not significant enough to influence the overall interpretation of the evidence, namely that the copies must have been made after Bruegel the Elder's final painted composition. Furthermore, the extremely close correspondence in the positioning of motifs suggests that a cartoon was used for the transfer process within Brueghel the Younger's studio (fig. 446d-e, see below, 'Transfer of cartoon to the copies', Section 10.2.6.h.ii).

10.2.6.d *Palette and handling of paint compared to the original version by Bruegel the Elder*

There are strong similarities between the colour scheme in the original version⁸¹⁵ and the copies,⁸¹⁶ particularly in the architecture where the delicate pinks, ochres, green tones and browns correspond especially well (figs. 447a-c, 448a-c). The drapery colours are also the same (fig 449a-c).⁸¹⁷

In terms of handling of paint, there are many points in common between the original and the copies although the latter are clearly more mechanical, less spontaneous and less painterly. Examples of similar brushwork include the delicate painting of birds on a dry underlayer (450a-c, 451a-c); in the church, the use of a light base colour followed by grey-blue lines for shadows and opaque notations for brickwork (fig. 450a-c); the delicate tracery of tree branches, painted using fine, semi-transparent brown strokes, and highlighted by white 'snow' paint on a dry underlying layer (fig. 452a-d); textured icicles on a dry base (fig. 448a-c); the bird trap, painted in light brown opaque paint, the planks delineated with fine dark, liquid lines (fig. 453a-d); snow-covered bushes, using thick textured blobs of paint for the snow on the uppermost leaves, (fig. 454a-d); the use of vertical strokes to indicate rushes along the river bank (fig. 455a-d) and the employment of thick white paint for fallen snow on the ground (fig. 456a-d).

It seems unlikely that Brueghel the Younger could have arrived at such similar subtle colours and paint handling as in his father's version without having seen and copied it himself. On both counts, the copies in this series are far closer to the original version and to each other than in the *Census at Bethlehem*, *Flemish Proverbs* and *Adoration of the Magi*, where many factors reinforce the conclusion that Brueghel the Younger could not have seen the original paintings.⁸¹⁸

10.2.6.e *Minor differences between Bruegel the Elder's version and the copies*

At first glance, it would seem that Brueghel the Younger's copies follow the original composition in every respect, down to the smallest detail. A more attentive examination reveals two small differences. The most obvious of these is an additional small tree in the original, located on the bend of the frozen river on its left bank (fig. 457a-c). This motif is omitted in all the copies, including those clearly outside the Brueghel workshop. Microscopic examination of the original version shows that this motif may well be a repaint, as the light brown paint in the centre of the tree is a little too thick and clumsy in appearance and conceals any age cracks. A more subtle variation concerns the group of small trees to the left of the farmhouse in the distant landscape, in the centre of the composition. In the original version, around nine trees form this group; in the copies there are only three (fig. 458a-d). Again, these trees may well have been increased in number during a previous restoration.

Amongst the copies themselves, there are almost no variations in motif and colour. The only elements shown to vary slightly are the uppermost branches of trees and the heights of distant buildings on the horizon. Overall tonal variations are usually attributable to condition and varnish although might also be due to differently toned *imprimatura* layers.⁸¹⁹

This evidence suggests the two motifs that differ between the original and the copies may well be later additions to the original; in the light of his meticulous approach to copying other paintings by his father for which the original model must have been known to him, for example the *Battle between Carnival and Lent*, it is unlikely

⁸¹⁵ The original version's overall, warm yellow tonality is most likely attributable to a combination of the layer of discoloured varnish and a possible tinted or yellowed oil underlayer (see p.); cleaning tests would be necessary to reveal the true tonality of the painting.

⁸¹⁶ The author photographed corresponding details of three signed copies, the Mayer van den Bergh version and two privately owned versions. The two latter versions were photographed during the 1998 Antwerp exhibition of paintings by Bruegel the Elder's sons, Jan Brueghel the Elder and Pieter Brueghel the Younger (see CAT. ANTWERP 1998); one is signed and dated 1604 (no. 130 of catalogue); the other is not dated, but is signed in the lower right, 'P. BREVGHEL', signifying an execution date during or after 1616 (no. 132 of catalogue [cited note 794]).

⁸¹⁷ The original figures' draperies are probably partially repainted; for discussion of this, see Section 10.1.6.e.

⁸¹⁸ The *Battle between Carnival and Lent* is another clear case for which Brueghel the Younger must have seen the original version (see Chapter II).

⁸¹⁹ Cross-sectional analysis of a wide range of paintings of the subject would be necessary to study whether Brueghel varied his priming layers for this series of paintings.

Brueghel the Younger would have forgotten to include them if they were indeed present in the original composition.

10.2.6.f *A second version by Bruegel the Elder? The case of the former M. A. Hassid collection painting*

In theory, Bruegel the Elder, or another artist could have painted a replica of the MRBAB version that Brueghel the Younger might have used as the basis for his copies, although there are no extant examples of Bruegel the Elder making exact copies of his own paintings.⁸²⁰ Since its publication in *Apollo* as ‘The Original ‘*Winter Landscape with a Bird Trap*’ by Pieter Bruegel’ by Horace Shipp in 1954,⁸²¹ the Hassid version of the *Winter Landscape with Bird Trap* has been referred to by scholars as a possible second original version by Bruegel the Elder or an early copy reflecting a lost original (fig. 459).⁸²² This is primarily because the painting is apparently signed with Bruegel’s signature and dated 1564, a year prior to the inscription on the MRBAB version of the composition.⁸²³ This would make the Hassid version the original and the Brussels version a replica – which does not fit with the technical evidence revealed during examination of the latter. Evidence that the Hassid painting cannot have been the model for the copies is provided by a close comparison of the *Apollo* reproduction of the painting with the Brussels version and Brueghel the Younger’s copies. This is the absence of a key motif in the Hassid version that is present in the MRBAB painting and the vast majority of copies: the bird on the trap. Unless this omission is the result of cleaning damage, it shows the Hassid version could not have served as model for the copies.⁸²⁴ Furthermore, a snow-covered log, protruding out over the river in the right foreground in the original, is transformed in the Hassid version into a weakly-conceived section of river bank; the motif is better understood in the Mayer van den Bergh and other copies. In addition, the stylised, tapering, simplified treatment of vegetation in the Hassid version is totally unlike that of the Brussels version and far closer to the manner of numerous weaker copies of the composition. These observations suggest that an attribution of the Hassid version to even Brueghel the Younger’s workshop would be optimistic.⁸²⁵

10.2.6.g *Summary*

Major shifts in composition during the evolution of Bruegel the Elder’s *Winter Landscape with Bird Trap*, together with the fact that Brueghel the Younger’s copies repeat precisely the painted layout of the original version, suggest that the copies were not made after a preparatory drawing for the painting by the elder master. Correspondence in motif, colour and handling between the original version and the copies support the idea that Brueghel the Younger saw and copied the original version himself. Other, less likely alternatives include the possibility that Brueghel the Younger based his copies on a painted replica taken after the original version by his father or other artist, or that he copied a tracing by his father or other artist taken after the original version and referred to the latter or a painted replica for the colours; nonetheless, the likelihood that the Hassid version represents the original model for Brueghel the Younger’s copies can be all but eliminated through comparison of a reproduction of the painting with the MRBAB version and various copies – the missing bird and simplified bushes in the Hassid painting help to reject its candidacy as the model for the latter paintings.

⁸²⁰ The *Tower of Babel* represents a subject that Bruegel the Elder painted twice, but the compositions of both versions are entirely different.

⁸²¹ SHIPP 1954, p. 1 (colour plate).

⁸²² In his short article, Horace Shipp writes that ‘authorities of such world standing as Dr. Max Friedländer and Dr. W. R. Valentiner have both certified and written enthusiastically about Mr. Hassid’s picture’ (SHIPP 1954, p. 1). The present author found no reference to the Hassid painting in either the 1956 translation of Friedländer’s book on Early Netherlandish painting (FRIEDLANDER 1956), nor in the 1976 translation of his book on Pieter Bruegel (FRIEDLANDER 1924-37). In 1962, Leo Van Puyvelde, in his book on Flemish painting, listed the Hassid painting alongside the Delporte version as by Pieter Bruegel the Elder (VAN PUYVELDE 1962). In 1981, Robert Genaille, in an article on the *Census at Bethlehem*, mentions the existence of two versions of the *Winter Landscape with Bird Trap* by Bruegel the Elder, the version in the former Delporte collection and the Hassid version (GENAILLE 1981, p. 65 and note 10). Genaille also refers to the version in the Galleria Doria Pamphilj in Rome, no. 316 as a ‘réplique d’atelier’ (GENAILLE, 1981, p. 65, note 10). Wolfgang Stechow considers the Hassid version as a possible second original (STECHOW 1970, p. 110). Fritz Grossman purportedly proposes the possibility of a lost original version of 1564, from which both the Delporte and Hassid versions would have derived (BIANCONI-TOLNAY, 1981, p. 104, cat. 54) although the present author found no reference to the painting in the third edition of Grossman’s book on Pieter Bruegel the Elder (F. GROSSMANN 1973).

⁸²³ The exact spelling of the signature is not given by Shipp. The author tried to trace this painting for examination without success. Comparisons are therefore based on the colour photograph of the painting published by Horace Shipp in 1954, see Shipp 1954, p. 1. The painting was also reproduced with the label, ‘London, Hassid coll., signed and dated 1564 (Shipp, Delevoy, van Puyvelde)’, on the unpublished poster entitled *Former and Recent Attributions*, in the 1969 Bruegel exhibition at the Musées Royaux des Beaux-Arts de Belgique. This poster was photographed by IRPA (IRPA negative no. M 53779).

⁸²⁴ That the bird was accidentally removed during cleaning is an unlikely scenario, given the importance of the motif. The bird is also absent in the following versions, none of which Ertz gives to the hand of Brueghel the Younger: Stockholm, National museum, cat. 1958, no. 4057 (MARLIER-FOLIE 1969, no. 47, fig. 149, p. 243; ERTZ 2000, cat. E720 – considered a workshop copy by Ertz); possibly London, Phillips, 6 April 1995, no. 55 (ERTZ 2000, cat. A794) and possibly London, Phillips, 18 April 1989, no. 34 (ERTZ 2000, cat. A792).

⁸²⁵ The Hassid version is illustrated in ERTZ 2000, vol. 2, p. 225 as cat. F772 although not linked with the copy from the Hassid collection by Ertz. Ertz’s catalogue describes cat. F772 as ‘unbekannt, voor 1990’ and states that the photograph (Cooper, Nr. 151370 – Koetser archive) is not good enough to make remarks on attribution. Ertz, however discusses the Hassid version elsewhere in his text without referring to an illustration of the painting (ERTZ 2000, p. 576).

10.2.6.h *Transfer process: Use of cartoons**10.2.6.h.i* *Making of original cartoon*

The close correlation in scale and motif between the original version, Mayer van den Bergh and privately owned copies (fig. 446a-e) suggests the method used for initially copying the design from the original was extremely accurate. Tracing the original image onto oiled paper and using the latter, or substitute document, as a cartoon is the most likely scenario. Squaring-up is unlikely as it would result in random minor differences in the positions of outlines (see Appendix 1). It is impossible to know whether Brueghel the Younger himself would have made this cartoon or whether it could have been generated and kept in the studio by his father or other artist such as his grandmother, Maria Verhulst.

10.2.6.h.ii *Transfer of cartoon to the copies*

The close correspondence between the Mayer van den Bergh version and the privately owned copy suggest that the same cartoon, or an exact replica, was used to transfer the image. To probe the hypothesis that all Brueghel's copies were made after a single cartoon, photographic reproductions of five further faithful copies of the composition were printed to scale and overlaid with the tracing of the Mayer van den Bergh version.⁸²⁶ In these cases, unlike the aforementioned privately owned version, exact measurements were not known, due to the absence of the paintings' edges in the reproductions, therefore several key dimensions within the composition were used to print the paintings to scale. Allowing for minute shifts (1-2 mm), possibly due to the photographic reproduction process, a similarly close correspondence in scale and motif was observed in all the versions tested except one. Although these observations would have to be verified through actual tracing of the compositions of the paintings themselves, they would appear to support the hypothesis of a common cartoon for the transfer of the design for Brueghel's many copies.⁸²⁷

The *Winter Landscape* copy not correlating well with the others in the tests is a version signed 'G[?]Van Hoe[t] 160[4]', an unknown artist (fig. 430k). In the latter, only the basic elements correspond, the figure groups not occupying identical positions, suggesting a different method of copying.⁸²⁸ Astrid Smeets, who studied this particular copy during the *Brueghel Enterprises* exhibition, detected no underdrawing with infrared reflectography and noted that the painting technique differs from Brueghel the Younger's usual workshop style.⁸²⁹ It seems likely that this painting was executed outside the Brueghel workshop. However, a slight doubt remains as Pascale Fraiture discovered that the wood used for the fabrication of the panel came from the same tree as that used for the Prague version of the *Adoration of the Magi*,⁸³⁰ the latter painting signed by Brueghel the Younger and conforming in all respects to paintings from the Brueghel studio.⁸³¹

10.2.6.h.iii *Possible reference mark for positioning of cartoon*

Curiously, in the Mayer van den Bergh copy, a possible mark for centring a design or cartoon in some way was detected through detailed examination of the paint surface: a 2 mm vertical incision, made into the ground layer and filled with original paint, positioned at the exact centre of the panel, plus a small dot just above. (fig. 460a). The original panel also showed an incised dot in an almost identical location, which might relate to the physical process of tracing the image by one of the Bruegel family (fig. 460b).

10.2.6.h.iv *Pouncing or tracing? The infrared evidence in the context of the author's practical tests*

The author's practical experiments with copying a section of the *Winter Landscape with Bird Trap* composition helped define which of the copying methods might have been feasibly used (see Appendix 1). Squaring-up was found not to be accurate enough, taking into account the close correlation the author obtained with superpositions of various copies; lack of precision for minor details would also disqualify the use of the

⁸²⁶ These versions were: Vienna, Kunsthistorisches Museum, inv. 722, 39 x 57 cm, signed and dated, 'P.BRVEGH.., 1601' (MARLIER-FOLIE 1969, no. 1; Ertz 2000, cat. E682); Bucharest, Muzeul National de Arta al României [cited note 767]; Prague, Národní Galerie, inv. O-67, 38.8 x 57.3 cm (MARLIER-FOLIE 1969, no. 39; ERTZ 2000, cat. E718); Belgian private collection, bequest of former Coppée collection [cited note 767] and The Netherlands, private collection [cited note 778].

⁸²⁷ Of these copies, Astrid Smeets traced the actual painted compositions of the Mayer van den Bergh and the Bucharest versions during the *Brueghel Enterprises* exhibition, together with three further copies and found that the tracings produced a near-perfect match in all five cases. She concluded that a common cartoon was probably used for the transfer of the image for these painting (SMEETS 2002 [forthcoming]).

⁸²⁸ Smeets traced the actual painted composition of this painting in the *Brueghel Enterprises* exhibition and came to the same conclusion (Smeets 2002 [forthcoming]).

⁸²⁹ *Ibidem*.

⁸³⁰ *Adoration of the Magi*, 39 x 56 cm, signed, 'P.BRVEGHEL', Prague, Národní Galerie v Praze, inv. O42.

⁸³¹ FRAITURE 2002 (forthcoming). In both cases, a *terminus post quem* of 1577 was calculated for the execution of the paintings. The Prague panel, signed with the 'VE' spelling, i.e. painted before 1616, was already considered a very early version of the *Adoration* on account of its snowflakes.

proportional compasses, although tests were not attempted. The pantograph was also eliminated from consideration, owing to its inappropriateness in handling and the character of the drawing line obtained for the motif in question. The only two remaining possibilities are tracing and pouncing, both necessitating the use of a cartoon. The thin, even nature of the underdrawing lines in the Mayer van den Bergh copy of the *Winter Landscape* could suggest tracing; the lines recall those made by tracing with a stylus in the author's practical experiments (see figs. 753-4); however, careful joining-up of pouncing dots might also explain them. In the case of the Mayer van den Bergh and privately owned copies, no certifiable pouncing dots were identified through technical examination. Therefore if pouncing were indeed the method used for this series of copies, the dots were either erased prior to painting, or are invisible to infrared. The author's practical tests proved that total erasure of the pouncing dots after drawing is perfectly possible, indeed desirable, as pouncing dust left on the surface of the painting sullies the lighter colours during painting (figs. 756-7). However, whilst drawing this motif over pounce marks, the author experienced some difficulty in making out all the intricate details in the architecture, necessitating referral to the initial master drawing and slowing down the process considerably. Nonetheless, Brueghel and his assistants doubtless knew the image intimately and may not have needed so much guidance; alternatively, the pouncing dots on Brueghel's carton might have been considerably finer and more closely spaced than those of the author.

A further insight to the copy process was given by Astrid Smeets during her oral presentation of six copies of the composition from the Brueghel workshop. She noticed small differences in the underdrawings, and gave as an example the Bucharest and Enschede copies⁸³² – whose tracings demonstrate are taken from the same cartoon – where the number of steps of the gables of a house vary in number and the ways in which the steps are connected differ in drawing style.⁸³³ This suggests to the present author that the artist(s) transferred the design via a perforated cartoon rather than tracing over a cartoon with a stylus, as the latter method is unlikely to produce such sharp differences in motif and drawing style. Furthermore, pouncing sometimes produces dotted outlines that are slightly smudged or difficult to distinguish from one another, particularly in small motifs where the outlines are close together, which might account for slight variations in the joining up of the dots.

10.2.7 Conclusion

The technical study of the Mayer van den Bergh museum copy of the *Winter Landscape with Bird Trap* reveals a systematic manner of working, starting by the tempering of the white chalk-glue ground with a streaky grey, oil-based *imprimatura*. As with the *Census at Bethlehem* series, the design is carefully laid out in the underdrawing and the fields of colour neatly laid in using a system of reserves to avoid unnecessarily overlapping zones of paint. The paint is applied in an economical and delicate manner using a maximum of two layers, the upper layer usually consisting of a glaze or highlight. Certain details are applied wet-in-wet into the sky paint. The *imprimatura*, visible through the thin paint layer, lends an overall coolness and the streaky character adds a unifying element to the scene. A similar *imprimatura* is observed in a privately owned version of Brueghel the Younger's copies of the same subject.

The study of Bruegel the Elder's original version of the *Winter Landscape with Bird Trap* confirms its status as the original version of the theme. A comparison of the original version, other copies and the Hassid version shows that the latter is a weak copy by a later follower rather than a second 'original' by Bruegel the Elder. The precise correspondence of scale and motif between Bruegel the Elder's original version and the Mayer van den Bergh version of the *Winter Landscape with Bird Trap* suggests that the copy was based on a single master cartoon made from tracing the original painting. The tracing could have been generated either by Brueghel the Younger or an earlier artist such as Bruegel the Elder or Maria Verhulst. In a second step, the image on the cartoon (or 'substitute cartoon') would have been directly transferred onto the *imprimatura* layer of the copy panel. The transfer could either have been done by tracing, taking into account the wiry, even appearance of the underdrawing in the copy, or pouncing, followed by judicious joining-up of the powdery dots in black chalk or graphite. The latter is more likely in view of infrared evidence from other paintings from the Brueghel workshop in the present study (e.g. *Battle between Carnival and Lent*, *Flemish Proverbs*, *Christ Carrying the Cross*).⁸³⁴ Evidence from the author's tracings of scaled reproductions of other paintings in the *Winter Landscape with Bird Trap* series as well as Astrid Smeets' research suggest that the same cartoon (or identical copy of the cartoon) was used for a number of other copies, lending weight to the hypothesis that the same cartoon was used for all the *Winter Landscape with Bird Trap* compositions generated within Brueghel's workshop.

⁸³² Bucharest, Muzeul National de Artă al României [cited note 777]; Enschede, Collection Rijksmuseum Twenthe, inv. 395, 38.5 x 58 cm (CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 25; MARLIER-FOLIE 1969, no. 31; ERTZ 2000, cat. E710).

⁸³³ SMEETS 2002 (forthcoming). Smeets traced the painted compositions of these versions onto transparent film herself. She did not mention the possibility of pouncing in her discussion and seemed to favour the tracing method in her practical tests.

⁸³⁴ Pouncing is clearly visible in the Brussels version of *Battle between Carnival and Lent* and faint traces appear to be visible in both Antwerp (KMSK) versions of *Christ Carrying the Cross* and the Lier version of *Flemish Proverbs* (see figs. 252-8, 638-9 and 651 respectively).

The close correspondence in colour and painterly handling between the original version and selected copies support the hypothesis that Brueghel the Younger had personal access to the original version at some point. He would have either retained the latter for reference or made sure that one of his own copies remained in the workshop at all times.

CHAPTER V

Adoration of the Magi

11.1 The original version by Pieter Bruegel the Elder

Bruegel the Elder's original version of the *Adoration of the Magi*, signed and dated 1563 was briefly examined by the author on-site at the Oskar Reinhart collection 'Am Römerholz' in 1999 (fig. 461).⁸³⁵ It was during this examination that the date was discovered to read 'M.D.L.XIII', rather than 'M.D.L.XVII' as previously assumed (fig. 462).⁸³⁶

11.1.1 Panel support

The panel consists of two, butt-joined oak planks, the grain running in the horizontal direction.⁸³⁷ There is a horizontal split in the upper board, located eight centimetres from the top edge. This is supported on the reverse by a piece of cloth covering its entire width as well as a rectangular block at its extreme right (fig. 463). There are some irregular incised marks on the lower right of the reverse which are probably accidental damages but may represent some sort of woodcutter's mark. The lower right corner of the support is damaged due to worm; this affects the panel along the lower edge, starting in the lower right corner and finishing approximately 15 cm inwards. The paint layer extends right up to the edges of the support.

Since the top edge of the panel is very straight and smooth, unlike the other three edges, it suggests the former may have been planed down at some point. Other factors supporting this possibility include the presence of short bevelled areas on the reverse sides of each of the panel edges with the exception of the upper edge and the fact that the paint at the extreme edges of the painting on the recto is dirty, yellowed and marked by tiny losses on all three sides except along the top.

11.1.2 Imprimatura

Unlike so many other paintings by Bruegel the Elder, the x-radiograph does not reveal a lead-white based *imprimatura* layer (fig. 465a-c). This is also the case in the *Winter Landscape with Bird Trap*. However, some sort of grey *imprimatura* layer may well be present as vertical, streaky brushstrokes running down the left side of the painting for a few centimetres can be made out with the naked eye. Elsewhere, brushstrokes applied with wide brush in varying directions can also occasionally be distinguished through the paint.

11.1.3 Underdrawing

The design is laid out in a linear underdrawing, distinguishable only partially with the naked eye and infrared reflectography.⁸³⁸ A drawn outline continues into the stream from the arch of the bridge (fig. 398b). There is evidence that the image evolved slightly during execution, as two elements have been dropped during the final painting stage – a side branch to a tree near the upper edge and sketchily painted branches in the frozen river – reinforcing the painting's case as primary version of the theme (figs. 398a, 464). These elements are not present in Bruegel the Younger's copies.

11.1.4 Painterly reserves

In keeping with Bruegel's usual manner of working, the x-radiograph reveals the technique of reserving spaces for important forms to follow. There are clear reserves for the kneeling king on the left in the snow paint, for the figure carrying water in the snow paint of the steps leading down to the river and for the main tree trunks in the snow paint of rooftops (fig. 465a-c). The x-radiograph is not sufficiently clear to distinguish whether or not spaces were reserved in the snow for other figures but close examination would appear to suggest they are painted directly on top of the snow (figs. 466). In the stable, the thinness and transparency of the paint in the figures of Mary and the two nearest kings reveal that they have not been painted on a dark layer, confirming that

⁸³⁵ Pieter Bruegel the Elder, *Adoration of the Magi*, 34.5-35 x 54.9-55.2 cm, signed and dated in lower left corner on reserved section in snow, 'M.D.L.XIII/[P?]B[R]V....' (the name mostly illegible), Winterthur, Dr. Oskar Reinhart Collection 'Am Römerholz', inv. 4.

⁸³⁶ Visual examination and photographic details of the painting by the author in the presence of Mariantonia Reinhard-Felice (Oskar Reinhart Collection), Peter Wegmann (Museum Stiftung Oskar Reinhart) and Ingrid van Rooy (Bonnenfantenmuseum). The new reading of the inscription was unanimously agreed upon by all the participants in the examination. Most previous authors since Gustav Glück (GLÜCK 1932, cat. 29, p. 75) cite the date as 1567; in 1968, Charles de Tolnay was the first to suggest that the roman numerals might possibly read 'MDLXIII' rather than 'MDLXVII' (BIANCONI-TOLNAY 1981, cat. 69, p. 109).

⁸³⁷ The join was deduced from an examination of the x-radiograph with the aid of Bob Ghys. In particular, the presence of a knot in the wood in the lower plank just underneath the join signalled the latter's existence. The upper plank measures approximately 11 cm along the left edge and 10 cm along the right edge; the lower plank measures approximately 24.3 cm along the left edge and 24.5 cm along the right edge.

⁸³⁸ Infrared reflectography and x-radiography by Karoline Beltinger and Gabriele English, Schweizerisches Institut für Kunstwissenschaft, Zurich. No documents were made of the infrared examination.

these figures, like their counterparts in Brueghel the Younger's copies, were reserved and painted after the application of the dark paint for the stable interior.

11.1.5 Handling of paint

The paint has been rapidly and masterfully applied with a vigour and freshness not characteristic of a copy. Figures are generally depicted in pure, thin, black, glaze-like paint and are often outlined in black (figs. 466, 467a, d); precise details are never indicated and sparse brushstrokes indicate movement and expression. The elbow and arm of the man huddling for shelter are indicated in the drawing but barely followed in paint, the figure merely hinted at in the gloom. Sometimes faces are slightly more worked up, using opaque flesh tones. Snowflakes are thickly painted in white in all places except over the water, where they are painted in grey, a subtle difference that breaks up the uniformity of the blanket of snow. Occasionally snowflakes appear to have been used to soften or even 'correct' forms, for example, the 'smudged' dark paint to the left of the leg of a figure in the lower right might be a mistake that Bruegel intentionally partially covered over with snowflakes. The thick, white snowflakes also impart an overall light tonality to the scene – a reality in a landscape where snow is actively falling.

The painting compares favourably in motif and painterly style to other paintings by Bruegel the Elder including the larger format version of *Adoration of the Magi* (London, National Gallery),⁸³⁹ *Winter Landscape with Bird Trap* (Musées Royaux des Beaux-Arts de Belgique), *Census at Bethlehem* (Musées Royaux des Beaux-Arts de Belgique) and *Hunters in the Snow* (Vienna, Kunsthistorisches Museum), leaving the present author in no doubt as to its authenticity, despite doubts expressed by Klaus Ertz in his recent book on Brueghel the Younger (fig. 467a-e, see also figs. 414-6 for comparison of motifs with other winter scenes by Bruegel the Elder).⁸⁴⁰

Taken as a whole, the technical and stylistic evidence points to the Winterthur *Adoration of the Magi* as the primary version of the theme and supports its attribution to Pieter Bruegel the Elder.

11.2 The copies by Pieter Brueghel the Younger

Of the three compositional types of the *Adoration of the Magi* explored by Brueghel the Younger, the small format model was the most popular. Marlier listed twenty-nine versions in his 1969 monograph on Brueghel the Younger;⁸⁴¹ Klaus Ertz more recently catalogued thirty-six, of which twenty-six he gives to the hand of the master.⁸⁴² Another artist who may have copied this composition is Abel Grimmer (c. 1570-before 1618), whose authorship has been suggested for an idiosyncratic version of the composition on account of the naïve simplification of forms typical of the artist (fig. 493a).⁸⁴³

There are six, possibly seven signed and dated versions according to Ertz, the dates ranging from 1606-1633, most dating after 1616.⁸⁴⁴ There are eleven further signed copies,⁸⁴⁵ all but one carrying the 'BREVGHEL' spelling. This suggests that many more copies of the composition were produced after 1616 than before.

⁸³⁹ Pieter Bruegel the Elder, *Adoration of the Magi*, 112.1 x 83.9 cm, signed and dated 1564, London, National Gallery (DAVIS 1968, cat. 3556).

⁸⁴⁰ Klaus Ertz's doubts as to the authenticity of the painting are based on purported weaknesses in some details of the painterly execution, particularly the sketchy quality of certain figures and the snowflakes, ERTZ 2000, p. 300-5. Few other Bruegel scholars have ever questioned the attribution of the painting to Bruegel the Elder except Charles de Tolnay, who felt that the painting was commissioned from Bruegel the Elder but was not by his hand (BIANCONI-TOLNAY 1981, cat. 69, p. 109).

⁸⁴¹ MARLIER-FOLIE 1969, pp. 83-5.

⁸⁴² ERTZ 2000, vol. 1, pp. 310-20.

⁸⁴³ Abel Grimmer (?), *Adoration of the Magi*, Prague, Národní Galerie, inv. n. 0-10-151 (MARLIER-FOLIE 1969, no. 27, p. 85, ERTZ 2000, cat. 265, p. 305, no information given by either of these authors regarding the painting's support or measurements).

⁸⁴⁴ London, Richard Green Gallery 1999, 38.7 x 56.5 cm, signed and dated, 'P. BRVEGHEL 1606' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E228a; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 16); New York, Sotheby's, 20 May 1993, lot. 84, 38.7 x 57.8 cm, signed and dated, 'P. BREVGHEL 1617' (MARLIER-FOLIE 1969, no. 1; ERTZ 2000, cat. E229); Belgium, private collection 1995, 48.5 x 63.5 cm, signed and dated, 'P. BREVGHEL.I. 1620' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E 230); Pittsburgh, Museum of Art (Carnegie Institute Bequest of Charles J. Rosenbloom, 1937), 41 x 57.8 cm, signed and dated, 'P. BREVGHEL 1625' (MARLIER-FOLIE 1969, no. 2; ERTZ 2000, cat. E231); Wrocław, Muzeum Narodowe we Wrocławiu, inv. 38, 37 x 56 cm, signed and dated, 'P. BREVGHEL 1629' (MARLIER-FOLIE 1969, no. 3; ERTZ 2000, cat. E232); Paris, Drouot, 6 June 1952, lot. 61, 38.5 x 56.5 cm, signed and dated, 'P. BREVGHEL 1633' (MARLIER-FOLIE 1969, no. 4; ERTZ 2000, cat. E233). A photograph of a further version (the photograph taken before 1969) in the Leegenhoek archive was examined by Ertz (MARLIER-FOLIE 1969, no. 25; ERTZ 2000, cat. E247). On the back of the photograph is a note to say the painting is signed and dated but the actual inscription is not noted on the back of the photograph. Ertz speculates that this version may in fact be the same painting as his cat. E232 (Wrocław). Measurements and information from ERTZ 2000, vol. I, pp. 310-316.

⁸⁴⁵ Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 797, 36.1 x 56.5 cm, signed, 'P. BREVGHEL' (MARLIER-FOLIE 1969, no. 6; ERTZ 2000, cat. E235; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 14); Antwerp, private collection 1991, 37.4 x 54.7 cm, signed, 'P. BREVGHEL' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. 236); Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 9132 (gift of 'nue propriété' by Comte Kerckhove de Denterghem, Brussels, 1979), 36.4 x 56.8 cm, signed, 'P. BREVGHEL' (MARLIER-FOLIE 1969, no. 7; ERTZ 2000, cat. E239; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 15); London, Gal. Brod. around 1970, 35.6 x 51.4 cm, signed 'P. BREVGHEL' (MARLIER-FOLIE 1969, no. 9; ERTZ 2000, cat. E241); London, Gal. van Haeften, 1995, no. 8, 35.2 x 55.3 cm, signed 'BREVGHEL' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E242); Maastricht, Bonnefantenmuseum, inv. 3388, 41 x 57 cm, signed 'BREVGHEL' (MARLIER-FOLIE 1969, no. 5; ERTZ 2000, cat. E243; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 17); Paris, Gal. de Jonckheere, 1991, no. 9, 38 x 57 cm, signed 'BREVGHEL' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E249); Prague, Národní Galerie,

Two versions of the *Adoration of the Magi* were examined as part of the current study, one from the Musées Royaux des Beaux-Arts de Belgique in Brussels (inv. 9132)⁸⁴⁶ and one from the Koninklijk Museum voor Schone Kunsten in Antwerp (inv. 797) (figs 468a-d).⁸⁴⁷ Neither is dated; however, both paintings are signed in the lower left with the signature characteristic of Brueghel the Younger during and after 1616, ‘.P.BREVGHEL.’ (figs. 470-1).

11.2.1 Panel support

The Antwerp and Brussels versions are painted on oak panel, in common with most other paintings from Brueghel the Younger’s workshop of this subject and format. Only two known paintings from the series appear to be painted another support, the Hermitage version, on canvas, 36 x 56 cm, signed ‘BREVGHEL’ and a version exhibited by Galerie Robert Finck in 1987, 38 x 56 cm, unsigned.⁸⁴⁸

Both the Antwerp and Brussels versions’ panel supports are in excellent condition, showing only minimal warping, although the central join in the Brussels version has been consolidated.⁸⁴⁹

11.2.1.a Panel size

The Antwerp version measures 36.1 x 56.6 cm and the Brussels version 36.4 x 56.8 cm.⁸⁵⁰ This is the standard format for Brueghel’s small-scale *Adoration* series and a size he commonly used for small-scale compositions, for example the *Winter Landscape with Bird Trap*. Both panels show panel-maker’s marks on the reverse, proving they retain their original thickness, approximately 0.8 cm in the case of the Antwerp version (fig. 472a-b).

11.2.1.b Panel construction and dendrochronology

Both copies are made up of two, evenly-sized oak boards.⁸⁵¹ Dendrochronology on the Brussels panel discovered that it was made from locally produced wood.⁸⁵² Interestingly, out of the five panels from the *Adoration* series analysed by this method, only one was found to be made from wood originating in the Baltic region, a panel signed and dated 1606.⁸⁵³ Analysis of a number of other small format panels from Brueghel’s studio by Pascale Fraiture shows that this is indeed the general tendency.⁸⁵⁴

In terms of dating, a *terminus post quem* of 1625 was calculated for the execution of the Brussels version, which accords with the ‘EV’ spelling of its signature.

11.2.1.c Tool marks

On the Antwerp version, tool marks are visible in places on the reverse, although masked by a layer of thick lead white paint layer, applied during a former restoration. Generous bevels, probably an original adaptation to facilitate framing are present on all four sides of the reverse. The Brussels version’s verso reveals saw and plane marks, most likely original as well as traces of two former vertical battens due to a restoration. Bevels have been made into three of the four sides, but not the lower edge.

11.2.1.d Branding

Brand marks of the Antwerp Guild of Saint Luke have been burned into the reverse of the Brussels panel, today partially hidden behind a label. The marks are clear enough to identify the castle and two hands. The brand

inv. No. 0-42, 39 x 55.5 cm, signed ‘P. BRVEGHTEL’ (MARLIER-FOLIE 1969, no. 11; ERTZ 2000, cat. E250; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 18); St. Petersburg, Hermitage, inv. 3737, canvas, 36 x 56 cm, signed ‘P.BREVGHEL’ (MARLIER-FOLIE 1969, no. 8; ERTZ 2000, cat. E251); Venice, Museo Correr, inv. Cl.I. 166, 37.5 x 56 cm, signed ‘P.BREVGHEL’ (MARLIER-FOLIE 1969, no. 12; ERTZ 2000, cat. E252; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 19); Vienna, Gal. St. Lucas, around 1930, 38.5 x 56.8 cm, signed ‘P.BRVGHEL (later signature) (MARLIER-FOLIE 1969, no. 13; ERTZ 2000, cat. E253); Mönchen-Galdbach, sale. Schubert, around 1969, 49 x 62.5 cm, signed ‘BREVGHEL’ (MARLIER-FOLIE 1969, no. 10; ERTZ 2000, cat. F259). All details regarding measurements from ERTZ 2000, vol. I, pp. 311-312 except for Antwerp and Brussels museum versions, taken by the author.

⁸⁴⁶ Gift of ‘nue proprété’ of Comte Kerckhove de Denterghem, Brussels, 1979.

⁸⁴⁷ Acquired by the museum at the Koninckx auction in Antwerp, 6 May 1901, lot. 15.

⁸⁴⁸ Hermitage version [cited note 845]; Galerie Robert Finck, 32 Foire des Antiquaires de Belgique, 26 January – 8 February 1987, 38 x 56 cm, not signed (not in MARLIER-FOLIE 1969; probably ERTZ 2000, cat. E238).

⁸⁴⁹ The central join in the Brussels version has been consolidated with ten small wooden blocks, glued into a channel cut in the panel. There are also traces of glue from two older battens, placed at right-angles to the wood grain.

⁸⁵⁰ The Antwerp version has a top edge horizontal measurement of 56.4 cm, a middle horizontal measurement of 56.7 cm and a lower edge horizontal measurement of 56.6 cm, therefore an average of these is cited.

⁸⁵¹ Antwerp version: upper plank: left edge: 17.5 cm, right edge: 18.4 cm; lower plank: left edge: 18.5 cm, right edge: 17.7 cm; Brussels version: upper plank: left edge: 17 cm, right edge: 18.2 cm; lower plank: left edge: 19.4 cm, right edge: 18.1 cm.

⁸⁵² FRAITURE 2002 (forthcoming).

⁸⁵³ Fraiture worked out a *terminus post quem* of 1597 for the execution of this painting, which accords well with its inscription of 1606.

⁸⁵⁴ See Chapter IV, Section 10.1.3.a, note 777-8.

visually correlates most closely with Jørgen Wadum's iron number 4, in use from >1619-1638.⁸⁵⁵ Rubbings also reveal what might be guild marks on the Antwerp version, but the flaky, lead white coating makes them impossible to decipher.

Interestingly, both panels display panel-maker Michiel Claessen's characteristic clover stamp, cold pressed into the reverse (fig. 472a-b). The stamps are of an identical size and shape. The presence of these marks proves the support was made outside Brueghel's studio by a professional panel-maker. Claessens appears to have been Brueghel's regular supplier.⁸⁵⁶

11.2.2 Ground Layer

Both panels are prepared with a white ground layer, as in the *Winter Landscape with Bird Trap*. In the case of the Antwerp version, the ground could be sampled and was found to be chalk-based. Unfortunately, medium analysis proved inconclusive.⁸⁵⁷

As with the *Winter Landscape with Bird Trap*, the ground layer for the two *Adoration* copies may well have been applied by a specialist primer or even by the panel-maker.

11.2.3 Imprimatura

Two cross-sections from the Antwerp version reveal a similar, but not identical *imprimatura* layer to the *Winter Landscape with Bird Trap*. This layer, lying directly above the ground is thin (approx. 10 microns), rich in medium and contains lead white, chalk and the characteristic black, splintery particles of charcoal; however, it contains in addition an iron oxide pigment which would have given a more beige tonality (fig. 473a-b).⁸⁵⁸ Thick brushwork, unrelated to the paint layer is distinguished with the naked eye in places. There are vertical strokes along the right edge, and scoop-like, horizontal strokes elsewhere – most likely the *imprimatura* (fig. 471). Vertically applied brushstrokes, most probably those of the *imprimatura* register faintly in the infrared reflectogram through the paint of the light-coloured tent in the lower left. These strokes are much less clearly visible in infrared than their counterparts in the Mayer van den Bergh *Winter Landscape with Bird Trap*, suggesting a lower concentration of carbon black. The *imprimatura* appears to have been left visible to serve as a light ochre-coloured mid-tone in places, for example for the red robe of the kneeling king in red in the lower left (fig. 480b).

The presence of an *imprimatura* could not be proven in the case of the Brussels version as there were no indications of such a layer in infrared and the painting could not be sampled. However, it is possible that the beige-coloured base colour in faces is attributable to such a priming layer.

11.2.4 Underdrawing

Both paintings revealed detailed underdrawings in infrared reflectography (figs. 474a-b). The drawing lines are thin, regular and even in much the same way as those in the Mayer van den Bergh *Winter Landscape with Bird Trap*, suggesting a dry drawing material such as graphite or black chalk.

As in *Winter Landscape with Bird Trap*, the outlines of the composition are laid out in extreme detail at the underdrawing stage. In the lower left, contours of drapery folds are precisely described. Outlines of buildings are nervous and often undulating, the artist frequently lifting his drawing instrument as he went along. The demarcation between brick and rendered sections in the façade of the main house is made with loose, nervous, broken linear markings in both paintings. Trees on the horizon are similarly noted by short, sometimes hooked dashes. Figures in both drawings are modelled in a stylised, rounded fashion emphasising contours of knees. The dog is also indicated in an identical manner in both works, the ears well-defined whilst the paws are only cursorily suggested.

Although there are no corrections or strengthening in either underdrawing, there are several very minor adjustments in outline between the drawing and painting stages, for example, in the Brussels version the holes in the roof of the stable in the lower left do not closely follow their underdrawn contours.

11.2.4.a Style

Stylistically, the two underdrawings are very similar. Both versions show small gaps along the outlines where the artist has lifted the drawing instrument, for example in the dog and a man with the bucket to the right. Both show areas of relatively loose drawing, for example in the tree in the upper left. Nonetheless, the Antwerp copy

⁸⁵⁵ WADUM 1998a, p. 186, fig. 9.

⁸⁵⁶ For other examples of Michiel Claessens's marks observed by the author and other researchers, see Appendix 2 and notes 435 and 761.

⁸⁵⁷ HPLC analysis of a sample did not detect any protein, perhaps because the sample was too small. Analysis carried out by Karijn Lamens at IRPA under the direction of Janka Sanyova and Jan Wouters.

⁸⁵⁸ Samples analysed by SEM.

sometimes betrays a more assured touch and the outlines are often looser, for example in certain figures, the motif of the dog, the log in the lower right and the outline of the ruined castle on the far right, which might suggest different hands; these differences are so minimal however, that common authorship is equally possible.

11.2.5 Paint layer

Both paintings are in relatively good condition, although the Antwerp version shows some abrasion to its paint layer and a yellowed varnish coating.

11.2.5.a Use of reserves

For the Antwerp copy, the artist followed the underdrawing meticulously, reserving spaces in background paint for the forms to follow and keeping the number of paint layers to a maximum of two.⁸⁵⁹ Reserves in the snow paint can be observed for most of the figures, for example, the man carrying the sack in the lower centre of the composition – at certain junctures of the border with of the figure the snow there is a small gap showing ochre-coloured paint, presumably the *imprimatura* (fig. 475a). The extreme edges of this same figure also overlap the snow paint slightly in places, the texture of the snow paint now revealed by abrasion of the dark paint of the figure. The torso of the dog is also clearly reserved in the snow, but not its paws, which are painted on top (fig. 475b). The absence of blue paint underneath the chimney of the house to the upper left shows that the chimney was reserved whilst the artist was painting the sky (fig. 475c). The main tree trunks are also clearly reserved in the snow paint. Furthermore, the infrared reflectogram shows that the light-toned figures of Mary and the Kings are reserved in the dark background paint of the stable. Certain motifs, due to their finicky shapes are not reserved in the background paint, for example the side branches of the dark tree in the centre right.

The Brussels copy appears to have been carried out in the same manner as the Antwerp version, using a similar pattern of reserves.⁸⁶⁰ Infrared reflectography reveals exactly the same reserves for Mary and the Kings in the dark stable paint (fig. 474a). An ordered system of reserves is always seen in Brueghel the Younger's work, for example in the *Census at Bethlehem* series, where the same forms were found to have been reserved in the same places in all ten copies examined.⁸⁶¹

11.2.5.b Palette

Both *Adoration* copies share an almost identical colour scheme. The figures form a brightly coloured tapestry of red, brown, blue, yellow and pink set against a carpet of white snow and a pale, cool-toned sky. The buildings are painted in warm colours. Light blue icicles hang from various houses; these are particularly well-preserved in the Brussels version. Small differences in drapery colour between the two versions include the shirt of the figure carrying a sack to the right of the dog, reddish in the Antwerp version and bluish in the Brussels version.

11.2.5.c Paint layer structure and pigment analysis

The analysis of two cross-sections from the Antwerp version, one from the blue sky (fig. 473a) and one from a snow-covered roof on the left (not illustrated) shows that the paint in these areas is applied in one layer only above the *imprimatura* and ground, as in the sky and a house in the Mayer van den Bergh *Winter Landscape with Bird Trap* (fig. 434a-b). The sky is likewise composed of smalt mixed with lead white and the odd black particle.⁸⁶² The snow paint consists of lead white, chalk and tiny, unidentified black particles.

Signs of mauve discolouration in opaque red areas of paint in both paintings is typical of the pigment vermilion, although no analysis was carried out. This is particularly noticeable in the textile covering of the mule in the both copies and in the red hose of certain foreground figures in the Brussels version (fig. 476a-b). This is a frequent problem in paintings from Brueghel the Younger's workshop.⁸⁶³

11.2.5.d Handling of paint

Virtually identical brushwork techniques can be observed in both copies of the *Adoration*. A good example is the use of 'wet-in-wet' paint. The fine branches of trees on the horizon are directly applied into the still-soft, light-toned sky paint using a little dark glaze on a fine brush to expose a warmer underlayer, most probably the

⁸⁵⁹ Reserves were deduced through examination of abraded areas with the naked eye and the binocular microscope. The x-radiograph was not useful in the case of the Antwerp version as the thick, white lead-based paint on the reverse of the panel completely blocked the x-rays. The Brussels version was not x-radiographed as it was not possible on-site in the Bonnefantenmuseum where the author was given permission to examine the work.

⁸⁶⁰ As this painting was examined during a limited period, there was no time for microscopic examination, which would have enabled a more detailed analysis.

⁸⁶¹ See Chapter I, Section 7.2.6.a, figs. 138-46.

⁸⁶² Scanning electron microscopy carried out on both samples.

⁸⁶³ See Chapter VII for further discussion of this phenomenon in Brueghel the Younger and notes 534-5 for references.

imprimatura (fig. 477a-b); the same applies to the fine black branches of pollarded trees set against the white snowy rooftop of the central house and the castellations of the distant castle. In the Antwerp version, these castellations are more numerous, and are indicated wet-in-wet with a dark glaze into the white and pink castle paint (fig. 478a-b). The use of wet-in-wet brushwork gives a lively texture to the paintings' surfaces. Most other fine detail is applied on a dry underlayer, such as Brueghel's trademark blue icicles, snow settled on tree branches and sparkling white highlights on soldiers' armour (fig. 479a-b).

Both paintings show delicate modelling of the robes of the two kneeling kings (fig. 480a-b). For the Antwerp version's king in red, the tinted *imprimatura* serves the role of mid-tone, the highlights are drawn with a fine brush in pure white paint and shadows are formed by a rich red glaze. Unfortunately, fading and/or abrasion of the red glaze in the Brussels version reduces much of the corresponding figure's three-dimensionality.

Faces in both copies are painted in a linear fashion, features marked by fine dark strokes and white highlights, again using the tinted *imprimatura* as a mid-tone (fig. 481a-b). Figures painted in white and darker colours are mostly outlined in black or brown paint whereas figures wearing 'vermilion' red draperies are not outlined. The latter is perhaps due to light or even cleaning damage as similar red draperies in other paintings by Brueghel the Younger often present fine outlines in a dark red glaze.

11.2.5.e *Style*

Although these two copies of the *Adoration* show extremely similar types of brushwork, subtle stylistic differences can be distinguished in the treatment of figures. The Antwerp version shows consistently rounder faces, in each case modelled more convincingly than their counterparts in the Brussels copy (fig. 481-3). Likewise, certain figure motifs show a greater sense of movement and a stronger sense of three-dimensionality in the Antwerp version, for instance the small girl sledding on the ice in the lower right (fig. 484a-b). Another example is the figure on the steps carrying a bucket of water from the frozen river, more delicately modelled and with a better proportioned hat in the Antwerp version (fig. 485a-b).

11.2.5.f *Attribution*

The minor but detectable stylistic differences between the Antwerp and Brussels versions of the *Adoration of the Magi* suggest they were painted by different hands within Brueghel the Younger's studio, the Antwerp version betraying the touch of a more accomplished artist. The underdrawing stage provides more ambiguous evidence and remains open to debate as regards authorship. Whether or not the Antwerp version, at least at the level of the paint layer, reveals the hand of the master himself would require further comparative evidence over a wide range of dated works by Pieter Brueghel the Younger, preferably similar works of small format. Preliminary comparisons show that it is particularly close to the Ghent version of the *Wedding Dance in the Open Air*, unsigned (see figs. 597-605).

11.2.6 *Copy process*

Like the *Winter Landscape with Bird Trap*, there is no secure documentary source to prove whether Brueghel the Younger could have had direct access to the original version. A hand-written notation by the Antwerp collector Peeter Stevens to the Bruegel chapter of his copy of Van Mander's *Schilder-boeck* mentions he personally saw 'een cleyn stuxken daer het sneeut'.⁸⁶⁴ This is the only tenuous evidence linking the painting to Antwerp or thereabouts at the time. The first clear citing of the work is in the inventory of the Parisian banker and collector Everard Jabach (17 July 1696), where it appears as number 243.⁸⁶⁵ That the Winterthur panel is indeed this same painting is proven by the presence of the number '243' painted in black on the centre of the reverse side (fig. 463).⁸⁶⁶ The painting only resurfaced in 1930 when it was bought by Oskar Reinhart. In the early twentieth century, it may have been in the collection of a Silesian nobleman collector named Johan Moritz Gf Lauman [?], according to a label on the reverse side.⁸⁶⁷

⁸⁶⁴ [a small painting in which it is snowing] (BRIELS 1980, p. 206). Peeter Stevens' copy of Van Mander's *Schilder-Boeck* is now in the Biblioteca Hertziana, Rome.

⁸⁶⁵ Fritz Grossmann quotes the entry in the Jabach inventory, 'Un hiver, avec quantité de figures; sur le devant, les trois roys qui adorent Nostre Seigneur; il tombe beaucoup de neige, et un petit enfant se promène sur la glace dans un petit traisneau; vieil Brugel 15 liv.' [a winter scene, with many figures, three kings worshipping Our Lord in the foreground; heavy snow is falling, and a small child goes on the ice in a small sled; Bruegel the Elder 15 book'] in GROSSMANN 1951, p. 19, note 49.

⁸⁶⁶ The reverse of the panel was photographed by the author during examination in 1999. The correlation of the number '243' to the Jabach inventory was made in CAT. WINTERTHUR 1939-40, no. 21, according to Fritz Grossmann (*ibidem*).

⁸⁶⁷ Peter Wegmann made the suggestion regarding the Silesian nobleman (private conversation, September 1999). Piero Bianconi states that the painting passed into the hands of Count Saurma (Schlesig) after Everard Jabach, and from Saurma to Oskar Reinhart (BIACONI-TOLNAY 1981, cat. 69, p. 109). Several markings and labels on the reverse side of the panel were observed during examination: in the upper left, there is a paper label, written in black ink, inscribed with 'no 20308 Pieter Breugel d.t. Winterbilt mit Aubertung des Konige 33.55 cm', probably a dealer's reference; in the upper centre, written in brown ink on a paper label adhered to the piece of canvas covering the join, 'Nr 31, Johan Moritz Gf Lauman [?]; in the centre right, there is a paper label, printed and handwritten in brown ink, 'Dr. Oskar Reinhart, Winterthur, Nr Brueghel, Pieter O. Ac. Abertung des Konige im Schnee 35 x 55'; painted in black, in the centre of the panel, 'no 249' (the

Again, the question of the original model for the copies can only be figured out by technical examination and cross-comparison.

11.2.6.a *Original model for the copies: Painting, drawing or both?*

Georges Marlier favours the argument whereby Brueghel could not have seen his father's original version, citing the absence of snowfall in most copies and the sparseness of the snow in the few versions where snowflakes are represented, such as the Prague and former Lainé collection versions.⁸⁶⁸ He suggests the artist copied a preparatory drawing of the composition by his father, in which the snowflakes were unlikely to have been indicated.⁸⁶⁹ Countering this view, Jacqueline Folie suspects that Brueghel the Younger must have had access to the original painting, based on the fact that many of the drapery colours in the copies closely follow those in the original.⁸⁷⁰ These two opinions are not necessarily contradictory – Brueghel the Younger may have had in his possession a preparatory drawing by his father as well as seeing the original painting at some point.⁸⁷¹

11.2.6.b *Elements in underdrawing of original, dropped during painting*

Obviously, if there were elements in the original version's underdrawing, dropped during painting, but repeated in the copies, it would prove the hypothesis that Brueghel the Younger used a drawing by his father as model.⁸⁷² Indeed, there are two motifs in the underdrawing and/or initial painting stage of the original version – side branches to a log in the lower right and a side branch to a tree in the upper left – that were dropped during painting, but these are not present in the underdrawing of the two copies examined, nor in the paint layer of other copies (figs. 398, 464).⁸⁷³ However, these motifs are hardly of significance to the composition, and may well have been absent from a preliminary drawing by Brueghel the Elder, representing new, but ultimately abandoned motifs.

11.2.6.c *Variations between original version and copies*

11.2.6.c.i *Scale*

Another important factor regarding the original model is the relative scale of the copies versus the original painting. To figure out this relationship, forty corresponding measurements of distances were taken from the four corners of the composition in the Antwerp and Brussels copies and the original (fig. 486).⁸⁷⁴ Correlation of the results show that the copies' compositions are 3% smaller than that of the original version (fig. 487, Appendix 6a-b).⁸⁷⁵ Tracings of the copies were laid over a scaled reproduction of the original version to illustrate this result visually; the copies' tracings were also superposed (figs. 488a-b, 489a-b).

The fact that the painted compositions of the copies, although the same scale as each other, are slightly smaller in size than the original version rejects the hypothesis of Brueghel the Younger having traced the original version to create his master copy.⁸⁷⁶ This opens the door to numerous other possibilities, amongst which a preparatory or posterior drawing by Bruegel the Elder, slightly smaller in scale than his final painting, a drawing by Bruegel the Younger of the original painting, but copied by less accurate means than tracing (for example, squaring) and even a painted replica by Bruegel the Elder, slightly smaller than the Winterthur version, that his son could have copied.

⁸⁶⁹ partially covered by the paper label indicating the Oskar Reinhart collection); written in pencil on the centre of the panel, 'no 69'; painted in red, on the centre of the panel, '200'; printed in brown, on the piece of canvas covering the join, 'PHOTO'; in the centre left, next to the left edge, a black, heat-branded round stamp, partially erased by scratching, probably a customs stamp, illegible.

⁸⁶⁸ MARLIER-FOLIE 1969, p. 80. The Prague version is illustrated in CAT. MAASTRICHT-BRUSSELS 2001-2, p. 156.

⁸⁶⁹ MARLIER-FOLIE 1969, p. 82.

⁸⁷⁰ FOLIE 1993. The views of Klaus Ertz will not be discussed in detail in this context as his arguments derive from the basic premise that the Winterthur version is not by Bruegel the Elder and not the model for the copies, an opinion to which the author is in fundamental disagreement, see ERTZ 2000, p. 300-5.

⁸⁷¹ This is the hypothesis put forward by the author for the *Battle between Carnival and Lent*, see Chapter II.

⁸⁷² This was found to be the case by Rebecca Duckwitz in her study of Bruegel the Elder's *Flemish Proverbs* and the copies by Brueghel the Younger, see DUCKWITZ 2001 and Chapter I, Section 7.2.8.b.iv, fig. 213a-c.

⁸⁷³ These underdrawn motifs are visible through the thin paint layer with the naked eye.

⁸⁷⁴ The author's tracings of the painted compositions of the two copies were superposed over a tracing of the main forms taken from the x-radiograph of the original (the original version was x-radiographed by Karoline Beltinger and Gabriele English [cited note 838]). Fortunately, any distortions due to the x-ray process were found to be virtually non-existent: the height of the panel in the x-radiographic image is only 0.5 mm more than that of the actual panel and the width of the panel in the x-radiograph is only 1-2 mm more than the actual width of the panel.

⁸⁷⁵ Catharina van Daalen's personal tracings of the painted compositions of Brueghel's *Adoration* copies in the Brueghel Enterprises exhibition found that the Antwerp and Brussels versions have exactly the same scale and composition as four other copies; she defined these six copies as her 'Core group' of paintings of this subject deriving from Brueghel the Younger's workshop, see VAN DAALLEN 2002 (forthcoming).

⁸⁷⁶ This is unlike the *Winter Landscape with Bird Trap*, where Bruegel the Elder's original composition was found to be the same scale as the copies.

11.2.6.c.ii *Motif and colour*

The majority of copies, including the Antwerp and Brussels versions present a number of small, shared differences to the original version. The most obvious of these is the lack of substantial snowfall in the copies⁸⁷⁷ and the absence of the two figures just above the warming tent on the left, the latter present in an abraded state in the original. Other changes include: the group of soldiers just in front of the castle – in the copies the group is larger and their cart has one wheel rather than two; the left window in the wooden section of the main house's façade, shuttered in the original but open in the copies; the absence of birds in the original version and the drapery colours of two standing figures in the centre left, literally switched in all the copies. In terms of style and colour, the drapery colours are generally much more subdued in the original than the copies. An example is given by the figures warming themselves inside the tent in the centre left, dark toned and sketchily painted in the original whereas clearly described and brightly coloured in the copies. In the background, draperies are monochrome in the original unlike the copies, where they are picked out in bright colours. Further distinguishing elements include the dog in the centre right, whose shape and colour is different in original and copies, the yellow robe of a kneeling King, whose embroidery pattern is not the same in original and copies and the Habsburg coat of arms, which is missing from the original but embroidered on the covering of the donkeys in the copies. Finally, the child on the ox jaw bone sled wears a white apron in the copies, but a dark one or perhaps no apron at all in the original version. The presence of these fixed changes in the copies favours the argument whereby Brueghel the Younger did not see his father's final painted version of the composition. The instances where the colours do correspond, for instance the red trouser hose of the two standing figures in the left foreground, could be explained by colour notes on a preliminary drawing by Bruegel the Elder.⁸⁷⁸

11.2.6.c.iii *The existence of two faithful copies*

Although the vast majority of copies share the same set of small fixed variations in colour and motif enumerated above, there are at least two copies of the *Adoration to the Magi* possessing an unusually high fidelity to the original version, the former Lainé collection version and a recently discovered privately owned copy, from the former Dimier collection (fig. 490a-c).⁸⁷⁹ Neither of these copies are signed or dated, but both have been attributed to Brueghel the Younger. Not only do these versions show heavy snowfall, they also share other subtle features with the original version that distinguish them from other copies, for example the two figures above the warming tent,⁸⁸⁰ the more subdued colour scheme, the lack of a Habsburg coat of arms on the donkey's covering and the exact same patternwork on the yellow robe of a king in the lower left. That these two faithful copies are indeed copies rather than forerunners of the Winterthur panel would seem to be proven by the absence of the two features identified in the underdrawing stage only of the original panel (see above, 'Underdrawing', Section 11.1.3).

Interestingly, these two faithful copies include more of the upper tree on the left and the uppermost architecture on the right than the original version, giving the composition a more balanced appearance. Since the original painting shows signs of having been cut down along the top, these two copies may well represent Bruegel the Elder's original composition in its entirety. If this is correct, the presence of these missing centimetres, plus the presence of the two figures above the tent, implies that these two faithful copies are by no means recent and must have been executed prior to the cutting down of the original panel and the abrasion to its paint layer.

Precisely why the former Lainé and Dimier collection versions are so much closer to the original painting than the multitude of other copies is not clear. Their authenticity and attribution to Brueghel the Younger requires verification.⁸⁸¹ A visual inspection of the former Dimier collection copy during the *Brueghel Enterprises* exhibition was not affirmative in this respect; there is not a single stylistic trait or painterly characteristic that links the painting to works from Brueghel the Younger's studio. Catharina van Daalen's technical examination of the painting during the Brussels leg of the exhibition would appear to confirm this opinion. Her infrared examination did not reveal an underdrawing typical of Brueghel the Younger's production; indeed most of the underdrawn 'lines' turned out to be paint. Furthermore, Van Daalen's tracing of the painted composition of the former Dimier collection version did not 'fit' with the other copies from her Core group (see below, 'Transfer

⁸⁷⁷ Even in the Prague version, where the snowflakes are painted in relief, the impression of heavy snowfall does not come close to that of the Winterthur original.

⁸⁷⁸ MARLIER-FOLIE 1969, p. 82.

⁸⁷⁹ Former Léon Lainé coll. version, sold Paris, Gal. de Jonckheere before 1990, 38 x 58 cm, unsigned (MARLIER-FOLIE 1969, no. 17; ERTZ 2000, cat. E248). There is a small black and white image of this painting in ERTZ 2000, fig. 217, p. 301; it is also illustrated in the sale catalogue, Brussels, Giroux, 2 March 1954, lot. 567. The previously unpublished version is from the Louis Dimier collection and was sold at Sotheby's, London on 14 December 2000, lot. 7. It is unsigned and measures 37 x 58 cm. The painting was transferred onto another panel (CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 20, ill. p. 158, not in MARLIER-FOLIE 1969 or ERTZ 2000).

⁸⁸⁰ The fact these figures are so abraded in the original suggests that the two close copies must have been carried out before the damage occurred; the author is not aware of when this damage occurred, although it was probably during cleaning, at the same time as the abrasion to the roof of the tent.

⁸⁸¹ The former Lainé collection version was only consulted as a photographic reproduction from the 1954 Giroux sale catalogue.

process', 11.2.6.d), being slightly smaller in size.⁸⁸² The painting is therefore probably by another artist working outside Brueghel the Younger's workshop; unfortunately, it has been transposed onto another panel, preventing its dating by dendrochronology.

Since the attribution to Brueghel the Younger of a least one of the two faithful copies is in doubt, they cannot be used as evidence that the Brueghel had personal knowledge of his father's original painting. The coincidences in the colour of several draperies between the original and main body of copies might imply that he saw the painting, at least briefly, although these few colour similarities could have easily been noted down on a drawing – which might explain the precise switch of red and black in the two standing foreground figures to the centre left. The fact that the majority of copies share a number of small common differences to the original painting relating to scale, colour and motif suggest that Brueghel the Younger's copy *princeps* was in fact a separate model, such as a complete drawing of the composition by Bruegel the Elder or another artist, either prior to, or after the execution of the painting. The absence of the two small walking figures above the tent in the copies tilts the evidence in favour of a preparatory drawing by Bruegel the Elder as model. A painted replica by Bruegel the Elder, resembling more faithfully the copies in scale, colour and motif remains a remote possibility but the brightly coloured draperies seen in Brueghel the Younger's copies are not typical of Bruegel the Elder's usual style.

11.2.6.c.iv Comparison amongst copies

Amongst themselves, the copies show only slight variations such as the positions, size and numbers of birds, the shape and details of the ruins in the upper right, the presence of snowflakes, the branches of trees and certain drapery colours. A comparison of mostly colour reproductions of a limited number of copies revealed that it might be possible to sort them into groups as with the *Census at Bethlehem* series, on the basis of these minor differences.⁸⁸³ A more extensive survey of the extant copies would be necessary to draw conclusions; however, it does appear that the Brussels and Antwerp versions form part of the same variant which includes two paintings in private collections, one signed (fig. 491a-d).⁸⁸⁴ The Antwerp version, however, although showing the same distribution of birds, does present several discrepancies versus the other three members of the group, for example, the hole in the chimney in the upper right corner, which is present in all the copies except the Antwerp version and certain drapery colours, such as the shirt of the figure carrying a sack in front of him in the centre right, blue/grey in all the copies except the Antwerp version, where it is pinkish. Whether these differences threaten the Antwerp version's 'membership' of the group is debatable. It is notable that all three signatures in the signed versions carry the 'EV' spelling, suggesting a date of 1616 or after for the group.

Other possible groupings include the earliest known version (1606) with a privately owned version (fig. 492a-b)⁸⁸⁵ and a variant consisting of a privately owned version from Portugal with a further privately owned copy (fig. 493a-b).⁸⁸⁶ The privately owned version from Portugal was examined by the naked eye by the author during the *Brueghel Enterprises* exhibition and was found to have no stylistic similarities whatsoever with Brueghel the Younger's usual production, although it was probably copied after one of Brueghel the Younger's copies. Furthermore, Catharina Van Daalen's tracing of the painting from Portugal found that it did not conform to her Core group of six copies in terms of composition, being slightly larger and was therefore not derived from the same cartoon. The key evidence came from dendrochronology – one of the boards has a *terminus post quem* after the lifetime of Brueghel the Younger. This confirms what the stylistic evidence already suggests – that this painting was executed outside the Brueghel workshop. The other like painting in the pair was not examined by the author.

Interestingly, another set of two copies, one of which is signed and dated 'P. BREVGEL. I 1620'⁸⁸⁷ shows a larger and squarer format and an entirely different arrangement in the sky to all the other versions including the

⁸⁸² VAN DAALLEN 2002 (forthcoming). During the *Brueghel Enterprises* exhibition itself, Catharina Van Daalen displayed a tracing of the former Dimier collection version laid over that of a privately owned painting from her 'Core group' (this core group includes the Antwerp and Brussels' versions). The Dimier composition is clearly about half a centimetre smaller than that of paintings from the Core group. Since Bruegel the Elder's original version is slightly larger than the two Antwerp versions, this signifies that the design for the former Dimier collection version cannot have been transferred using a cartoon or tracing taken direct from the original version.

⁸⁸³ Rebecca Duckwitz also observed the existence of marked variants in the *Proverbs* series, see DUCKWITZ 2001.

⁸⁸⁴ Private collection (Galerie Robert Finck, 32 Foire des Antiquaires de Belgique, 26 January – 8 February 1987), canvas, 38 x 56 cm (not in MARLIER-FOLIE 1969; ERTZ 2000 E238); Private collection (De Jonckheere, cat. 1991), 38 x 57 cm, signed 'BREGVHEL' (MARLIER-FOLIE 1969, no. 13; ERTZ 2000, cat. 249).

⁸⁸⁵ Version signed and dated 1606, cited note 844; privately owned version, Vienna, St. Lucas Galerie, before 1930 (ERTZ 2000, cat. 253).

⁸⁸⁶ Private collection, Portugal, 42.5 x 58.5 cm (MARLIER-FOLIE 1969, no. 18; ERTZ 2000, cat. A264; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 21); private collection, Xaver Scheidwimmer, Munich, 1998, 39.2 x 56.8 cm (ERTZ 2000, cat. E234).

⁸⁸⁷ Belgian private collection, Galerie d'Art St. Honoré, 1990, 48.5 x 63.5 cm, signed and dated 'P. BREVGEL I. 1620', (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E230). The attribution and the signature were not verified by the author, the latter desirable in view of its unusual spelling. The fact that the spelling of the signature conforms to neither to the two forms of spelling Bruegel the Elder's name, nor to Brueghel the Younger's two typical spellings makes it likely that the signature has been retouched or added to the painting at some point. It would not be unusual for a signature to have been mistakenly 'strengthened' by a restorer, unaware of the various spellings of the Bruegel

original (fig. 494a-b).⁸⁸⁸ The tree on the left is shown in its entirety, instead of being cut off part of the way up and the architecture on the right has a large empty zone of sky above it. The ‘pair’ in this case is a version of the painting given by Georges Marlier and Klaus Ertz to ‘Abel Grimmer ?’, from the Národní Galerie in Prague.⁸⁸⁹ If both attributions are correct, which is far from certain, then it is possible that Brueghel the Younger, or a member of his studio, copied Grimmer’s variant in this one instance. Interestingly, Grimmer’s variant is clearly taken from one of Brueghel the Younger’s copies rather than the original version as all the fixed variants between the Winterthur version and Brueghel the Younger’s copies pointed out above apply to Grimmer’s version, for example the absence of the two figures walking above the tent, the ‘switched’ red and black drapery colours for two figures in the foreground and the more varied drapery colours in the background. Grimmer’s unique panel format, with a greater height versus width ratio allows more of the sky to show and puts the viewer at a greater distance from the actual subject matter, reducing the intimacy of the scene.⁸⁹⁰ This is typical of the kind of modification Grimmer made to compositions borrowed from the Bruegel family, another example being his *Winter Landscape with Bird Trap*, also endowed with an increased height to width ratio, giving the viewer more of a bird’s eye view (fig. 430b). If the ‘pair’ to the Grimmer version is indeed by Brueghel the Younger, it would not be the first time the latter copied a pastiche of a familiar Bruegel the Elder composition by another artist. Brueghel the Younger’s many versions of the *Massacre of the Innocents* can be divided into two groups, the first, faithful copies of Bruegel the Elder’s version in Hampton Court,⁸⁹¹ the second, copies of a now-lost pastiche of the latter by Marten van Cleve (d. 1581).⁸⁹² In the case of Grimmer’s *Adoration* and Brueghel’s similar copy, Klaus Ertz argues instead that both paintings were based on a lost original model by Bruegel the Elder, that the unusual inscription in Brueghel’s copy implies the latter was a kind of homage to his father and that the bearded figure just in front of the tent in the foreground of Brueghel’s version is a portrait of Bruegel the Elder based on Dominicus Lampsonius’s portrait engraving of 1572.⁸⁹³ The fact that the Grimmer composition is so typically Brueghel the Younger in style – anecdotal and decorative colour scheme, clarity of detail in figures and brickwork, lack of atmospheric effects – would appear to counter the fundamental premise of this argument. Furthermore, close comparison of the bearded figure with the corresponding detail in other copies by Brueghel the Younger shows up no idiosyncratic features on the part of the former; the figure’s nose does not even have the characteristic ‘hook’ that Lampsonius’s portrays in his engraving.

For the large part, it might well be the case that copies within a grouping were made within the same time period, the artist(s) simply copying the small variable details from another painting physically displayed at the same time in Brueghel the Younger’s studio.

11.2.6.d *Transfer process: Use of cartoon*

To find out more about the nature of the actual model or models used by Brueghel the Younger for his copies, and how he may have transferred the design onto his panels, the author’s tracings of the painted compositions of the Antwerp and Brussels copies were overlaid and their respective infrared reflectograms closely compared.

When the tracings of the painted compositions were superposed, they were found to correspond almost exactly, with the exception of the uppermost roof line in the centre left that shows a minor discrepancy of 2-3 mm (fig. 489a-b). This would appear to suggest the use of a common cartoon to transfer the whole composition. This hypothesis is reinforced by the comparison of the underdrawings of the group surrounding the Virgin. These figures show almost identical underdrawn fold lines in their draperies (fig. 495a-c), a pattern repeated in the corresponding detail of the Bonnefantenmuseum copy of the same painting;⁸⁹⁴ superposing the underdrawings

family name (see for example, the incorrectly retouched signature on a version of *Sermon of Saint John the Baptist*, Chapter III). The ‘H’ could have been transformed into an ‘E’, the ‘E’ into an ‘L’ and the ‘L’ into an ‘I’.

⁸⁸⁸ Another version, listed by Marlier and Ertz, not seen in reproduction by the author, also conforms to this larger, squarer format and may therefore represent the same variant: Munich-Gladback, coll. Aug. Schubert, 49 x 62.5 cm, signed, ‘BREVGHTEL’ (MARLIER-FOLIE 1969, no. 10; ERTZ 2000, F259).

⁸⁸⁹ No dimensions for this paintings given by either Marlier or Ertz (MARLIER-FOLIE 1969, no. 27; ERTZ 2000, cat. A265).

⁸⁹⁰ Klaus Ertz also comments on the different atmosphere in this variant of the composition, ERTZ 2000, p. 304.

⁸⁹¹ Pieter Bruegel the Elder, *Massacre of the Innocents*, 109.2 x 158.1 cm (these are not the original dimensions as the painting has been cut down on three sides, CAMPBELL 1985, cat. 9, p. 15), signed in lower right, ‘BRVEGEL’ (‘only the topmost parts of the letters are visible, the rest having been cut away’ *ibidem*, p. 14), Hampton Court, The Queen’s collection, inv. 1270.

⁸⁹² See Chapter IX, Section 15.2.

⁸⁹³ ERTZ 2000, pp. 303-4, figs. 220-1. Regarding this particular version, Ertz presents the lack of snow through a window in the church in the upper right as an example of Brueghel the Younger ‘correcting’ a perspectival defect in the lost original version. What is more likely is that there is significant damage along the join in the panel at this point and that the restorer did not realise there was supposed to be snow in this zone, retouching the loss with the surrounding brickwork instead (which would indeed be more logical). A close technical examination of this particular copy would be necessary to confirm this opinion.

⁸⁹⁴ Maastricht, Bonnefantenmuseum, inv. 3388, 41 x 57 cm, signed ‘P.BREVGHTEL’. I would like to thank Peter van den Brink for sharing this image with me.

of this detail in the Antwerp and Brussels copies results in an extremely close correspondence (fig. 495d-e).⁸⁹⁵ As with the *Winter Landscape with Bird Trap* series, this close match suggests a common cartoon may have been used to transfer the composition, at least in the case of the Brussels and Antwerp copies, rather than a less exact method such as squaring or the use of proportional compasses.

Again, as with the *Winter Landscape with Bird Trap* series, no pouncing dots or squaring lines were identified in the *Adoration* copies. The underdrawing proved to be similar in character to that in the *Winter Landscape* paintings: thin, wiry outlines for the entire composition. But whether these lines are traced, or the results of the joining-up of pouncing dots is not immediately obvious. A clue may be offered by the group around the Virgin where it is possible that small dots along the waistband of the kneeling king in the Antwerp version are remains of pouncing. In the rest of the painting, most of the motifs, particularly in the Antwerp version, appear to be drawn with a freer touch than tracing would allow, to the point of revealing stylistic traits. This would appear to suggest erasive pouncing, as in the *Battle between Carnival and Lent*, whereby the artist would have transferred the image by rubbing black pigment through a pricked cartoon, and subsequently joined up the dots freehand using a dry drawing medium. During drawing, the artist might have referred to a separate model drawing or painting for very small details.

Catharina van Daalen's research on various versions of the *Adoration of the Magi* exhibited in the *Brueghel Enterprises* exhibition concluded that six paintings in the show were taken from the same cartoon, based on the evidence of her tracings and infrared reflectography.⁸⁹⁶ Her group of six included the Antwerp and Brussels versions, as well as the Venice, Prague, Bonnefantenmuseum and a privately owned version, the latter signed and dated 1606, the earliest known copy of this subject (Cat. Maastricht 2001, nos. 16, 17, 18, 19). Interestingly, Van Daalen's set of six copies includes paintings from more than one of the variants discussed above (see 'Comparison amongst copies', Section 11.2.6.c.iv). This suggests that the same cartoon was used throughout the series, despite the small differences in the placement of birds and colour.

11.2.7 Conclusion

In terms of materials and technique, there were no surprises during the examination of the Brussels and Antwerp versions of *Adoration of the Magi*. The wood panels were in both cases made by Brueghel the Younger's habitual panel-maker, Michiel Claessens, and at least in the case of the Brussels version, the wood used is of local origin, the most frequently encountered source for Brueghel's small format panels. Both paintings are executed on chalk grounds and cross-sectional analysis of the Antwerp version shows a beige-toned *imprimatura* in between the ground and paint. A typical black, dry medium, outline underdrawing of the entire composition is present in both cases. The underdrawing of the Antwerp copy is slightly more spirited in manner than the Brussels version although the drawings are extremely close in style. Whether the execution of the drawing stage was by a different draftsman for each painting or by a common hand remains a point of debate. An extensive system of corresponding painterly reserves is observed in both versions, as is typical in Brueghel's work. Both paintings show many zones of dextrous, wet-in-wet brushwork although the style is generally more linear than painterly in character. Characterisation of form and gesture is clearly more accomplished in the Antwerp version. This suggests a different hand may possibly have been responsible for painting each version.

The study of the original Winterthur version by Bruegel the Elder, and a detailed comparison of its scale, motif and colour with the copies showed that the model for the latter was most likely a preparatory drawing of the composition by the elder master. Amongst the copies themselves, the existence of groups of two to four paintings showing almost identical minor details suggests that they may have been executed at around the same time, using one painting in a group as the model for the final details of the paint layer of the next and so on.

The superposition of the painted compositions of the Antwerp and Brussels versions shows that a single cartoon must have been used for the transfer of the design; furthermore, corroborative evidence from another researcher of tracings made across the various groupings shows that the same single cartoon (or identical copy of it) was most likely used for all of them, much in the same way as the same set of cartoons was used for specific motifs in all six variants of the *Census* composition. As with the *Winter Landscape with Bird Trap*, the actual method of transfer is not obvious; however, the slightly loose quality of the Antwerp underdrawing would appear to favour pouncing, followed by joining up of the dots freehand, rather than tracing.

A note regarding Bruegel the Elder's *Adoration of the Magi* in the National Gallery, London and a faithful copy of it by Brueghel the Younger.

⁸⁹⁵ In the illustration of the underdrawing superposition (fig. 495d), the figures to the left do not superpose correctly. This is probably due to minor distortions in the infrared relogram, which probably crept in during the mosaicing process. When the tracings of the painted compositions were aligned on this figure group, the correspondence was found to be perfect (fig. 495e).

⁸⁹⁶ VAN DAALLEN 2002 (forthcoming).

Infrared photographs of Bruegel the Elder's *Adoration of the Magi* from the National Gallery, London⁸⁹⁷ show numerous fundamental changes to important motifs at the underdrawing stage: the Virgin, whose neckline was previously 'v' shaped rather than rounded and whose inner headdress did not come so far down; the kneeling king, whose profile was further up and further forwards than in the final image and the gold covered cup, held by the king in red, which partially masks another unidentified form to its right (fig. 496a-c).⁸⁹⁸

There is only one known copy by Brueghel the Younger of this composition.⁸⁹⁹ This painting does not follow any of the initial ideas that were dropped in the final composition of the original version; with a few minor exceptions, it imitates faithfully the final painted stage of the original (fig. 497a-b).⁹⁰⁰ As already pointed out by Georges Marlier and Jacqueline Folie, the format and colours in the copy are exceptionally close to Bruegel the Elder's original version.⁹⁰¹ Furthermore, the signature is found in the lower right in both original and copy and certain golden embroidered drapery details are very similar in both works.

In this case therefore, unlike the smaller format 'Winterthur' *Adoration of the Magi* discussed above, the evidence supports the possibility of Brueghel the Younger having seen and copied his father's original painting rather than a preliminary drawing. Less likely alternatives include a painted replica of the original or a compositional drawing taken after the painting, with extensive colour notes, possibly by Bruegel the Elder himself.⁹⁰² Whether or not Brueghel the Younger's copy was based on an exact tracing of the original version, or a looser freehand copy, perhaps guided by squaring, could only be determined by tracing the compositions of the copy and/or the original and superposing the two images.

⁸⁹⁷ Cited note 839.

⁸⁹⁸ These changes were noted in VAN SCHOUTE and VEROUGSTRAETE 1975. For further discussion, see CAMPBELL 2002, p. 180.

⁸⁹⁹ Pieter Brueghel the Younger, *Adoration of the Magi*, private collection (sold Sotheby's London, 19 April 1989, lot. 24), 108 x 86.5 cm, signed 'P. BREVGHEL'. This painting was not examined by the author. It is discussed and illustrated in FOLIE 1980, p. 145.

⁹⁰⁰ MARLIER-FOLIE 1969, p. 77, FOLIE 1980, p. 145.

⁹⁰¹ *Ibidem*.

⁹⁰² The suggestion that Bruegel the Elder made drawings of his own finished compositions for possible future use has been made recently by Dominique Allart, Lorne Campbell and Yoko Mori [cited note 731].

CHAPTER VI

Peasant Lawyer

The *Peasant Lawyer* composition was one of Brueghel the Younger's most successful images, most likely due to the humorous way in which it attacks the legal profession, for which few had much respect during the period.⁹⁰³ The original model is unknown. Of the ninety-one known copies listed by Klaus Ertz,⁹⁰⁴ twenty-five are given to the hand of Brueghel. Of these, nineteen are signed and dated, the dates varying between 1615 and 1622, a limited period compared to some of his other series'.⁹⁰⁵ Georges Marlier also lists a version that he states is signed and dated 1630 and a further signed and dated version is found in the Musée du Louvre.⁹⁰⁶ Of the signed but undated versions listed in Ertz, two carry the 'BRVEGHEL' spelling, indicating the work was executed during or before 1616 and five carry the 'BREVGHHEL' spelling, meaning the painting was executed during or after 1616.⁹⁰⁷ Many versions were also produced outside the Brueghel workshop and can clearly be distinguished from Brueghel's production through their style and copy techniques.

Two signed and dated versions of the *Peasant Lawyer* are exhibited in Belgian public collections, one in the Museum voor Schone Kunsten in Ghent, the other in the Groeningemuseum in Bruges (figs. 498-9). The author was fortunate enough to be able to examine nine further versions for comparative purposes (figs. 500-4, 506-9),⁹⁰⁸ of which seven were studied during the Brussels leg of the *Brueghel Enterprises* exhibition.⁹⁰⁹ A further

⁹⁰³ For an in-depth interpretation of the subject matter in this composition, see KRUEGER 1995.

⁹⁰⁴ ERTZ 2000, vol. 2, cat. 489-575, pp.501-22.

⁹⁰⁵ Neuilly, private collection, 1970, 74 x 123 cm, signed and dated, 'P. BRVEGHEL 1615' (MARLIER-FOLIE 1969, no. 33, ERTZ 2000, cat. E489); Spain, private collection 1998, 76 x 124 cm, signed and dated, 'P. BRVEGHEL 1616' (MARLIER-FOLIE 1969 no. 26, ERTZ 2000, cat. E490); Marseilles, Gal. Goyet, 1996, 56.5 x 89.8 cm, signed and dated, 'P. BRVEGHEL 1616' (ERTZ 2000, cat. E491). This painting was sold at Philips on 6.12.1994 and the inscription given as 'P. BRVEGHEL 1618' which probably contains an error as the spelling does not accord with the date; London, Sotheby's, 27 March 1974, no. 44, 57.5 x 86 cm, signed and dated, 'BREVGHHEL 1616' (ERTZ 2000, cat. E492); Paris, Gal. Leegenhoek, 1986, 52 x 83 cm, signed and dated, 'P. BREVGHHEL 1616' (ERTZ 2000, cat. E 493); Milan, Surati collection, 1937, 115 x 187 cm, signed and dated, 'P. BREVGHHEL 1617' (MARLIER-FOLIE 1969, no. 29, ERTZ 2000 E494); Courtrai, private collection, 1969, 58 x 89 cm, signed and dated, 'P. BREVGHHEL 1618' (MARLIER-FOLIE 1969, no. 18, ERTZ 2000, cat. E495); Maastricht, Bonnefantennmuseum, inv. 3816, 73 x 105 cm, signed and dated 'P. BREVGHHEL.1618.' (MARLIER-FOLIE 1969, p. 435, no. 2, ERTZ 2000, cat. E496, CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 41); private collection, Uruguay (sold at New York, Sotheby's, 14 January 1998, no. 83 – information from CAT. MAASTRICHT-BRUSSELS 2001), 56 x 89 cm, signed and dated, 'BREVGHHEL. 1618.' (the initial 'P.' is missing; however, it was probably originally present as the area where it should be appears completely retouched) (ERTZ 2000, cat. E497; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 45); Norwich, Castle Museum, inv. NWHCM: 1975.272: F, 54 x 84.9 cm, signed and dated 'P.BREVGHHEL. 1618' (MARLIER-FOLIE 1969, no. 30, ERTZ 2000, cat. E498, CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 43); Paris, Gal. Carsen, 1986, 52 x 89 cm, signed and dated, 'P. BREVGHHEL 1618' (MARLIER-FOLIE 1969, no. 4, ERTZ 2000, cat. E499); Paris, Gal. Gismondi, Biennale Paris, after 1985, 56 x 86 cm, signed and dated, 'P. BREVGHHEL 1619' (MARLIER-FOLIE 1969, no. 28, ERTZ 2000, cat. E502); Paris, Gal. Leegenhoek, after 1981, 50 x 79 cm, signed and dated, 'P. BREVGHHEL 1619', MARLIER-FOLIE 1969, no. 21, ERTZ 2000, cat. E503; Bruges, Groeningemuseum, inv. 0.1606, 54.6-54.7 x 87.1-87.6 cm (measurements taken by author), signed and dated, 'P. BREVGHHEL 1620' (MARLIER-FOLIE 1969, no. 13, ERTZ 2000, cat. E504, CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 38); Dieren, Ga. Katz, after 1937, 72.3 x 119.4 cm, signed and dated, 'P. BR(VE?)GHEL 1621' (MARLIER-FOLIE 1969, no. 19, ERTZ 2000, cat. E505); Ghent, Museum voor Schone Kunsten, inv. 1952-G, on deposit from the Flemish Community, 76.4-76.6 x 123.5-123.7 cm (measurements taken by author), signed and dated, 'P. BREVGHHEL 1621' (MARLIER-FOLIE 1969, no. 1, ERTZ 2000, cat. E506); Paris, Gal. Leegenhoek, 1991, 79 x 123 cm, signed and dated, 'P. BREVGHHEL 1622' (ERTZ 2000, cat. E507); Basel, Ryhiner-Stehlin sale 1969, 76.5 x 125 cm, signed, 'P. BRVEGHEL 1615' (MARLIER-FOLIE 1969, no. 8, ERTZ 2000, cat. F517); Belgium, private collection, canvas, 115 x 184 cm, signed and dated, 'BRVEGHEL 16(18?)' (ERTZ 2000, cat. A548) (this painting is probably not from Brueghel's studio, see note 911). All information from MARLIER-FOLIE 1969 and ERTZ 2000 unless specifically mentioned.

⁹⁰⁶ MARLIER-FOLIE 1969, p. 248, no. 23, The Hague, sale (Venduhuis), 6. 11. 1962, no. 5, as P. de Bloot. Musée du Louvre, inv. RF 1973-37, 55 x 80 cm, signed and dated, 'P. BRVEGHEL 1617' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. F 541) (information from *Revue du Louvre*, 1974, p. 133 and 137, also from 'Joconde' web site, where painting is illustrated). In Ertz's catalogue, he states that this version is probably the same as the only other version dated 1617 (ERTZ 2000, cat. 494); however, their measurements are completely different.

⁹⁰⁷ ERTZ 1998, p. 19. Signed, undated works listed by Ertz are: Jerusalem, Israel Museum, inv. 504/189, 55 x 82 cm, signed, 'P. BRVEGHEL' (ERTZ 2000, cat. E508); London, Christie's, 8 December 1995, lot. 7, 75 x 125 cm, signed, 'P. BREVGHHEL' (ERTZ 2000, cat. E509); London, Gal. Brod, before 1993, 56.2 x 91.9 cm, signed and dated, 'P. BREVGHHEL 161[-]' (ERTZ 2000, cat. E510); France, private collection, 1997, 55.2 x 87.6 cm, signed, 'P. BREVGHHEL' (ERTZ 2000, cat. E511); Hannover, Niedersächsische Landesgalerie, 50 x 91 cm, signed, 'BRVEGHEL (date illegible)' (MARLIER-FOLIE 1969, no. 20; ERTZ 2000, cat. F527); Los Angeles, University of Southern California, A. Hammer Coll, 76.2 x 128.3 cm, 'P. BREVGHHEL' (MARLIER-FOLIE 1969, no. 27; ERTZ 2000, cat. F537); Paris, sale de Bal, 1937, 56 x 87 cm, signed, 'P. BREVGHHEL' (MARLIER-FOLIE 1969, no. 31; ERTZ 2000, cat. F542); All information from MARLIER-FOLIE 1969 and ERTZ 2000.

⁹⁰⁸ These additional paintings were examined with the naked eye, with infrared reflectography and occasionally with the microscope. Where possible, tracings were made of the painted compositions. With the exception of the Antwerp version, x-rays were not made due to safety reasons.

⁹⁰⁹ Versions studied by the author from Brueghel the Younger's workshop (all measurements taken by the author unless otherwise stated):
a Ghent, Museum voor Schone Kunsten, inv. 1952-G, on deposit from the Flemish Community), 76.4-76.6 cm x 123.5-123.7 cm, signed and dated in lower left, 'P. BREVGHHEL. 1621' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E506, not in CAT. MAASTRICHT-BRUSSELS 2001-2).
b Bruges, Groningemuseum, inv. 0.1606, 54.5-54.7 cm x 87.1-87.6 cm, signed and dated in lower left, 'P. BRE[-]HEL. 1620' (MARLIER-FOLIE 1969, no. 13; ERTZ 2000, cat. E504; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 38).
c France, private collection, Galerie St. Honoré, after 1998, 75.2 x 122 cm, unsigned (ERTZ 2000, cat. E511a; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 44). Unfortunately, the provenance of this painting was wrongly identified in the Maastricht-Brussels catalogue as 'Galerie d'Art Saint-Honoré 1994' and Klaus Ertz lists it as a canvas, when in fact it is clearly a panel.

signed version (Paris, Gal. St. Honoré 1994) was photographed during the 1998 *Breughel-Brueghel* exhibition in Antwerp, but was not taken off the wall or examined with infrared (fig. 505).⁹¹⁰ Of the twelve works examined, seven are attributable to Brueghel the Younger's workshop; the other five serve as useful pointers as to what is **not** Brueghel's manner of working.

12.1.1 Panel support

The Ghent and Bruges versions are painted on oak panel, in common with all the signed paintings of this subject from Brueghel the Younger's workshop. A signed painting from a Belgian private collection is on canvas; however, examination of a reproduction of the latter painting and Klaus Ertz's 'A' rating for it do not support its attribution to Brueghel the Younger or his studio.⁹¹¹ Numerous unsigned examples from outside the Brueghel workshop appear to be executed on canvas.⁹¹² A small-scale, unsigned version on copper from the Deutsches Historisches Museum in Berlin was examined as part of the current study, but this painting could not be linked either with any certainty to the Brueghel workshop. It is probable that the 'Peasant Lawyer' composition was never executed on a support other than wood in Brueghel's studio.

Both the Ghent and Bruges versions have been planed down on the reverse and cradled.⁹¹³ The Brussels panel is reasonably stable; the Ghent panel is inherently unsound, with several large cracks developing.

12.1.1.a Panel formats

The composition was produced in two main formats in Brueghel's workshop, represented by the Ghent and Bruges versions respectively. Brueghel may have used a larger-scale format in one exceptional case, although the latter was not examined by the author in order to verify its authenticity.⁹¹⁴ The *Peasant Lawyer* is one of the few compositions by Brueghel the Younger to exist in two formats.⁹¹⁵

The Bruges panel is an example of the small-medium format, measuring 54.5-54.7 cm x 87.1-87.6 cm. This is somewhat larger than the format employed for the majority of small-scale compositions from the Brueghel workshop (see Appendix 2). The Ghent version is painted on a medium format panel and measures 76.4-76.6 cm x 123.5-123.7 cm. This format is similar to the smaller of Brueghel's two *Massacre of the Innocents* series' and the *Bridal Procession*.⁹¹⁶

d Private collection, Uruguay, 55.9 x 90.2 cm (measurements from CAT. MAASTRICHT-BRUSSELS 2001-2), signed and dated, 'BREVGHHEL 1618' (ERTZ 2000, cat. E497; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 45).

e Maastricht, Bonnefontenmuseum, inv. 3816, 73 x 105 cm, (measurements from ERTZ 2000), signed and dated, 'P. BREVGHHEL.1618.' (MARLIER-FOLIE 1969, p. 435, no. 2; ERTZ 2000, cat. E496; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 41).

f Norwich, Castle Museum, inv. NWHCM: 1975.272; F, 54 x 84.9 cm (measurements from ERTZ 2000), signed and dated, 'P.BREVGHHEL. 1618' (MARLIER-FOLIE 1969, no. 30; ERTZ 2000, cat. E498; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 43).

Versions studied by the author from outside Brueghel the Younger's workshop:

g Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 646, 77.2 x 124.7 cm (sight size), unsigned (MARLIER-FOLIE 1969, no. 3; ERTZ 2000, cat. F 513; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 35).

h Private collection, Munich-Milwaukee, 71 x 103.6 cm, unsigned (ERTZ 2000, cat. A564a; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 42).

i Bonn, Rheinisches Landesmuseum, inv. 59.378, 73.3 x 104.5 cm, unsigned (ERTZ 2000, cat. A549; CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 37).

j Berlin, Deutsches Historisches Museum, inv. ICN44 D211, copper panel, 28.9 x 35.6 cm (measurements from CAT. MAASTRICHT-BRUSSELS 2001-2), unsigned (ERTZ 2000, cat. A556, CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 36).

k Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 2978, 76.2-3 x 141.6-142.8 cm, unsigned (MARLIER-FOLIE 1969, no. 14; ERTZ 2000, cat. A550; not in CAT. MAASTRICHT-BRUSSELS 2001-2).

⁹¹⁰ Private collection, France (Paris, Galerie St. Honoré, 1994), 55.2 x 87.6 cm, signed, 'P. BREVGHHEL' (ERTZ 2000, cat. E511; ERTZ 1998, cat. 142).

⁹¹¹ Belgium, private collection, canvas, 115 x 184 cm, signed and dated, 'BRVEGHHEL 16(18?)' (ERTZ 2000, cat. A548, reproduced in *Apollo Magazine*, November 1973, vol. 4). Several details have been simplified in this version, such as the papers above the wall calendar in the upper right, which suggests the painting was not executed in Brueghel the Younger's studio (Ertz's 'A' rating is given to paintings he considers were made outside Brueghel's studio).

⁹¹² See for example, ERTZ 2000, cats. A555, A571, A573, A575.

⁹¹³ In the case of the Ghent version, the cradle is printed with the name of the restorer on the second horizontal member from the top, 'DE WILD, HOLLAND'. The Bruges version was cradled by Leegenhook in 1964, according to the museum files.

⁹¹⁴ For example, Milan, Surati coll., 1937, 115 x 187 cm, signed and dated, 'P. BREVGHHEL 1617' (MARLIER-FOLIE 1969, no. 29; ERTZ 2000 E494).

⁹¹⁵ Another example of a composition existing in two formats is the *Kermis of Saint George*, an original invention by the artist (MARLIER-FOLIE 1969, p. 381-2). Brueghel also occasionally took motifs from one composition and reduced them for inclusion in another, for example, the slaughtering of the pig motif in the *Census at Bethlehem* was reduced for inclusion in *Autumn*, part of his *Four Seasons* series.

⁹¹⁶ *Massacre of the Innocents* (Musées Royaux des Beaux-Arts de Belgique, inv. 8726), 73.7 x 105.6 cm; *Massacre of the Innocents* (Koninklijk Museum voor Schone Kunsten, inv. 832), 105 x 74.3 cm; *Bridal Procession* (Koninklijk Museum voor Schone Kunsten, inv. 807), 70.8 x 117.6 cm. For a discussion of these paintings, see Chapter IX.

Of the comparative works from Brueghel's workshop, the Uruguay, Norwich and a privately owned (Paris, Gal. St. Honoré, 1994) version are painted in the smaller-scale format and the Maastricht and another privately owned (Paris, Gal. St. Honoré, after 1998) version are medium-scale.⁹¹⁷

The paintings examined from outside Brueghel's workshop are the Antwerp, Munich, Bonn, Brussels and Berlin versions. The first three are all executed on panels in the medium-sized format.⁹¹⁸ The Brussels version is considerably larger in width, measuring 76.2-3 x 141.6-142.8 cm. The Berlin version, on copper, represents the smallest scale of all, measuring only 28.9 x 35.6 cm.

12.1.1.b Panel construction and dendrochronology

The Bruges panel is made up of one wide board only. The current study found that this was not particularly unusual in Brueghel's oeuvre;⁹¹⁹ the survey uncovered several other examples of panels made up of one single plank, for example *Return from the Kermis* (Musées Royaux des Beaux-Arts de Belgique, inv. 10831).⁹²⁰ Furthermore, dendrochronology identified the origins of the oak for the Bruges panel as local, which appears to be the standard for the artist's smaller-scale works.⁹²¹ In the latter case, the wood probably derives from the Meuse valley or West Germany.⁹²² The Ghent support consists of four planks, the uppermost one extremely narrow. In the Ghent panel there are four dowels per join for the uppermost and middle joins and three dowels for the lowermost join; these are clearly made out in the x-radiograph (fig. 510). Both the holes for the dowels and the wooden dowels themselves appear longer and thinner than usually observed in Brueghel's work.

Of the other paintings deriving from Brueghel's workshop examined in detail, the privately owned version from France (Paris, Gal. St. Honoré, after 1998) is made up of three planks in the horizontal direction, plus a small strip at the top, and the Maastricht version is composed of three boards. Like the Bruges panel, the Norwich copy is also painted on a single, wide plank. Unfortunately, the Uruguay and privately owned (Paris, Gal. St. Honoré 1994) versions could not be assessed as they were examined in their frames. Of the paintings from outside Brueghel's studio, the Antwerp, Bonn and Brussels panels are composed of three planks whereas the painting from Munich is made up of four.

During the *Brueghel Enterprises* exhibition, Pascale Fraiture performed dendrochronology on six works from the *Peasant Lawyer* series.⁹²³ Of these, three were small-scale versions from Brueghel's workshop: the Bruges version, the Norwich copy and another version from a Madrid private collection not examined by the present author.⁹²⁴ As with the Bruges panel, the Norwich and Madrid supports are both made from local wood; furthermore, the Norwich and Bruges versions were discovered to be derived from wood from the same tree. In terms of dating, the *terminus post quem* for the execution of the latter was calculated as 1596 and in the case of the privately owned version from Madrid, 1600.

The three other versions analysed by Fraiture were from outside Brueghel's studio, namely the Antwerp, Bonn and Munich copies. These panels were dated in reference to Baltic wood chronologies and the *terminus post quem* for the execution of the paintings were established as 1610, 1619 and 1627 respectively. Fraiture also attempted to analyse the Brussels version, but could find no matching chronologies; she also observed that the planks were not assembled in a manner consistent with fifteenth to eighteenth century practice and that a poor cut of oak was used (false-quarter cut).⁹²⁵

Owing to the planing-down of the Bruges and Ghent panels prior to cradling, the presence or absence of original tool marks on the reverse of the panel could not be verified. On the recto of the Bruges panel however, there are incised markings on all four corners, a few millimetres in from the edges of the panel (fig. 511). These were probably made after the application of the *imprimatura* as they show up as dark lines in the x-radiograph. Their function is not understood; possibly they are some sort of indication regarding the calculation of the sight-size prior to framing.

12.1.1.c Branding

The Bruges version still displays its branding, owing to the foresight of a restorer who purposefully reserved the zones containing the markings whilst planing-down the panel prior to cradling (fig. 512a-c). The branding,

⁹¹⁷ These paintings, plus their measurements, are cited in note 909-10.

⁹¹⁸ These paintings, plus their measurements, are cited in note 909.

⁹¹⁹ See Appendix 2.

⁹²⁰ See Chapter IX, Section 15.3.

⁹²¹ For a discussion of the origins of the wood in Brueghel's work, see Chapter IV, Section 10.2.1.b.

⁹²² Pascale Fraiture, private correspondence, 7 November 2002.

⁹²³ Fraiture presented the results of this analysis at the *Brueghel Enterprises* symposium, Musées Royaux des Beaux-Arts de Belgique, 20-21 June 2002 (FRAITURE 2002 [forthcoming]).

⁹²⁴ Private collection, Madrid, 55.8 x 83.8 cm, unsigned (ERTZ 2000, cat. F532).

⁹²⁵ Pascale Fraiture, unpublished dendrochronology report, 19 June 2000.

situated in the approximate centre of the verso, consists of a right hand, heat-branded twice (to the right of centre) and the castle of Antwerp (to the left of centre), also heat-branded into the wood, both characteristic of the Guild of Saint Luke in Antwerp. The castle and hands may not have been applied with the same branding iron.⁹²⁶ Jørgen Wadum examined a rubbing and photographs of the branding and although he could not date the period of usage of the iron or irons, he recalled seeing similar branding on two panels in France and one in Budapest.⁹²⁷

Whether branding was originally present on the Ghent panel cannot be known due to planing-down of the reverse side. Pascale Fraiture examined the back of the Norwich panel and found no signs of branding.⁹²⁸ The author was not able to examine the reverse sides of the Uruguay and privately owned versions (Paris, Gal. St. Honoré 1994) and cradling of the larger format privately owned version (Paris, Gal. St. Honoré, after 1998) and the lining onto multiplex of the Maastricht version prevented any assessment of whether these panels were originally marked.

In the case of the copies deriving from outside the Brueghel workshop, no branding of any kind was observed on the intact reverse of the Antwerp panel, the Munich panel has been cradled making assessment impossible and the Brussels panel originally displayed what appears to be false branding (fig. 513).⁹²⁹ However, the reverse of the Bonn panel reveals the Antwerp brand as well as an unidentified monogram and a further unidentified marking, possibly a customs or collector's stamp of some kind (fig. 514a-d). Interestingly, the Antwerp brand is identical to that on the Ghent version of the *Wedding Dance* and the *Good Shepherd*, the latter painting signed and dated 1616 (see figs. 563a-d and rubbings, fig. 563c).

12.1.2 Ground

Both the Bruges and Ghent versions are painted on white grounds. Selected samples were taken from the Ghent version but have not been subject to SEM or medium analysis.⁹³⁰ Cross-sections reveal the ground layer as white, applied in at least two layers (fig. 516a-d).

12.1.3 Imprimatura

In the Bruges version, the texture from sweeping diagonal brushstrokes, probably an *imprimatura* layer can be made out through the paint layer in various places. These probably derive from the same layer as the wide, vertical strokes all along the left edge, which extend to about eight centimetres inwards. Where the paint is thin and light in colour, as in the window panes in the upper right, this underlayer gives a subtle stripy effect (fig. 515a). The predominantly diagonal brushwork of the layer is visible over the entire surface in the x-radiograph, confirming its identification as the *imprimatura* and indicating a lead white content (fig. 515b). The layer is also slightly visible in parts of the infrared reflectogram, indicating the presence of an infrared absorbing pigment such as carbon black, although it is not as boldly noticeable in the reflectogram as that in *Winter Landscape with Bird Trap* (Antwerp, Museum Mayer van den Bergh) and *Sermon of Saint John the Baptist* (Bruges, Groeningemuseum),⁹³¹ suggesting a lower carbon black content. It is most probably slightly grey in tonality, as in the latter paintings.

In the Ghent version, long, sweeping horizontal strokes, scooping downwards somewhat, are visible through the paint layer in places. These create a soft, stripy effect in lighter areas, as in the Bruges version. In the infrared reflectogram, these brushstrokes are visible over the entire surface, traversing all the forms, proving that they result from a single, carbon-containing *imprimatura* layer between the ground and paint layers. Along the right edge towards the top, the brushstrokes have been vertically applied for a short distance. This layer is not visible in the x-radiograph, indicating it contains very little, if any lead white. These observations are confirmed by cross-sectional analysis from different areas of the painting; in four samples the *imprimatura* is identified as a medium-rich layer in between ground and paint, containing many large and small black particles (fig. 516a-d).

Amongst the comparative paintings from Brueghel's workshop, the larger format privately owned version (Paris, Gal. St. Honoré, after 1998) has a bold, streaky grey *imprimatura* layer throughout; streaky brushwork is clearly visible with the naked eye in various directions through all the lighter areas of paint, and is equally clear in infrared. In the Maastricht version, a streaky, grey underlying layer is also discernible in areas of slight abrasion and through light paint; infrared reflectography reveals that it was applied using broad, sweeping, horizontal and

⁹²⁶ Jørgen Wadum speculates that this may indicate the use of a broken iron, or could be an iron previously used for retables, where the practice was to brand in two sequences, Jørgen Wadum, private correspondence, 28 May 1999.

⁹²⁷ Wadum found similar branding on *La Vierge et l'enfant*, Musée d'Auxerre, inv. 894.48, a panel with St. Thibalt, in Joigny and a panel used by H.C. Vroom for a *Seascape*, Szépművészeti Múzeum, Budapest, inv. 4375, Jørgen Wadum, private correspondence, 28 May 1999.

⁹²⁸ Pascale Fraiture, personal communication, 7 November 2002.

⁹²⁹ An old photograph of the Brussels version was the basis for this assessment. Since this photograph was taken, the panel has been cradled, which has unfortunately concealed any traces of the false branding.

⁹³⁰ Sampling was not permitted on paintings from the Groeningemuseum.

⁹³¹ See Chapters IV and III, Sections 10.2.3 and 9.1.3 respectively.

diagonal brushstrokes. In the Uruguay version, a striped underlayer is visible with the naked eye in just one thin area of paint; elsewhere, the paint layer is too opaque to judge. The infrared reflectogram of the latter shows some ill-defined brushwork in certain areas but it is not clear whether these strokes form part of an overall *imprimatura* layer. In the Norwich copy, a grey, streaky underlayer can be made out through lighter paint and the infrared reflectogram shows sweeping, slightly scooping horizontal brushwork over the entire surface, finishing in vertical strokes along the right edge, again confirming the presence of a carbon-containing *imprimatura*. In the smaller-scale privately owned version (Paris, Gal. St. Honoré 1994), bold horizontal brushwork can be made out with the naked eye in many areas, suggesting the presence of an *imprimatura* underneath the main paint layer (for example, figs. 541f and 545g).

Of the paintings outside the Brueghel studio, the Bonn and Antwerp versions may well have an *imprimatura*: in the Bonn version, a grey, brushy, horizontal underlayer can be made out with the naked eye in many places, particularly in the faces; in infrared, sweeping brushstrokes, horizontal for the main part but veering diagonally in places can be observed passing through all the forms; in the Antwerp version, the infrared reflectogram reveals the horizontal and diagonal brushwork of an underlying layer in all areas. In the Munich version, however, the horizontal texture is more likely attributable to the wood grain than an *imprimatura* layer. No such intermediary layer can be observed in the small Berlin version on copper.

12.1.4 Underdrawing

In the six versions of the *Peasant Lawyer* attributed to Brueghel the Younger's workshop examined by infrared reflectography, a detailed, carbon-based outline drawing was detected.⁹³² The drawing medium is either graphite or black chalk.⁹³³ It can be visualised in places with the naked eye through lighter areas of paint. In the medium format versions, and in certain of the smaller format versions, the drawing can be clearly seen to skip over the brushwork of the *imprimatura* layer in places, proving that it lies above, rather than below the latter, in common with all the paintings examined from the artist's workshop as part of the present study (figs. 517, see also fig. 523b).

All the details of the composition are laid out in the underdrawing, including drapery folds. The latter are drawn in a particularly bold and stylised manner, most probably due to the particularities of the lost original model.

In terms of method of application, the underdrawings have been applied freehand, although most likely guided by cartoon-transferred markings of some kind, either intentionally erased by the artist or invisible in infrared (see below, 'Transfer of the cartoon; pouncing or tracing?', Section 12.1.6.c.i). The drawing line shows considerable variations in pressure, thickness and density and there is frequent tapering at the ends of strokes, characteristics of freehand drawing rather than tracing. These traits are more obvious in the medium format versions of the composition but are still discernible in the smaller versions.

There are some rare, small adjustments during drawing, for example the nose of the bending woman in the Ghent and Norwich copies (fig. 518a-b), the position of the scribe's shirt opening and tablet in the privately owned version (Paris, St. Honoré, after 1998, fig. 519) and a bag of papers profiled against a window shutter in the Ghent version (fig. 520). A more curious adjustment occurs in-between the drawing and painting stages in the latter version: the row of hooks in the upper left face right in the underdrawing but left in the paint layer (fig. 521).

12.1.4.a Style

Stylistically, the underdrawings in the three medium format versions (Maastricht, Ghent, Paris, Gal. St. Honoré, after 1998) are extremely similar: bold, assertive, spontaneous, loose in places, rapidly but carefully applied with attention paid to the delineation of the smallest of details. Outlines are often composed of short, nervous strokes, occasionally reinforced along the way (fig. 522a-b). In some details, it seems that the privately owned version (Paris, St. Honoré, after 1998) does not master the facial features so convincingly (figs. 523, 526) and the draperies are perhaps a little less accurately rendered; however, the drawing shows a similar boldness of touch and similar drawing notations to the other two medium format panels.

The smaller-scale Bruges version also conforms to the style of the medium format panels, although the level of detail is slightly reduced owing to the format. The Uruguay and Norwich versions share many of the same characteristics as this group; the lower quality of the infrared reflectogram in the Uruguay version might explain its apparent weakness in places.

⁹³² The author is grateful to Peter van den Brink for supplying the infrared reflectogram of the Maastricht version. Different working conditions, plus differences in the condition of the paintings, account for variations in the quality of the infrared images. One of the two privately owned versions from France (Gal. St. Honoré 1994) was not examined with reflectography as the infrared camera was not available in 1998, when the painting was examined.

⁹³³ Refer to Chapter I, Section 7.2.5 for discussion of Brueghel the Younger's possible drawing mediums.

Elements such as hands, drapery folds and faces reveal precisely how closely the underdrawings from the Maastricht, Ghent, Bruges and Norwich versions relate to each other (figs. 523-8). Indeed, it would be difficult to attribute them to more than one hand; the four underdrawings most likely represent the work of a single, highly competent draftsman. Their particular style can be linked to a Core group of underdrawings spanning a wide period that may well be executed by the master himself (see below, ‘Core group of underdrawings’, Section 17.1.1). The privately owned version (Paris, Gal. St. Honoré, after 1998) may well form part of this group although certain doubts subsist. The same can be said for the Uruguay version.

12.1.4.b *Paintings outside Brueghel’s studio*

Like the underdrawings from the Brueghel workshop, the Antwerp version reveals a detailed, linear underdrawing in a dry, carbon-based medium. However, the drawing style is entirely different. Although masterfully executed, it is more ‘sketchy’, painterly and less precise than in Brueghel’s work, the artist also reinforcing important outlines to a much greater extent (fig. 529a-b). Outlines for draperies and faces undulate nervously and contour hatchings are often more curved than in Brueghel’s work. In the set of short, curved hatchings delineating the cheekbone of the lawyer’s face, a single curved line in the opposite direction gives increased three-dimensionality to the feature – a device never used in underdrawings from Brueghel’s workshop. Unlike in Brueghel’s work, where the paint layer precisely follows the underdrawn image, the underdrawing in the Antwerp copy was not used as more than a rough guide during painting. Changes in the positioning of minor motifs, such as documents on the floor and sheathes of papers in the upper left occur quite frequently (fig. 529c).

The underdrawing in the Berlin version indicates all the main outlines of the composition including some details in the faces (fig. 530). The drawing style is relatively loose in relation to its small size.

Faint outlines for the main forms can be made out in certain areas only infrared in the infrared reflectogram of the Bonn version; these bear no relation to the bold and detailed underdrawing lines in paintings emanating from the Brueghel workshop (fig. 531). In the Munich version, no underdrawing whatsoever is observed in infrared, confirming its exclusion from Brueghel’s studio (figs. 532).

12.1.5 **Paint layer**

12.1.5.a *Evolution of the paint layer and use of reserves*

The copies from Brueghel’s workshop are all painted in a similar fashion, starting with the background and working towards the foreground, reserving spaces along the way for the motifs to come. A clear example of a reserve is found in the Bruges version – the cane held by a figure to the far left is reserved in the thick, purple paint of his socks (fig. 533). The underdrawing is carefully followed in each case and there are no changes between the drawing and painting stages, with the exception of the direction of the row of hooks in the upper left in the Ghent version (fig. 521). All the paintings show reserves in the same places, with the exception of the privately owned version (Paris, Gal. St. Honoré, after 1998), which has a reserve in the background paint for the set of ropes hanging on the wall, the latter motif not present in the other five versions studied in infrared (fig. 534a). Cross-sections from the Ghent version show that the paint layer is usually composed of one thin layer only on top of the *imprimatura*.

Interestingly, the Antwerp version, although painted outside Brueghel’s studio, also left spaces during painting for the motifs to follow, for example the ropes on the wall in the centre left are reserved in the wall paint (fig. 534b), as in the privately owned version. This is not surprising, as the practice of leaving reserves during painting is typical sixteenth century Flemish practice.⁹³⁴

12.1.5.b *Palette and pigments*

The colours are similar, but not identical in the seven versions from the Brueghel studio (for significance of these variations, see below, ‘Two variants’, Section 12.1.6.b). Red is used for dramatic effect in all the versions, either in a vermilion hue or glazed with a red lake to give a deep, lustrous colour. There are striking examples of particularly rich and/or textured blues and purples in certain versions; for example, a bright turquoise blue for the waistcoat and socks of a figure in the Maastricht version (fig. 535), a royal blue for their counterparts in the Uruguay version (see above, fig. 501) and an intense purple for the lawyer’s cloak and socks of a figure in the Bruges version (see below, figs. 541d, 547d).

Pigments were not analysed; nonetheless, vermilion can be identified in certain reds due to its typical discolouration to grey/mauve in some of the works, affecting to a large extent the Ghent version and to a minor extent the Bonnefantenmuseum copy; the Bruges version is not touched (fig. 536a-d).⁹³⁵ This discolouration is

⁹³⁴ See Chapter I, Section 7.1.6.a.

⁹³⁵ See Chapters I, Section 7.2.6.c and VII, Section 13.1.5.d for discussion of this issue.

only a surface skin on the red paint, as evidenced by one cross-section from a discoloured area in the Ghent version (fig. 516c).

12.1.5.c *Handling of paint*

As with most paintings by the artist, the painting stage consists mostly of a single layer, with additional highlights, details and glazes.

Faces are modelled slightly differently in this series than in others, most probably due to the demands of the model; small strokes in steps of different tonalities ‘sculpt’ the features, giving greater surface contours than usual (figs. 545-6).

Like the faces, modelling of certain draperies is bolder and more slick than in other compositions, an example given by the white head covering of the bending woman, where the thick white paint and the black lines follow and define the contour of her head, blending into each other slightly (figs. 537a-g).

Wet-in-wet details are frequent, as in other compositions from Brueghel’s workshop, for example seams of draperies and black writing on documents (fig. 538a-b).

In the Bruges version, the artist incised the black leads of the window in the green paint of the panes prior to painting the various sheets of paper attached to the window (fig. 539a). The corresponding leads in the Ghent version have been painted wet-in-wet in the paint layer below, rather than being incised (fig. 539b).

A diamond-shaped green glass insert in the central window is simply painted in a thin green glaze and outlined in transparent brown paint (fig. 540).

Particular attention has been paid to the depiction of socks; these are often highly decorative elements within the composition, painted in thick, intensely coloured pigments and rich glazes (fig. 541a-f). Other socks and sleeves are painted in a manner typical of the artist: on a light coloured background – probably the *imprimatura* – thin, semi-transparent, short strokes establish the dark folds, an opaque pigment defines the mid tones and the highlights are ‘drawn’ on in white or another light colour, the whole motif most likely painted in a single session (fig. 542a-h).

Still life details are delicately delineated, using impasted dabs of paint for highlights, for example in the basket of eggs and bowl of sand (figs. 543-4).⁹³⁶

12.1.5.d *Style and attribution*

A detailed comparison of faces, draperies and hands in the different versions of the composition within Brueghel’s studio shows that there are almost no difference in style between them. Nonetheless, the larger format privately owned version (Paris, Gal. St. Honoré, after 1998) does appear more weakly executed in places; unfortunately, the painting has clearly been severely abraded and retouched, making a true assessment impossible. In all but the latter work, the faces are depicted in an almost identical manner and the brush handled similarly. There is little blending of colour; features are picked out with delicate, narrow, brown strokes, the underside of each cheekbone reinforced with dark, curved strokes, the centre of the latter indicated in more softly blended, red paint and the cheekbone’s shine suggested in short, textured, white dabs of paint. Several horizontal strokes of white or pink paint delineate the highlight on foreheads (fig. 544a-g). Likewise, the richly-coloured robe of the lawyer is similarly treated in all the copies: short vertical and diagonal brushwork in a glaze-like pigment, either red or purple, establishes the shadow parts of folds and more blended opaque lighter paint indicates the top parts (fig. 547a-f).⁹³⁷ The light underlying layer, probably the *imprimatura*, is allowed to shine through the gaps between strokes as a mid-tone. Finally, the striking similarity in the manner of building-up and handling the paint in the various copies is clearly shown in the lawyer’s left hand: fine, brown, transparent brushstrokes outline the main divisions between the figures; pink and white opaque paint models the lighter parts and creates highlights and a few red strokes give body to the knuckles (fig. 549a-f).⁹³⁸

It would appear that all the paintings originating from the Brueghel workshop are by one and the same hand, with the exception of the larger format privately owned version (Gal. St. Honoré, after 1998). In general, the painting style is not dissimilar in its general character to that of the underdrawings and similar adjectives could be used to describe it: bold, assertive whilst at the same time precise and delicate, the work of an experienced and talented individual. Could the underdrawings and paint layers all be by the same artist? Again, as with the underdrawing, the key question springs to mind – do these paintings reveal the hand of Pieter Brueghel the Younger himself?

⁹³⁶ The suggestion that this bowl may contain sand, for the purpose of speeding up the drying of ink on documents, was made by Jacques Debergh.

⁹³⁷ No photograph was available from the privately owned version (Paris, Gal. D’Art St. Honoré, after 1998) for this detail.

⁹³⁸ *Ibidem*.

Perhaps tellingly, amongst the *Peasant Lawyer* copies from Brueghel's studio, all but the privately owned version from France (Paris, Gal. St. Honoré, after 1998) are signed.⁹³⁹ If Brueghel himself were the artist responsible for underdrawing and painting all these signed copies, his signature would have genuine significance in this instance, rather than merely being the mark of his studio production. It is perhaps relevant to note that most of Brueghel's paintings in his mid-late career deriving from his own invention are also signed.⁹⁴⁰

12.1.5.e *Paintings outside the studio*

A brief glance of similar details in paintings of works from outside the studio serves only to confirm their exclusion from the workshop (figs. 546, 548, 550). In general, they show a more painterly approach with less precision in their depiction of detail. Facial expressions are less caricatured and more banal. However, the Antwerp copy shows more painterly flourish and character than the rest, revealing the work of an experienced individual; the work also presents a more modern, painterly style than the copies from Brueghel the Younger's workshop, although painted within the same time period (see above, 'Panel construction and dendrochronology', Section 12.1.1.b).

12.1.6 Copy process

12.1.6.a *The original model: Painting, drawing or engraving?*

The *Peasant Lawyer* series is unusual amongst Brueghel the Younger's productions in that it is neither a direct copy after a work of Bruegel the Elder, nor can it be interpreted as a copy of a 'Bruegelian' style pastiche of the type produced by early followers of Bruegel the Elder such as Martin van Cleve (d. 1581).⁹⁴¹ The painting bears no resemblance to Bruegel the Elder's manner of composing an image, nor to his figure or facial types. The original model has been the subject of much speculation.⁹⁴² Unfortunately, Georges Marlier's untimely death prevented his treating the subject in his book; he had gathered together several images and probably intended to discuss the matter.⁹⁴³ Jacqueline Folie was the first author to comment in any detail on the theme.⁹⁴⁴ She proposes that the lost prototype for the composition is French, on the basis of several visual clues. The fact that the calendar on the wall is written in French gives a first indication, although French was the language of the legal profession in the Netherlands. More convincingly, she argues that the peasants' short beards and close-cropped hair were fashions not seen in the Southern Netherlands and that the costumes are totally unlike those in Flemish painting; furthermore, she considers that the presence of a grape-picker with a bunch of black grapes recalls the Burgundy region rather than anywhere in the Southern Netherlands.⁹⁴⁵ Ingeborg Krueger also agrees that the original model could be French⁹⁴⁶ while Klaus Ertz speculates that it might be a lost painting by the French painter Nicolas Baullery (1560-1630).⁹⁴⁷ Ertz also likens the composition to a portrait of a family from the Circle of Jacob Siesnegger around 1565 and finds similarities between the long profiles of the faces with those in a painting from the Lothringische school, dated around 1580.⁹⁴⁸ Despite this, he concludes that it would perhaps be best to credit Brueghel the Younger with the invention of the image until there is secure proof to the contrary. This would seem a little over-generous, as the image bears no likeness whatsoever to any of the other compositions purportedly invented by Brueghel the Younger, for example, the *Inn of St. Michael* and the *Kermis of Saint George*.

The physical nature of the original model can be reconsidered in the light of the new evidence of the underdrawings, the colour scheme(s) and a contemporary engraving of the same composition.

The underdrawings in Brueghel's versions of the *Peasant Lawyer* are unusual for their marked emphasis on the three-dimensional and almost sculptural quality of the forms, in particular in the faces. This might be taken as a rare example of Brueghel's copying precisely the drawing notations of another artist or engraving. However, the actual underdrawing notations are similar to those used in other works from Brueghel's studio, for example, the *Census at Bethlehem* and the *Battle between Carnival and Lent* compositions. There are no new means of linear

⁹³⁹ The Uruguay version's signature lacks the 'P' initial in front of the name; however, there is thick retouching on the area that should contain the 'P', suggesting it may have appeared originally.

⁹⁴⁰ MARLIER-FOLIE 1969, p. 375. No paintings deriving from Brueghel the Younger's own invention were part of the present author's study. Marlier considers the group of paintings comprising Brueghel's inventions of the highest quality and gives most of the extant examples to the hand of Brueghel the Younger himself. His hypothesis would be interesting to test at the level of the underdrawing.

⁹⁴¹ See Chapter IX, for discussion of Brueghel's medium format *Massacre of the Innocents* composition, after a lost painting by Martin Van Cleve.

⁹⁴² Susanne Harlemann provides a concise summary of current opinion in her introduction to the series in the *Brueghel Enterprises* catalogue (HARLEMAN 2001, pp. 173-5).

⁹⁴³ MARLIER-FOLIE 1969, pp. 435-40.

⁹⁴⁴ FOLIE 1993, no. 7.

⁹⁴⁵ Jacqueline Folie, during a joint interview with the author for 'Le Vif', June 2002 (ROGEAU 2002).

⁹⁴⁶ KRUEGER 1995.

⁹⁴⁷ ERTZ 2000, p. 496 and note 862.

⁹⁴⁸ *Ibidem*, p. 498, figs. 384-6.

expression in the *Peasant Lawyer* underdrawings that indicate Brueghel transposed directly a drawing or engraving by another artist. He could just as well have copied a painted work using his usual vocabulary of drawing notations, the latter including, for example small hooks or circles at the ends of folds, short hatching for tone, occasional joined hatchings, wiggly lines for certain ‘soft’ transitions, and sketchy, cloud-like notations (grapes).

Nonetheless, the possibility of a lost drawing or engraving as model remains valid. Supporting this is the fact that drapery colours vary amongst the copies. The analysis of a wide range of Brueghel’s works has shown that in works where he most probably had access to the original painted model, he tended to stick rigidly to the original colours, never seeking to ‘invent’ for the sake of creativity, for example, the *Battle between Carnival and Lent* and the *Winter Landscape with Bird Trap*, whereas in compositions for which he most likely did not see the original painting, for example the *Census at Bethlehem* and the *Adoration of the Magi*, the colours of certain draperies vary from copy to copy. Furthermore, the colour scheme in the *Peasant Lawyer* series is fairly typical of Brueghel the Younger’s own ‘colour’ inventions, with its use of decorative reds, purples and thick blues dotted throughout the composition; an example of a painting where Brueghel the Younger almost certainly invented the colour scheme is the *Visit to the Farm*, which is considered to be copied after a lost grisaille by Bruegel the Elder.⁹⁴⁹ It is therefore perfectly possible that Brueghel the Younger himself created the colour scheme for the *Peasant Lawyer* series, copying a lost drawn or engraved model.

A contemporary engraving of the *Peasant Lawyer* merits a mention in this context (fig. 551a-b). This was reproduced in political pamphlets lampooning the legal profession.⁹⁵⁰ The earliest engraving is dated 1618, three years after the first dated version of the composition from Brueghel’s studio, so it cannot have served as the model for Brueghel’s copies. For the most part, the engraving follows the plaited straw variant (see below, ‘Two variants’, Section 12.1.6.b), produced by Brueghel from at least 1615 onwards, making it possible that it was copied from one of Brueghel’s paintings or, alternatively, from a lost common model. The style of the engraving suggests it followed a painted rather than a drawn model, with its emphasis on defining light and shade rather than promoting the forms’ more linear qualities. Whether this was one of Brueghel’s copies or the lost original remains an open question.

12.1.6.b Two variants

The copies of the *Peasant Lawyer* from Brueghel the Younger’s studio can be divided into two main compositional variants, regardless of whether they are painted on small- or medium format panels (fig. 552a-c, 553a-c). The criteria for distinguishing these two variants is the presence or absence of plaited straw ropes on the back wall and under the central window; in the absence of the plaited straw, there is a dark cloth under the window.⁹⁵¹ Plotting the data on a chart reveals further patterns concerning colour, as well as a loose chronological order for the two groups; nonetheless, certain minor motifs and colours vary randomly (see Appendix 7).⁹⁵²

Of the six dated versions with plaited straw, none are securely dated after 1617. One is dated 1615, three are dated 1616, one is dated 1617 and one is dated 161[.], the last figure illegible.

Of the fourteen dated versions with a dark cloth, two are dated prior to 1618 (1616, 1617). Five versions are dated 1618, three are dated 1619, one is dated 1620, two are dated 1621 and a further is dated 1622.

Of the thirteen listed paintings with plaited straw, six were seen in colour reproduction by the author. Of these, the figure to the far left has a light blue sleeve in five versions and the sixth shows him with a cream-coloured sleeve. In these versions, the sock peeping out of the boot of the man in the far right is blue (described on the chart as ‘dark’ when colour is not clearly distinguishable). The lawyer’s dress is red in three versions and purple in three also.

Of the twenty listed versions with a dark cloth, twelve were studied in colour reproduction by the author. Of these, eleven show the man on the far left with a red sleeve and one portrays him with a grey/blue sleeve (the latter from 1618). Of these, the sock peeping out of the boot of the man in the far right is blue in eight versions and red in three. The latter three are paired with the man with a red sleeve. The lawyer’s dress is purple in seven versions, red in four versions and possibly yellow ochre in one version.⁹⁵³

⁹⁴⁹ MARLIER-FOLIE 1969, pp. 255-6. See also Chapter X, Section 16.3.

⁹⁵⁰ KRUGER 1995, p. 78.

⁹⁵¹ Klaus Ertz already pointed out these variants, but did not seek to find links with their dates or other variable elements within the paintings, ERTZ 2000, p. 487.

⁹⁵² Thirty-three paintings were listed on the chart: these comprise dated or signed paintings by Brueghel the Younger as well as unsigned paintings, possibly from Brueghel or his studio, for which images could be consulted. Paintings excluded were those examined by the author or for which images could be consulted whose style clearly sites them outside the Brueghel workshop.

⁹⁵³ The poor quality of the reproduction consulted by the author on the internet of this version may explain this anomaly (Louvre, inv. F.R. 1973-37).

In both variants, in the vast majority of cases, the man on the left's socks are the same colour as the sock of the man to the left of the central grouping, varying from dark grey to red-brown.

The hooks in the upper left face randomly left or right in the plaited straw variant, whereas in the dark cloth variant, they invariably face left. Interestingly, in the Ghent version (dark cloth variant) the hooks point towards the right in the underdrawing and to the left in the final paint layer, suggesting the artist may have had another copy of the dark cloth variant in front of him whilst applying the paint layer (fig. 521).

In the versions with plaited straw, the smaller format is predominant: eight small format copies, four medium format copies and one large format version. In the versions with a dark cloth, twelve copies are smaller format and eight medium format.

Curiously, the Bruges version shows two motifs that are not present in any other version: the quill pen behind the ear of the lawyer and coins on the table.⁹⁵⁴

From these statistics, it can be worked out that amongst dated paintings, the compositional variant with plaited straw on the back wall and the man with a grey/blue sleeve appears only in works dated 1615 to 1617 and the variant with a dark cloth under the central window and the man with the red sleeve appears in paintings dated from 1618-1622, with two exceptions. This largely follows the pattern observed in the *Census* series, where the variants succeed each other chronologically. In the case of the *Peasant Lawyer*, the artist probably took a conscious decision to permanently adjust the composition and colour scheme around 1618. Random variations across both groups include the colour of the lawyer's coat, either red or purple. The direction of the hooks in the upper left appears only to be random in the plaited straw variant. In terms of scale, the smaller format is favoured over the medium format in the plaited straw variant whereas the dark cloth variant shows a more even split between medium- and small format works.

12.1.6.c *Transfer process: Use of cartoons*

The author's tracings of the painted outlines of three medium format compositions (Maastricht [1618], Ghent [1621], Paris, Gal. St. Honoré, after 1998 [undated]) suggest that they all might be based on the same set of cartoons (fig. 554a-c). Interestingly, two of these three versions form part of the dark cloth variant whereas the third represents the plaited straw variant, showing that the variable elements were added after the initial process of transferring the image onto the panels, echoing the findings in the *Census* series, where the same set of cartoons of important motifs was deduced to have been employed for at least five of the six compositional variants.

The cartoon was most likely divided into two large sections, one for the left and one for the right part of the composition, as slight shifts of up to 5 mm to the left, right or diagonally are necessary around the vertical centre of the image to make the tracings 'fit' in each case. Occasionally, certain small details, such as odd documents do not fit precisely; these must have been added during underdrawing. Furthermore, the extremities of the composition appear to have been adjusted slightly in one or other of the three copies, probably to take into account minor differences in the size of the actual panel supports.

Within the smaller format versions, the painted compositions of the Norwich (1618), Uruguay (1618) and Bruges (1620) versions were traced. Unfortunately, only the Bruges version could be traced directly from the painting. The Uruguay and Norwich versions were traced after scaled reproductions, the scaling-up based on actual measurements taken after the paintings themselves. The superposition of the three tracings appears to show that these three versions may also have been based on one and the same cartoon, possibly on a single sheet (fig. 555a-d). The presence of very slight shifts might be due to distortions introduced when the photographic reproductions of the Uruguay and Norwich versions were enlarged to scale prior to tracing. These three paintings are all part of the dark cloth grouping.

Brueghel must have generated his cartoons himself, one per format, from the original model. To assess whether he might have used mechanical means, such as a pantograph, to jump from one format to another in the creation of his cartoons, the tracing from the Bruges version (small format) was scanned and overlaid onto a scanned photograph of the Ghent version (medium format). Logically, if a mechanical method were used, the proportions between the various elements of the composition should be identical and the images should superpose perfectly.⁹⁵⁵ This proved not to be the case, except in certain of the more architectural elements such as the door and window on the left (fig. 556a-b). The most likely method of enlargement/reduction used by Brueghel to make his cartoons is therefore the squaring-up method, perhaps in conjunction with the proportional compasses for certain elements concerning the framework of the room.

12.1.6.c.i *Transfer of the cartoon: Pouncing or tracing?*

⁹⁵⁴ HARLEMAN 2001, p. 175.

⁹⁵⁵ The author's practical tests with the pantograph proved the consistency of this instrument in enlarging and reducing motifs (Appendix 1.).

As with the vast majority of paintings by Brueghel the Younger, there are no visible traces of the transfer process in any of the *Peasant Lawyer* copies from his studio. However, the underdrawings are so boldly and masterfully executed, with considerable flourish in the quality of the drawing lines, that the possibility of their having been traced can be rejected. Furthermore, no signs of a preliminary tracing in a material invisible to infrared such as red chalk can be distinguished through lighter areas of paint. As in the *Battle between Carnival and Lent*, the strongest likelihood is that the cartoons were transferred by pouncing, and that the powdery dots were completely brushed away prior to painting.⁹⁵⁶

12.1.6.c.ii *Common drawing notations*

Many underdrawing notations occupy exactly the same location in the versions studied, regardless of format. This is probably due to their presence on a common model drawing or cartoon(s).

12.1.6.c.iii *Copies produced outside Brueghel the Younger's studio*

The model for the copies produced outside Brueghel's studio was most likely one or other of Brueghel's own versions, as they tend to reproduce fairly faithfully his composition and colour scheme. Copies exist from both the plaited straw and dark cloth variants.

The Antwerp version, copied after the plaited straw variant, is the same format as the medium-sized variant from Brueghel's workshop. Despite this, the author's tracing of this copy did not superpose in any way with tracings made from the Brueghel group, eliminating any possibility the composition could have been transferred with the same cartoon or 'substitute cartoon' (fig. 557). Interestingly, the infrared analysis revealed the use of ruled placement lines for certain of the furniture and architectural elements within the painting (fig. 558a-b), revealing an entirely different method of transferring the image – mostly by eye, but with a few key guidelines.

The superposition of tracings from the Bonn and Munich versions, both from the dark cloth variant, with those of paintings from Brueghel's workshop show that the former compositions are entirely different in size to either Brueghel's smaller or medium sized versions. The Bonn and Munich compositions are similar in scale to each other; nonetheless, corresponding motifs do not superpose well, proving that the two images could not have been transferred via a common cartoon (fig. 559a-e). Neither painting reveals placement or squaring-up lines in infrared reflectography and only the Bonn version shows any signs of an underdrawing. The compositions were most likely transferred by eye in each case.

No clues regarding the transfer of the composition of the miniature version from Berlin were obtained with the naked eye or infrared reflectography, apart from the discovery of a detailed underdrawing (see above, fig. 530).

12.1.7 Conclusion

In terms of technique, the *Peasant Lawyer* copies originating from Brueghel's workshop are typical of Brueghel's usual production: on a white ground there is a streaky grey *imprimatura*, followed by a detailed underdrawing and one or two thinly-applied paint layers, utilising the technique of reserving spaces for the forms to follow; certain single colours are applied thickly, such as blues and purples, delicate use is made of red glazes and seams are often applied wet-in-wet. Forms are often modelled more boldly and three-dimensionally than in other paintings from the Brueghel workshop, most probably due to the idiosyncrasies of the lost model, clearly not an invention of Bruegel the Elder.

Stylistic analysis of the underdrawings demonstrates that the Ghent, Maastricht, Bruges and Norwich versions are most probably by the same hand, the Uruguay version not providing a clear enough reflectogram to make a reasoned judgement as to its style. The unsigned privately owned version (Paris, Gal. St. Honoré, after 1998) is slightly different to the rest, but differences are minimal and there is room to argue its case for common authorship with the rest as well as its attribution to a separate hand. Tellingly, the paint layers of the five signed versions, plus one more signed version from a private collection (Paris, Gal. St. Honoré 1994) also suggest the touch of a single hand; furthermore, stylistic links between the underdrawings and paint layers suggest that the same artist may have been responsible for the execution of these works from start to finish. The unsigned privately owned version (Paris, Gal. St. Honoré, after 1998) is again an exception, showing a slightly different painting style. Since the six paintings considered to be by the same hand carry the signature of Brueghel the Younger, the latter might signify the hand of the master himself in this particular series (see below, 'Core group of underdrawings', Section 17.1.1).

The original model for the *Peasant Lawyer* composition is lost; nonetheless, most authors favour the idea of a French origin. There is little evidence from the present study to prove whether this was a painting, drawing or engraving. There are no new means of linear expression in the underdrawing that could establish the hypothesis

⁹⁵⁶ The author's practical tests with pouncing reveal that under certain conditions it is entirely possible to erase all traces of pouncing dust prior to painting (*Ibidem*).

of a drawn or engraved model, although variations in drapery colours amongst the copies might favour this possibility. The style of a contemporary engraving of the same composition suggests a painted model for the latter, but this might just as well have been one of Brueghel the Younger's versions.

As in the *Census* series, the *Peasant Lawyer* copies can be split up into compositional variants. In the case of the *Peasant Lawyer* series, there appear to be two main groups, their main defining characteristics being the presence of either a dark cloth or plaited straw on the back wall of the room. Like the *Census* series, these variants appear in chronological order, the plaited straw variant appearing prior to 1618, the dark cloth variant appearing from 1618-22, with minor exceptions. The sleeve colour of the figure in the far left is differently coloured according to group: red in the case of the dark cloth variant and light blue/grey in the case of the plaited straw group.

Regarding the transfer process, in the case of the medium format version, superposition of the author's tracings of the painted compositions of three copies showed that Brueghel appears to have employed the same cartoon for all the copies, probably split up into more than one piece. In the case of the smaller format version, the superposition of a tracing of the actual composition of one copy with tracings made after scaled reproductions of two further copies indicate that a separate, single-sheet cartoon may well have been employed, although this would have to be verified through tracings of the actual paintings. The high level of detail and freehand drawing lines suggesting that pouncing was most likely the transfer technique, although no physical traces remain.

The analysis of copies made outside the Brueghel workshop clearly justify their exclusion from Brueghel's oeuvre. Although most show some sort of underdrawing, none reveals a drawing style approaching that of Brueghel's paintings; the same can be argued for the paint layer. Furthermore, superposing the author's tracings of these paintings with those taken from paintings from Brueghel's workshop demonstrates that none of the former can be matched to either one of the two Brueghel cartoons. Infrared analysis of the Antwerp version reveals the use of diagonal placement lines, rather than a cartoon, to construct the image on the panel.

CHAPTER VII

Wedding Dance in the Open Air

The *Wedding Dance in the Open Air*, like the *Adoration of the Magi* and *Winter Landscape with Bird Trap*, was one of Pieter Brueghel the Younger's most popular small format compositions. Marlier listed thirty-six versions in his 1969 monograph;⁹⁵⁷ Klaus Ertz more recently catalogued one hundred, of which thirty-one he gives to the hand of the master.⁹⁵⁸ Brueghel also produced a *Wedding Dance* series in an interior setting,⁹⁵⁹ although the figures are posed differently, as well as several versions of a small tondo depicting an outdoor *Wedding Dance*,⁹⁶⁰ the composition based partly on the figure group in the *Wedding Dance in an Interior* and partly on the *Wedding Dance in the Open Air*.

Jan Brueghel also painted at least two versions of the *Wedding Dance in the Open Air*, but the composition is inversed in relation to the vast majority of Pieter's versions (fig. 617). Much speculation surrounds the precise nature of the original model for both Pieter and Jan's copies. Jan Brueghel also produced more personalised compositions on the theme of a *Wedding Dance*; in one of these he clearly recalls specific figure motifs from his father.⁹⁶¹

Apart from the Brueghel brothers, versions of the *Wedding Dance in the Open Air* were painted or reproduced by other artists, including Bruegel the Elder's contemporary Martin van Cleve (1527-1581), the engraver Pieter van der Heyden and a number of unknown later followers.

There are at least fourteen signed and dated versions of the *Wedding Dance in the Open Air* by Pieter Brueghel the Younger according to Klaus Ertz, the dates ranging from 1607 to 1626.⁹⁶² Two further versions, one from 1607, the other dated 1612 appear to have escaped the attentions of Marlier and Ertz.⁹⁶³ There are two additional signed copies, exhibited at De Jonckheere, Paris in 1986 and 1990 respectively, the latter painted in a portrait format and whose compositional orientation is inversed in relation to the other signed copies.⁹⁶⁴

Two versions of the *Wedding Dance in the Open Air* were examined as part of the current study, one from the collection of the Musées Royaux des Beaux-Arts de Belgique in Brussels⁹⁶⁵ and the other from the Museum voor

⁹⁵⁷ MARLIER-FOLIE 1969, pp. 188-93.

⁹⁵⁸ ERTZ 2000, vol. 2, cats. 916-1015, pp. 722-36.

⁹⁵⁹ MARLIER-FOLIE 1969, pp. 205-11, nos. 1-18; ERTZ 2000, cats. 889-915.

⁹⁶⁰ Genf, Moos, 27 October 1934, no. 79, roundel, 16.5 cm diameter, dated 1625 (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E927); London, Sotheby's, 9 April 1986, no. 15, roundel, 26 cm diameter, signed and dated, 'P. BRVEGHHEL, 1625' (MARLIER-FOLIE 1969, no. 22; ERTZ 2000, cat. E928).

⁹⁶¹ Jan Brueghel the Elder, *Wedding Dance in the Open Air*, 37.4 x 55.2 cm, England, private collection (ERTZ 1998, cat. 22, colour illustration, p. 89). Another version of the theme shows figures painted in an entirely different, more 'modern' style: Jan Brueghel the Elder, *Wedding Dance in the Open Air*, oil on copper, 27.4 x 36.6 cm, Antwerp, Museum Mayer van den Bergh, inv. 496 (ERTZ 1979, cat. 28, fig. 117).

⁹⁶² Brussels, Musées Royaux des Beaux-Arts de Belgique, Delporte bequest, inv. 8725, 38.5 x 51.5 cm, signed and dated, 'P. BRVEGHHEL 1607' (MARLIER-FOLIE 1969, no. 1; ERTZ 2000, cat. E916); Baltimore, Walters Art Gallery, inv. 37.364, 41 x 58 cm, signed and dated, 'P. BRVEGHHEL 1607' (MARLIER-FOLIE 1969, no. 13; ERTZ 2000, cat. 916); France, private coll., 39.5 x 57 cm, signed and dated, 'P. BRVEGHHEL 1610' (not in MARLIER-FOLIE; ERTZ 2000, cat. 918); London, Sotheby's, 30 October 1997, no. 39, 35.5 x 42 cm, signed and dated, 'P. BRVEGHHEL 1615' (MARLIER-FOLIE 1969, no. 3; Ertz 2000, cat. F976); London, Gal. Green 1991, no. 1, 38.7 x 57.7 cm, signed and dated, 'P. BRVEGHHEL, 161(6?)' (ERTZ 2000, cat. E919; MARLIER-FOLIE 1969, no. 2); London, Christie's, 4 July 1998, no. 33, 34.6 x 48.3 cm, signed and dated, 'BRVEGHHEL, 16.(8?)' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E920; VAN HAUWAERT 1978, fig. 1. Van Hauwaert given the dimensions of the painting as 35 x 49.2 cm and the signature as: '[...]BRVEGHHEL 1607', *ibidem*, p. 87); De Jonckheere, Paris 2001-2, cat. 21, 42 x 58 cm, signed and dated, 'P. BRVEGHHEL 1618 (MARLIER-FOLIE 1969, no. 4; ERTZ 2000, cat. F978); Narbonne, Musée des Beaux-Arts, inv. 597, 40 x 56 cm, signed and dated, 'P. BRVEGHHEL 1620' (MARLIER-FOLIE 1969, no. 5; ERTZ 2000, cat. E921); Finck Gallery 1984, no. 11, 41 x 56.5 cm, signed and dated, 'P. BRVEGHHEL 1621' (MARLIER-FOLIE 1969, no. 7; ERTZ 2000, cat. 922); De Jonckheere, Paris Biennale, 1998, no. 22, 40 x 56.5 cm, signed and dated, 'P. BRVEGHHEL 1621' (MARLIER-FOLIE 1969, no. 6; ERTZ 2000, cat. 923); Austria, private coll. 1998, no measurements given in ERTZ, signed and dated, 'P. BRVEGHHEL., 1621' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E924); London, Richard Green Gallery, 1996, 40 x 56.7 cm, signed and dated, 'P. BRVEGHHEL., 1623' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E925); London, Johnny Van Haefton Gallery, 1999, 43 x 56 cm, signed and dated 'P. BRVEGHHEL. 1624' (MARLIER-FOLIE 1969, no. 8; ERTZ 2000, cat. 925); New York, Sotheby's, 22 May 1992, no. 98, 41.3 x 57.2 cm, signed and dated 1625 (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E929); London, Sotheby's, 17 December 1998, no. 16 (formerly coll. Mme. Morel de Boucle Saint-Denis), 38.4 x 50.5 cm, signed and dated, 'P. BRVEGHHEL 1626' (MARLIER-FOLIE 1969, no. 9; ERTZ 2000, cat. E930). The spelling of the signature is not typical of Brueghel the Younger. The Sotheby's sale catalogue notes that on the reverse of the panel, there is the Antwerp brand.

⁹⁶³ Brussels, private collection, 35 x 49.2 cm, signed and dated, '[...]BRVEGHHEL 1607 (HAUWAERT 1977, p. 145-55); Versailles, Perrin-Royere Lajeunesse, 27 November 1994, 43 x 59 cm, signed and dated, 'BRVEGHHEL. 1612' ('manques', according to the sale catalogue).

⁹⁶⁴ Paris, Gal. De Jonckheere, 1986, 42 x 55.5 cm, signed, 'P. BRVE[...]' (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. E940); inversed orientation in relation to Brueghel the Younger's usual copies and in portrait format: Paris, Gal. De Jonckheere, 1990, 50 x 35.5 cm, signed, 'P. BRVEGHHEL' (MARLIER-FOLIE 1969, p. 390, fig. 115; ERTZ 2000, cat. E941).

⁹⁶⁵ Cited note 962.

Schone Kunsten in Ghent (figs. 560-1).⁹⁶⁶ The Brussels version is signed and dated ‘.P.BRVEGHEL.1607.’ whereas the Ghent copy is unsigned, but may have been painted at some point during or after 1616 in view of the period of usage for the particular iron employed to stamp the Antwerp brand on the reverse of the panel (see below, ‘Branding’, 13.1.1.d).

Since the Ghent version was examined at the painting conservation workshop at IRPA, unlike the other paintings in the current study, more extensive documentation and scientific research could be carried out, including x-ray fluorescence analysis.⁹⁶⁷

13.1.1 Panel support

The Brussels and Ghent versions are painted on oak panel, in common with most other paintings attributed Brueghel the Younger’s workshop of this subject and format.

13.1.1.a Panel size

The Brussels version measures 38.5 x 51.5 cm and the Ghent version 40.05-40.3 x 55.5-55.7 cm. This is a size commonly used by Brueghel for small-scale compositions, for example the *Winter Landscape with Bird Trap* and *Adoration of the Magi*. The Ghent version retains its original thickness, as proven by the presence of original branding on the reverse. The Brussels version has been considerably thinned during cradling.

13.1.1.b Panel construction and dendrochronology

The Ghent panel is made up of just one, radially cut plank. Dendrochronology discovered that it was made from locally produced wood from the Meuse river basin rather than the Baltic, as in most other small format panels from Brueghel’s workshop analysed to date.⁹⁶⁸ The Brussels panel consists of two boards, the uppermost board almost twice as wide as the lowermost one.⁹⁶⁹ Dendrochronology was not performed.

The last heartwood ring of the Ghent panel was dated by dendrochronology to 1590. However, the total lack of sapwood and the absence of any signs of slowing down in growth of the hardwood – indicating the probable removal of a certain number of hardwood rings – means that dating of the panel with this method gives an approximate estimation only. Taking into account the unusual width of the plank and the appearance of the growth rings, it is likely that the panel was ready to be painted well before 1637-8, Brueghel’s date of death, which accords with the dating of the Antwerp brand on the reverse.

13.1.1.c Tool marks

Tool marks visible on the reverse of the Ghent version are most probably original as the panel has not suffered thinning during restoration. These include deep gouge marks in the lower part and horizontal plane marks over the whole surface, the latter causing a slight ripple effect. Bevels are also present on all sides and vary from 1 to 2.5 cm in width.

Unfortunately, the Brussels version’s recto has been planed down and cradled. Four seals, pressed into red wax appear on reserved sections of wood in between the cradle members. Two of the seals show the same coat of arms, a shield surmounted by curved leaves; another shows an unidentified motif surmounted by a crown, the fourth is mostly concealed behind a cradle member (fig. 562).

13.1.1.d Branding

The Antwerp brand has been burned into the reverse of the Ghent panel (fig. 563c). The marks are clear enough to identify the castle and two hands. The brand is not identical, but is comparable to Jørgen Wadum’s iron number 6, in use from 1620-1637.⁹⁷⁰ More importantly, superposition of the author’s rubbing of the branding on the Ghent panel with the rubbing from the reverse of the *Good Shepherd* (Brussels, Musées Royaux des Beaux-Arts de Belgique) shows that the two are identical (figs. 563b,d); since the *Good Shepherd* is signed and dated 1616, this means that the *Wedding Dance in the Open Air* might also have been painted during or after 1616. The brand is also identical to that found on the Bonn version of the *Peasant Lawyer*, a painting clearly made outside of the Brueghel workshop and with a different maker’s stamp alongside the Antwerp brand (fig. 563a).⁹⁷¹

⁹⁶⁶ Ghent, Museum voor Schone Kunsten, inv. 1914 C-J, 40.05–40.3 x 55.5-55.7 cm (MARLIER-FOLIE 1969, no. 17; ERTZ 2000, cat. E936). Preliminary technical findings regarding the Ghent version of the *Wedding Dance in the Open Air* were published in CURRIE 2001a, pp. 121-30.

⁹⁶⁷ The painting came to the IRPA/KIK studios in 1999 for the restoration of two major scratches caused by vandalism.

⁹⁶⁸ Fraiture 2002 (forthcoming). For a brief discussion of the origins of the wood used in Brueghel the Younger’s panels, see Chapter I, Section 7.2.1.b and IV, 10.2.1.b.

⁹⁶⁹ Uppermost board: 24.7 cm, lowermost board: 14.2 cm.

⁹⁷⁰ Private correspondence May 1999. See also WADUM 1998a, p. 186.

⁹⁷¹ See Chapter VI, Section 12.1.1.c

Interestingly, the Ghent panel also carries panel-maker Michiel Claessen's characteristic clover stamp, cold pressed into the reverse (fig. 563c).⁹⁷² The presence of this mark proves the panel was made outside Brueghel's studio. In terms of size, the clover is similar, and probably identical to those found on the backs of Brussels and Antwerp versions of the *Adoration of the Magi* and the aforementioned *Good Shepherd*, but slightly smaller than the clover mark on the back of the Lons-le-Saunier version of the *Census at Bethlehem*.⁹⁷³

Both the Antwerp brand and Michiel Claessens' clover mark have been noted on another example of Brueghel the Younger's *Wedding Dance in the Open Air*, signed and dated 1621.⁹⁷⁴

13.1.2 Ground Layer

Both panels are prepared with a white ground layer, extending right up to the edges of the panel, as in all small and medium format paintings from Brueghel's workshop forming part of the present study (Appendix 2).

In the case of the Ghent version, cross-sections from the sky and grass show two applications of ground. The upper part of the ground appears transparent, probably due to impregnation of oil from the layer above. SEM analysis on one sample identified calcium carbonate in the ground. Medium analysis was not carried out.

13.1.3 Imprimatura

An overall, carbon-containing *imprimatura* layer is visible with infrared reflectography in both paintings, as in many other paintings by Brueghel the Younger, for example *Winter Landscape with Bird Trap* (figs. 564-5). This layer has been applied with scooping horizontal strokes in the Brussels version and with generally horizontal, but occasionally vertical and diagonal strokes in the Ghent version. There is no relationship between brushstroke direction and compositional forms; the edges of the painting, depicting trees and foliage contain both diagonal and vertical *imprimatura* brushmarks.

In both versions, the *imprimatura* is clearly visible with the naked eye in lighter areas of paint as a thin, grey, streaky layer (fig. 566a-b). In the Ghent version, cross-sections reveal it as thin, grey, rich in medium and containing black acicular particles and some white ones (figs. 567a-e).⁹⁷⁵ Scanning electron microscopy of one cross-sectional sample identified lead white, calcium carbonate and possibly a little iron within the layer (fig. 567a).

In the x-radiographs, the *imprimatura* is faintly visible in Ghent version indicating the presence of lead white but is not discernible in the Brussels version, indicating a very low, or non-existent lead white content.

13.1.4 Underdrawing

Like most paintings by Brueghel the Younger, the underdrawing in both works is partially visible to the naked eye in lighter areas but clearer in infrared reflectography (figs. 564-5). In both cases the drawing lines are fine and suggest a dry drawing material such as graphite or black chalk. The drawing line of the brown skirt of the dancer in the lower left skips over the texture of the *imprimatura* making it clear the underdrawing was applied after the latter. This observation was confirmed by a cross-section taken through a pink drapery, which clearly shows the drawing layer above the thin, grey *imprimatura* layer (fig. 567a, 567f). The drawing is also exposed in a loss to the paint layer in a white headdress (fig. 568).

13.1.4.a Scanning electron microscopy of underdrawing

In the Ghent version, SEM analysis of the drawing layer in the cross-section of a pink drapery detected elements typical of clay (iron, silicon, calcium, magnesium and aluminium) in addition to carbon, suggesting a naturally occurring material such as black chalk (fig. 567a).⁹⁷⁶ A separated particle from the drawing layer examined under the polarising microscope proved to be amorphous and non-crystalline, eliminating the possibility of graphite.⁹⁷⁷ A cross-sample from Brueghel the Younger's *Massacre of the Innocents* (Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 832) revealed the underdrawing as a homogenous, black layer of pure carbon with no clay, suggesting perhaps graphite (fig. 569a-b). The drawing layer in the *Massacre of the Innocents*, as with the Ghent *Wedding Dance in the Open Air*, is clearly sandwiched in between the *imprimatura* and paint. The inference of graphite could not be substantiated as there were no separate particles for analysis

⁹⁷² For other examples of Michiel Claessens's marks observed by the author and other researchers on paintings by Brueghel as well as other artists, see notes 435, 461 and Appendix 2.

⁹⁷³ See fig. 91 for Lons-le-Saunier marking.

⁹⁷⁴ Exhibited at the Paris Biennale, 1998 by De Jonckheere, no. 22 [cited note 962]. The observation regarding the branding and panel-maker's mark was noted in the De Jonckheere catalogue.

⁹⁷⁵ Sampling was not permitted on the Brussels version.

⁹⁷⁶ This result contradicts Françoise Van Hauwaert's claim that the underdrawing in two different versions of the *Wedding Dance in the Open Air* is 'toujours exécuté à la pointe métallique' [always carried out in metal-point] (VAN HAUWAERT 1985, p. 161).

⁹⁷⁷ This examination was carried out by Janka Sanyova.

with the polarising microscope and/or x-ray diffraction. It has been reported that zones of defective graphite can be found in naturally occurring black chalk, which mean that the latter should be retained as a possibility.⁹⁷⁸ In neither the *Wedding Dance in the Open Air* nor the *Massacre of the Innocents* was charcoal considered a possibility as the neat, fine and even quality of the drawing line as visualised in infrared is totally unlike the friable nature and varied width and density of markings made by a sharpened charcoal stick.

13.1.4.b *Extent and characteristics of underdrawing*

As in all paintings from Brueghel the Younger's workshop, the figural composition is laid out in extreme detail in both underdrawings. Trees and foliage are more loosely and thickly drawn than figures. Groups of leaves are indicated by roughly rounded shapes.

In the Ghent version, the outlines of forms are often composed of a series of short strokes rather than being continuous. The upper part of the roof outline on the left and the outlines of some of the figures show such interrupted strokes. Non-continuous scallop strokes also indicate the chin lines of certain figures. This characteristic was also noted in the two copies of the *Adoration of the Magi* examined as part of the current study (see Chapter V, 'Underdrawing, Section 11.2.4).

13.1.4.c *Minor changes to the composition during drawing and painting*

During the drawing process, only the Brussels version shows a minor adjustment in outline; there are two outlines for the left sleeve of the bagpipe player in the lower right. What was originally thought to be an alteration to the left outline of the brown skirt of the dancer in the lower left in the Ghent version was found instead to be the indication of an underskirt, as in the Brussels copy. This detail appears to have been dropped during painting.

Small additions, omissions or adjustments were made during the painting process. In the Ghent version, three small figures in the upper right are neither underdrawn nor reserved (fig. 570a-d). One of these figures is a woman urinating, a grotesque detail conforming to a long tradition of such motifs; similar details can also be spotted in the works of several sixteenth century artists including Bruegel the Elder,⁹⁷⁹ and were appreciated by collectors.

In the Ghent version, a painted side branch of a tree in the upper left is neither reserved nor underdrawn, the drawing line of the roof clearly passing through the branch. In both the Ghent and Brussels versions, there are various trees and side branches in the underdrawing that have either been dropped or had their positions significantly altered during painting.

13.1.4.d *Style*

Although similar in many respects, for example in their use of short, hooked strokes for certain fold lines in draperies, close comparison of the two versions' underdrawings, particularly in the foreground figure motifs points up minor differences in style (fig. 571a-b).

The Brussels version's drawing is more vigorous than the Ghent version. In the Brussels version, outlines to forms are sweeping and painterly in character and are often swiftly reinforced during drawing, capturing the anatomy of the figures precisely and naturalistically; in the Ghent version, forms are only outlined once, the artist frequently stopping and starting along the way.

Hatchings for tone and contour are much more common in the Brussels version, and these are often grouped in closely-spaced sets, the actual hatching lines varying in length. In contrast, the Ghent version's hatching lines, where present, are also different in nature; hatchings are shorter, more widely spaced and less boldly applied.

Differences in the characterisation of expression in faces are also discernible. In the Brussels version, expressions are generally more animated whilst those in the Ghent version display more subtlety. In the Brussels version, certain gestures are better understood, for example the bagpipe player on the right, whose cheeks fill up with air in order to blow his instrument; in the Ghent version, the corresponding figure's face does not betray any particular physical effort.

⁹⁷⁸ WINTERS 1983, pp. 50 and 57.

⁹⁷⁹ For example, Pieter Bruegel the Elder, *Magpie on the Gallows*, 45.9 x 50.8 cm, signed and dated, 'BRVEGEL 1568', Darmstadt, Hessisches Landesmuseum; after Pieter Bruegel the Elder, *Fall of Icarus*, Musées Royaux des Beaux-Arts de Belgique, inv. 4030 (see ALLART 1996 and 2002a for infrared examination of the latter painting, during which the grotesque detail was discovered).

13.1.4.e Attribution

The Brussels copy clearly stands out as the more boldly and enthusiastically executed of the two underdrawings, with many more drawing notations for tone; nonetheless, the Ghent version shows considerably subtlety in its outlining.

The Brussels underdrawing, owing to its bold mastery of form, the idiosyncratic nature of its hatching strokes and other stylistic traits, conforms easily to the style of the Core group of underdrawings attributed in the present study to the master's hand (see below, 'Core group of underdrawings', Section 17.1.1). The Ghent version's underdrawing, although executed with less *bravura* and containing noticeably fewer indications of tone, may also possibly belong to this group owing to the subtlety of its execution.

13.1.4.f Loose markings visible in infrared near lower edge

In the Ghent version, rough, hand drawn zigzag markings near the bottom edge of the image were carefully examined with the binocular microscope (fig. 572a-c). These are clearly executed in a dry medium such as graphite and are present on top of the paint as well as passing into the age cracks of the paint layer. The reason for their presence remains unexplained. A faint cross, painted in thin black paint, also appears in this zone and may represent some sort of original reference mark for the positioning of a cartoon.

13.1.5 Paint layer**13.1.5.a Condition**

Both paintings are in reasonable condition although the Ghent version has suffered some abrasion to its red glazes as well as two recent scratches due to vandalism.

The Brussels version is affected by a network of drying cracks, mostly confined to areas of black and brown glazes and thicker, dark blue paint (fig. 573). The reason for this somewhat disturbing phenomenon is not understood. It may relate to the medium of the aforementioned colours or may result from an over-oily *imprimatura* to which the blacks, browns and blues did not adhere correctly. Drying cracks also appear to affect the white sky paint in one area, revealing a light brown tone underneath.

13.1.5.b Evolution of the paint layer and use of reserves

In keeping with Brueghel's usual work, x-radiographs show that the light blue sky was painted early on in both cases, leaving reserves for the major tree trunks (fig. 574a-b). The basic background vegetation colour is also primary feature, as reserves are left for tree trunks and figures.

In both versions, the artist worked progressively from background to foreground. Figures are painted in line with the underdrawing, with minimal, if any overlapping of different planes of colour (fig. 575a-b). Draperies were probably painted around the same time as the faces. At a late stage in the painting process, thick blue paint, probably azurite was applied in certain areas, for example in the apron of the female dancer in the lower left and the woolly hat of a background figure (figs. 576a-d, 577a-b). In the Ghent version, a clumsy application of blue paint to the skirt of the female dancer with the yellow sleeve results in the flattening of the nose of the dancer in front (fig. 578a-c).

Final touches include the outlining of forms and the painting in of fine details, for example, fine, green, transparent strokes to denote the laces on a female dancer's bodice and red paint for the ribbon on a tree (fig. 579a-b, 580a-b). Dark glazes and light scumbles in the grass were also applied at a late stage; these add notes of contrast to the image and give prominence to the figures (fig. 581a-e).

13.1.5.c Palette

Both *Wedding Dance in the Open Air* copies share an almost identical colour scheme, even in the drapery colours of background figures. A single exception is the shirt of a dancing youth in the upper centre of the composition, blue in the Brussels version and brown in the Ghent copy. Bright red features strongly, helping to create a festive atmosphere. This is offset by more subtle pinks, mauves, ochres and a range of blue hues. The foreground and upper left background is composed of mostly warm, earth colours whereas the upper right and centre background is predominantly cool green-blue, the latter creating a sense of distance.

The tonal and colour balance of the Ghent version is compromised by severe discolouration of the majority of red zones, unlike in the Brussels copy (fig. 582a-d).

13.1.5.d Pigment analysis and paint layer structure

Selected cross-sectional analysis of the Ghent version reveals only one or two paint layers above the thin *imprimatura* (fig. 567a-e). A cross-section from an area of discoloured red drapery shows a thick layer of red paint above the ground and *imprimatura*, composed of rich red transparent lake particles in an orange-red matrix (fig. 567b). This is surmounted by a thin crust of black in the centre of the sample and blanched varnish. Scanning electron microscopy of a crushed fragment from a vermilion red area exhibiting dark mauve discolouration results in a spectrum including a significant chloride peak, as well as peaks for mercury and sulphur, aluminium, calcium and potassium (fig. 583). This appears to correspond to Marika Spring's recent findings on the discolouration of vermilion in paintings from the fourteenth to the seventeenth centuries.⁹⁸⁰ Spring discovered that the white particles forming part of the discoloured crust on red areas of paint contained chloride and mercury ions, signifying the presence of a mercury chloride compound, which she identifies as calomel. She found that dirt in the National Gallery, London contains significant amounts of sodium chloride, probably originating from skin debris, and surmised that this might be responsible for starting the degradation process, under moist conditions and in the presence of light.

X-ray fluorescence was also carried out on the Ghent version to gain an idea of the main pigments employed (fig. 584).⁹⁸¹ bright orange-red areas contain mercury, lead, and a trace of calcium, suggesting vermilion (1);⁹⁸² one duller red drapery contains iron, suggesting an iron oxide red of some kind (2); another dullish red drapery shows both mercury and iron, suggesting a vermilion and iron oxide red mixture (3); the yellow sleeve of a female dancer was found to contain lead and tin only, suggesting pure lead tin yellow (4); the yellowish skirt of a male dancer only contains lead and a trace of strontium, the latter perhaps originating from an earth pigment or from the ground layer (5); the yellow drapery of a baby in the upper right was found to contain lead, iron, calcium and traces of copper and strontium with no tin, the yellow colouration perhaps originating from a yellow ochre (6); the mauve sheet behind the bride contains lead, copper and a trace of calcium and strontium, suggesting perhaps a copper blue mixed with a red or purple lake (no elements of which were identified), the latter faded (7); the thick dark blue drapery paint of a male dancer and the mid-blue dress of a lady both contain copper and lead, suggesting azurite (8, 9); a green drapery contains copper and lead (10); a pink dress shows lead and mercury suggesting vermilion mixed with white (11); the upper sky was found to contain lead and copper suggesting that the blue colour was obtained with azurite (12); the yellow highlights for leaves on trees in the upper right contain lead, copper, tin and traces of calcium suggesting lead tin yellow (13).

13.1.5.e Handling of paint

The manner in which the paint is applied and the various brushwork effects are extremely similar in the two copies.

13.1.5.e.i Faces

In both cases, faces are painted sparingly. The grey strokes of the *imprimatura* often remain discernible through the thin or slightly abraded surface (fig. 566a-b). Pinkish or ochre-coloured paint constitutes the basic flesh colour in a very thin layer; this is surmounted by graduated light pink and white linear strokes for the lighter parts of the contours and reddish touches for semi-shadow areas (figs. 585a-f). Profiles are outlined and the features defined with fine red, black or brown strokes. Background faces are rapidly indicated in a linear fashion, again using a fine brush as a drawing tool (figs. 586a-d). In several of these, the eye is 'drawn' with paint as an upside down 'v' in the same way as the underdrawing.

13.1.5.e.ii Hands

As with the faces, hands are modelled simply, with a thin layer of pinkish paint, followed by light pink or white highlights and brown or black outlining (fig. 587a-b).

13.1.5.e.iii Draperies

Draperies are painted quickly and simply, mostly in one session. The direction of the brushstrokes often helps to indicate the contour of the form. Details of dress are often applied wet-in-wet into mid-tones and highlights, for example, the seam of the yellow sleeve of a female dancer is indicated wet-in-wet in the body of the paint (fig. 588a-b). In other cases, the underlayer is left visible or 'reserved' as the seam (fig. 589a-b).

⁹⁸⁰ SPRING 2002.

⁹⁸¹ X ray fluorescence carried out by Leen Wouters at IRPA in February 2000.

⁹⁸² Numbers refer to sample sites, marked on a photocopy of the painting (fig. 584).

13.1.5.e.iv *Landscape elements*

In the landscape background, tree foliage was applied in one or two sessions. Thin, green-blue glazes establish the background tone (fig. 590a-b). On this base, green, glaze-like paint varying from thin, semi-transparent touches to thick blobs suggests shadowed foliage; opaque blue-green, yellow or white paint evokes sunlit leaves (fig. 591a-f). In the Ghent version, leaves are also painted with upside-down ‘v’ notations and fan-like brushmarks (fig. 592a-c).⁹⁸³ Along the right edge, grass is suggested by vertical strokes of white, light green and dark green paint (fig. 593a-b). In the Brussels version these vertical strokes are continued in the foreground of the image whereas in the Ghent copy they give way to rounded dabs (fig. 594a-b). The contours of tree trunks are sometimes indicated in both versions by blue-white, curved strokes on an ochre-coloured base (fig. 595a-b). Ferns are delicately painted in transparent brown or opaque green, recalling the manner of painting similar motifs in *Sermon of Saint John the Baptist* (fig. 596a-b; for *Saint John the Baptist*, see fig. 366).

13.1.5.f *Style and attribution*

In general, the Brussels version has a bolder, confident, looser manner of modelling than the Ghent version, as in the underdrawing (figs. 597-605). The paint itself also tends to be more fluid and softly blended. Contour and anatomy are more dramatically portrayed in the Brussels version. Faces are sometimes more animated in the Brussels copy although those in the Ghent version also show considerable subtlety of expression.

Curiously, in the Brussels version, hatching strokes have been used in the paint layer to create areas of tone much in the same way as in the underdrawing, suggesting that the same artist was responsible for the two stages (figs. 607a-f). The Ghent version only employs this type of notation to a very limited extent.

The differences in painterly style between the two versions are basically confined to qualities such as the degree of boldness and the fluidity of brushwork rather than any genuine divergences in mastery of form, gesture or expression. Since there is a likely gap of at least nine years between the two versions, these differences may simply be due to the evolution of a single artist’s style over time, or even the speed of execution, rather than to different authorship. The Brussels version corresponds well to the style of paintings in the Core group of underdrawings attributed to the master’s hand (see below, ‘Core group of underdrawings’, Section 17.1.1).

Various mid-ground faces in the Ghent version of the *Wedding Dance in the Open Air* correspond closely in painterly style to those in the signed Antwerp Koninklijk Museum voor Schone Kunsten version of the *Adoration of the Magi*, for which the spelling of the signature dates it to 1616 or later.⁹⁸⁴ It is likely they are painted by the same hand, and possibly during the same approximate time period (fig. 606). Whether this hand is that of the master is open to discussion.

13.1.6 Copy process

Owing to the relevance of the transfer process to the debate surrounding the nature of the original version of the *Wedding Dance in the Open Air*, the means by which the image was replicated in Brueghel the Younger’s studio will be presented prior to the discussion of the various possible models in this instance.

13.1.6.a *Transfer process: Use of cartoon*

Superposition of the author’s tracings of the painted compositions of the Brussels and Ghent copies reveals a perfect match for the figural group (fig. 608).⁹⁸⁵ This suggests the use of a common cartoon for the arrangement of the figures, despite the lapse of some nine years or more between the two paintings. Nonetheless, the trees above the horizon and the house in the upper left do not correlate, although they are all indicated in the underdrawing. These peripheral elements were presumably added by eye after another source, such as another copy of the painting in the studio at the time, or an independent drawing or underdrawing. In the same way, the three small figures in the upper right background of the Ghent version – added during the painting stage – were probably copied by eye after the example of another finished version in the workshop; the former Coppée

⁹⁸³ Georges Hulin de Loo also noted this characteristic in 1907: ‘toutes ses copies bonne ou mauvaises offrent pourtant entre elles des traits communs à qui les analyse de plus près: je me borne ici à en signaler un seul: sa manière de rendre le feuillée des arbres: chaque rameau se termine en une touffe de trois feuilles allongées, disposées en éventail et fortement accentuées. Ce feuillée n’a rien de commun avec celui du Vieux Bruegel; c’est peut-être la trace la plus sensible du séjour de Peeter II dans l’atelier de son maître, le paysagiste Gillis van Coninxloo (VAN BASTELAER and HULIN DE LOO 1907, p. 353) [all these copies good or bad offer however common characteristics to those who analyse them closely: I will only point out one here: his manner of rendering the leaves of trees: each branch finishes in a set of three elongated leaves, placed in a fan-like manner and strongly accentuated. This foliage has nothing in common with that of Bruegel the Elder; it is perhaps attributable to the stay of Pieter II in the studio of his master, the landscapist Gillis van Coninxloo].

⁹⁸⁴ It should be recalled that the Antwerp version of the *Adoration of the Magi* is proposed as superior in quality of painterly execution to the other version examined as part of this study, a signed version from the Musées Royaux des Beaux-Arts de Belgique (Chapter V, Section 11.2.5.e).

⁹⁸⁵ This illustration was created by scanning the author’s tracings of the painted compositions of the two works and superposing them using Adobe PhotoShop software.

collection version, for example, also includes these same figures, but they are slightly differently positioned versus one another than those in the Ghent version (fig. 609).⁹⁸⁶ The fact that the large tree on the right is not present in the Brussels version is probably due to its being painted on a smaller panel, which was unable to accommodate the full width of the image.⁹⁸⁷ This tree may not have been part of the common cartoon at all, as the degree of twist varies considerably from one copy to another.

Again, as with the vast majority of Brueghel's works, no pouncing dots or squaring lines are identified in either copy. The drawing lines however, even more than in the *Winter Landscape with Bird Trap* or *Adoration of the Magi* copies, show a liveliness and freedom of expression typical of freehand drawing, particularly in the Brussels version. This strongly indicates erasive pouncing for the transferral of the composition, followed by joining-up of the dots freehand, as was proven in the *Battle between Carnival and Lent*. A more remote possibility would have been to first trace the design onto the panel using red chalk 'carbon' paper, and then to go over the traced lines freehand. Given the complexity of the underdrawing, this is an unlikely scenario, as the composition would, in effect, have to be laboriously drawn onto the surface twice, first with a stylus, second with a material such as black chalk or graphite.

Visually, other copies of the *Wedding Dance in the Open Air* conform strongly to the Ghent and Brussels versions in motif. It is probable that the same cartoon was used to transfer the image throughout the series. Further testing of correspondence in other copies over a range of dates would be necessary to prove this hypothesis.

13.1.6.b *Small variable motifs*

Certain small background motifs in Pieter Brueghel the Younger's versions come and go from one copy to another, the main example being three small figures in the upper right, comprising the figure of the woman urinating and a couple in a somewhat suggestive pose, present in the Ghent copy but not in the Brussels version. Amongst dated paintings, the couple appears in a painting from 1618, they are absent in paintings dated 1620 and 1621, the three figures are present in a painting from 1623 and all three are missing in paintings dated 1624 and 1626.⁹⁸⁸ Their inclusion therefore does not form part of a pattern according to date.

One minor colour variable, the shirt of a male dancing figure in the centre of the composition, is either dark blue or light-mid brown in all the copies, the two colours represented respectively in the Brussels and Ghent versions (figs. 560-1). Interestingly, when the dated versions are compared, it can be seen that the blue shirt features in the two 1607 copies (including the Brussels version) and the 1610 and 1612 copies, but from then on the light brown shirt takes over in every case; the Ghent version, dated by the particular branding on the reverse side of the panel to 1616 or after, conforms to this pattern. Brueghel the Younger perhaps made a conscious modification to the colour scheme after around 1612 for aesthetic reasons: a dark blue patch at the centre of the image creates a visual dead zone; a lighter tone for the central figure's drapery is more dynamic. This recalls the colour and motif change around 1618 in Brueghel's *Peasant Lawyer* series.

Apart from the small variable at the centre of the image, the colours in Brueghel the Younger's versions of the *Wedding Dance in the Open Air* remain constant throughout the series. So as to have maintained this high level of correspondence in terms of colour, the artist most likely kept a painted version of the painting in his studio for reference at all times.

13.1.6.c *Original model*

Brueghel the Younger's original model for the *Wedding Dance in the Open Air* is unknown. Theories include the large-scale *Peasant Wedding Dance* in the Detroit Institute of Arts, an engraving by Pieter van der Heyden, the preparatory drawing for the latter and a lost painting by Bruegel the Elder.⁹⁸⁹

13.1.6.c.i *Bruegel the Elder's Peasant Wedding Dance in the Detroit Institute of Arts.*

Bruegel the Elder's *Peasant Wedding Dance* in the Detroit Institute of Arts differs considerably in composition and format from Brueghel the Younger's *Wedding Dance in the Open Air* series, although certain dancing

⁹⁸⁶ Belgium, private collection (former Coppée collection), 41 x 61.4 cm, unsigned (MARLIER-FOLIE 1969, no. 15; ERTZ 2000, cat. E935).

⁹⁸⁷ Tracing of another version of the *Wedding Dance in the Open Air* containing this motif, and superposition of the latter with the Ghent version would be need to check whether or not it was present on a common cartoon.

⁹⁸⁸ ERTZ 2000, cats. F978, E921, E922, E923, E925, E926, E930 respectively. These paintings are all cited in note 962. They are also present in at least five further undated paintings attributed to Brueghel the Younger, one of which is signed (ERTZ 2000, cats. E929, E931, E932/E933 [signed, 'P. BRVEGHEL'], E935, E944).

⁹⁸⁹ For example, see MARLIER-FOLIE 1969, pp. 183-205, VAN HAUWAERT 1977, pp. 132-55, VAN HAUWAERT 1978, ERTZ 2000, pp. 684-96, CAT. ROTTERDAM-NEW YORK 2001, cat. 113, pp. 248-50; BIANCONI-TOLNAY 1981, p. 196.

couples in the foreground are clearly similar (fig. 610).⁹⁹⁰ Brueghel the Younger did in fact copy the larger work, as pointed out by Jacqueline Folie and illustrated in Marlier's 1969 book; Folie discovered a fragment of the composition, replicating the Detroit version in both motif and colour in a private Belgian collection just after the death of Marlier (fig. 611).⁹⁹¹ Examination of the complete large-scale copy of the composition in the Koninklijk Museum voor Schone Kunsten in Antwerp found that the underdrawing or painting style bears no relation whatsoever to that of Brueghel the Younger's workshop (fig. 612a-e).⁹⁹²

Since Brueghel the Younger did not start to produce his own original compositions until the second half of his career, in around 1619, it is unlikely he would branched out on his own and attempted a personal adaptation of the large scale *Wedding Dance* composition as early as 1607, the year in which his earliest dated versions of the smaller scale *Wedding Dance in the Open Air* were produced. He most likely copied another artist's model precisely.

13.1.6.d *Pieter van der Heyden's engraving or preparatory drawing for the engraving as model*

Van der Heyden's engraving of the *Wedding Dance in the Open Air*, inscribed in the centre with the name of his Antwerp shop, 'Au quatre vents', is marked 'BRVEGEL.INVENT' in the lower left, designating Bruegel the Elder as the inventor of the image (fig. 613).⁹⁹³ The main part of the composition is indeed extremely similar to Brueghel the Younger's *Wedding Dance in the Open Air* series; however, there are key differences. Brueghel's versions include outdoor scenery and leave out the series of interesting and charming presents for the bride in the upper background. To omit these decorative, anecdotal details would be an unlikely conscious choice on the part of Brueghel the Younger, as he was usually quite attached to these sorts of motif; furthermore, the current study shows that he stuck close to his original model when it was known to him. These considerations alone make it unlikely Van der Heyden's engraving provided Brueghel the Younger's model for his *Wedding Dance in the Open Air* series.

What about the model for Pieter Van der Heyden's engraving? For most engravings made after his designs, Bruegel executed detailed preparatory drawings for the engraver, in reverse, as is the case in the *Virtues* series, and as a result the figures are intentionally drawn left-handed in the drawings in order to appear right-handed in the final engravings. Françoise van Hauwaert argues that Brueghel the Younger could well have based his copies of the *Wedding Dance in the Open Air* on a lost preparatory drawing by Bruegel the Elder for Van der Heyden's engraving, as in the vast majority of cases, the figures in Pieter Brueghel's copies are left handed and the composition in reverse of the engraving (see below, 'Two compositional variants', for discussion of the question of the orientation of the image, Section 13.1.6.i).⁹⁹⁴ Furthermore, she argues that as the engraving mentions 'invent' rather than 'pinxit', the model for it was most likely to have been a drawing rather than a painting.⁹⁹⁵ This hypothesis would seem plausible, although it implies that either Van der Heyden or Brueghel the Younger transformed the upper background of the image as it appeared in Bruegel's lost drawing for the engraving. However, there are a small number of engravings taken directly from Bruegel the Elder's paintings, for which Bruegel the Elder never produced a model drawing, for example *Death of the Virgin* and *Christ and the Adulterous Woman*. Nadine Orenstein recently argued that in the case of the *Wedding Dance in the Open Air*, Bruegel the Elder may never have provided Van der Heyden with a model drawing, pointing out that certain 'characteristics of the engraving signal that Van der Heyden did not follow such a model', particular the shading, 'produced in patches rather than in the linear manner of other prints by Van der Heyden after Bruegel,

⁹⁹⁰ The attribution of this work to Bruegel the Elder is generally accepted. For a discussion of the debate over the question of authorship for this painting, see note 405.

⁹⁹¹ MARLIER-FOLIE 1969, p. 185, fig. 105. (ERTZ 2000, cat. F955). Georges Hulin de Loo also indicates another possible version: 'La composition nous était déjà connue par une copie soignée, de la main de Peeter II, laquelle nous avait été montrée par Dr. Max Friedlaender, dans la réserve du Musée de Berlin' (VAN BASTELAER and HULIN DE LOO 1907, p. 315) [The composition was already known to us via a carefully executed copy, from the hand of Pieter II, which was shown to us by Dr. Max Friedländer, in the reserve of the Berlin museum].

⁹⁹² After Pieter Bruegel the Elder, *Peasant Wedding Dance*, 115 x 166 cm, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 973. The author examined this painting in normal and infrared light in 2000. Both the painting style and underdrawing, although of a high quality, bear no resemblance whatsoever to that of Pieter Brueghel the Younger and his studio. This painting was attributed to Bruegel the Elder by Georges Hulin de Loo (VAN BASTELAER and HULIN DE LOO 1907, p. 315) and Edouard Michel (MICHEL 1931, pp. 79-80) but seen as an old copy by Max Friedlander, Gustav Glück and Georges Marlier (MARLIER-FOLIE 1969, p. 183-4).

⁹⁹³ Pieter van der Heyden after Pieter Bruegel the Elder, *The Peasant Wedding Dance*, after 1570. There are four states to this engraving (ORENSTEIN, 2001, p. 248). Figure 613 of this thesis shows the first state of four, 37.5 x 42.3 cm, inscribed at lower left, 'P. BRVEGEL. INVENT', at lower centre, 'Aux quatre Vents', at lower right, 'PAME [monogram]', in lower margin, verses (cited in CAT. ROTTERDAM-NEW YORK 2001, p. 248), The Metropolitan Museum of Art, New York, Harris Brisbane Dick Fund, 1933, inv. 33.52.29. Georges Marlier relates that the engraving was later published by Adrien Collaert and Galle; the illustration in his book shows Galle's print (MARLIER-FOLIE 1969, p. 186, fig. 106). Marlier also adds that 'Henri Hymans avait écrit qu'il existait une ou plusieurs épreuves portant la date 1558' but that as 'aucune de ces épreuves n'a jamais été revue [...] il n'y a donc pas lieu de tenir compte de cette date' (MARLIER-FOLIE 1969, *ibid.*) [Henri Hymans wrote that there was one or several prints carrying the date 1558 but as none of these has ever been seen since, it is not worth taking this date seriously].

⁹⁹⁴ Klaus Ertz repeats this view as his own in his concluding remarks as to the model for Brueghel the Younger's *Wedding Dance in the Open Air*; he says that Jan Brueghel also had access to the engraving and probably to the preparatory drawing for it (ERTZ 2000, p. 696).

⁹⁹⁵ VAN HAUWAERT 1977, pp. 136 and 155, VAN HAUWAERT 1978, p. 93.

suggesting that the engraver worked from a painted prototype.⁹⁹⁶ That the print, illustrated in the present thesis as fig. 613, was clearly produced after the deaths of Bruegel the Elder and Hieronymus Cock, is shown by the words ‘Aux quatre Vents’ at the bottom, the latter used as the address by Cock’s widow after her husband’s death in 1570.⁹⁹⁷ Orenstein concludes by saying the model for the engraving was likely to have been a design created by a member of Cock’s workshop, based on the Detroit version of the *Wedding Dance*. She adds that Bruegel’s Detroit composition was probably influenced by an earlier engraving by Pieter van der Borch, dated 1560, showing a peasant wedding and depicting the carrying of wedding gifts to the Bridal table (fig. 614a).⁹⁹⁸

Placing the author’s tracing of the Ghent version over the Van der Heyden engraving shows that the two compositions are not copied by an accurate method after the same document (fig. 615); more likely, as Orenstein has argued, Van der Heyden or an assistant did not actually have access to a detailed drawing by Bruegel the Elder but copied another source, perhaps a lost painting by Bruegel the Elder, that he may or may not have had to adapt in order to depict an interior scene and the carrying of gifts to the Bride.

13.1.6.e *The case of a lost painting or drawing for a lost painting by Bruegel the Elder*

Georges Marlier concludes his analysis of the *Wedding Dance in the Open Air* with two possible hypotheses, ‘soit que – selon l’opinion de Hulin – Pierre Brueghel le Vieux ait peint un tableau, aujourd’hui perdu, dont s’est inspiré Pierre le Jeune et Pierre van der Heyden, soit que Pierre le Jeune ait lui-même inventé cette composition en transposant en plein air le tableau ou le dessin du Vieux Bruegel, qui a également servi à Pierre van der Heyden pour graver sa planche, et en modifiant le fond.’⁹⁹⁹ Further insights can be made to further the former of the two hypotheses, based on comparison between Pieter Brueghel’s versions of the subject with those of his brother Jan, as well as with those of Martin van Cleve.

Original sources do indicate that Bruegel the Elder painted several scenes of peasant weddings,¹⁰⁰⁰ although only two survive, the large scale *Peasant Wedding Dance* in the Detroit Institute of Arts and the unsigned *Peasant Wedding* in the Kunsthistorisches Museum in Vienna.¹⁰⁰¹ A further lost *Wedding Dance* composition, perhaps on a smaller scale, would not be incompatible with these accounts.

Interestingly, an engraving of a *Peasant Wedding Dance* by Pieter van der Borch depicts an exterior scene with many motifs similar to those in Brueghel the Younger’s many versions of the *Wedding Dance in the Open Air*: the image is flanked by a bagpipe player on the right and a standing couple on the left and several couples dance energetically, some in similar poses to the Younger Brueghel’s composition (fig. 613b).¹⁰⁰² This engraving might have served as inspiration for a lost painting by Bruegel the Elder.

13.1.6.f *Jan Brueghel’s copies*

The case in favour of a lost painting or drawing by Bruegel the Elder is strengthened by the existence of at least two versions of the *Wedding Dance in the Open Air* attributed to Jan Brueghel the Elder, an oil painting on copper in the Musée des Beaux-Arts in Bordeaux and a miniature painting in gouache on vellum in the Galerie des Offices in Florence (figs. 616-7).¹⁰⁰³ These two versions are identical to his brother’s copies in terms of motif, and the Bordeaux version appears to be the same format. The only differences relate to the colour scheme, similar in Jan’s two paintings but clearly different from Pieter’s copies, and orientation – Jan’s copies

⁹⁹⁶ CAT. ROTTERDAM-NEW YORK 2001, pp. 249-50, in which Orenstein also cites RIGGS 1979, p. 169. A. T. Riggs, in his doctoral dissertation on Hieronymus Cock, writes on Van der Heyden’s *Wedding Dance* print: ‘This is a larger print than his earlier engravings after Bruegel, and probably reproduces a painting or wash drawing; certainly the shading is due more to Van der Heyden than to Bruegel, and reveals him at this point under the influence of Philip Galle’. (RIGGS 1977, p. 99).

⁹⁹⁷ CAT. ROTTERDAM-NEW YORK 2001, p. 249.

⁹⁹⁸ *Ibidem*, p. 250. Pieter van der Borch, *Peasant Wedding*, engraving, 1560, The Metropolitan Museum of Art, New York, inv. 56.597.9.

⁹⁹⁹ MARLIER-FOLIE 1969, p. 191 [either – according to Hulin’s opinion – Pieter Bruegel the Elder painted a painting, today lost, which inspired Pieter Brueghel the Younger and Pieter van der Heyden, or that Pieter Brueghel the Younger himself invented this composition by transposing into the open air and by modifying the background of a painting or drawing by Bruegel the Elder, which also served Pieter van der Heyden for his engraving].

¹⁰⁰⁰ ALLART 2001, pp. 48-9 and 54.

¹⁰⁰¹ Pieter Bruegel the Elder, *Peasant Wedding Dance*, 119 x 157 cm, dated ‘M.D.LXVI.’, Detroit, Institute of Arts, inv. 30.374. Although this painting is accepted by most authors as a genuine œuvre by Bruegel the Elder, there are some dissenting voices [see note 405]; Pieter Bruegel the Elder, *Peasant Wedding*, 114 x 164 cm, unsigned, Vienna, Kunsthistorisches Museum, inv. 1027.

¹⁰⁰² Yoko Mori illustrates and attributes this engraving to Pieter van der Borch in her 2001 catalogue essay but does not give any date or owner (MORI 2001, p. 40, fig. 42). It is monogrammed, ‘P.B.’.

¹⁰⁰³ Jan Brueghel, *Wedding Dance in the Open Air*, 40 x 50 cm, oil on copper, Bordeaux, Musée des Beaux-Arts, inv. Bx E 103, purchase of the town in 1829. For a discussion of this version, see MARLIER-FOLIE 1969, p. 195, ERTZ 1979, pp. 460-1, cat. 38, ERTZ 1998, pp. 88-90 and GENAILLE 1980, p. 84; Jan Brueghel the Elder, *Wedding Dance in the Open Air*, 16 x 20 cm, Galerie des Offices, Florence, inv. 840. This miniature was proposed as the original version by Pieter Bruegel the Elder by Charles de Tolnay in 1969 although no subsequent authors have agreed with him. Both Jacqueline Folie, who discovered the latter painting just after Marlier’s death and illustrates it in the latter’s book, and more recently Klaus Ertz attribute the painting to Jan Brueghel the Elder (TOLNAY 1969, pp. 257-360; MARLIER-FOLIE 1969, p. 204; ERTZ 2000, p. 689). Marijnissen does not agree with Tolnay but having only seen the painting in reproduction, declines to comment on its attribution (MARIJNISSEN 1988, p. 295). The painting is not referred to in ROBERTS-JONES 1997.

are mirror images of Pieter's. Jan's two versions are distinguished by the shiny, taffeta-like blue/white sleeve of the male dancer second from the left and the black dress with light lining of the female dancer in the immediate left foreground. In terms of format, the painting on vellum is clearly smaller than Pieter's versions although the Bordeaux copy appears very similar. When a photographic reproduction of Jan's composition is scanned, printed to scale and one of the author's tracings of Pieter Brueghel the Younger's *Wedding Dance in the Open Air* composition flipped and superposed on top, the main figural group of the two images can be seen to correspond precisely in almost every detail, as was the case between the two copies from Pieter Brueghel the Younger's workshop; furthermore, as in the comparisons amongst Pieter Brueghel's copies, the houses and trees, although the same in terms of motif, do not match up (fig. 618a-b). Although this apparent evidence would have to be checked either by directly tracing the Bordeaux copy or by superposing a tracing of a copy by Pieter Brueghel over the Bordeaux painting, these preliminary comparisons support the principal that the figural group in Pieter's copies may well be based on the same, or copy of the same cartoon as used for Jan's Bordeaux copy, although the other way round in the case of the latter. Considering that Jan Brueghel made extremely faithful copies of several works of his father during the late 1590's, it is possible that the *Wedding Dance in the Open Air* formed part of this same enterprise, and therefore that a lost original painting or cartoon, conforming to his and his brother's composition rather than to the variant of the image shown on Van der Heyden's engraving, was available to the two brothers.¹⁰⁰⁴ The cartoon in question would therefore either have been generated by Pieter Bruegel the Elder for or after a lost painting, or would have been made by one or both of the two sons after the latter. As Pieter Brueghel the Younger's earliest dated copy is from 1607, it is possible that Jan was the first of the two brothers to copy the composition, sometime in the late 1590's. As with Pieter's 'left-handed' version, Jan's 'right-handed' version of the image was imitated by numerous unidentified followers. The taffeta-like sleeve of the male dancer second from the left and the black dress with light lining of the female dancer in the left foreground are recognisable even in black and white reproductions of the paintings.¹⁰⁰⁵

13.1.6.g *Martin van Cleve's versions*

Another argument in favour of the hypothesis of a lost original painting by Bruegel the Elder is the existence of several examples of a composition that appears to have been created by Martin van Cleve, but was clearly originally inspired by the same *Wedding Dance in the Open Air* composition depicted in Pieter and Jan Brueghel's copies (figs. 619-21).¹⁰⁰⁶ This composition follows the same orientation as Jan Brueghel's versions and portrays Van Cleve's 'signature dog' in the foreground,¹⁰⁰⁷ the latter not present in Pieter or Jan Brueghel the Younger's copies, nor in Van der Heyden's engraving. Good colour details of a privately owned version of Van Cleve's composition are illustrated in Georges Marlier's book, captioned as painted by Brueghel the Younger and described as 'très proche de Martin van Cleve',¹⁰⁰⁸ however, inspection of these reproductions leads the current author to conclude that the painterly style does not resemble Brueghel the Younger's usual manner of working in any way. Klaus Ertz, probably correctly, attributes the aforementioned privately owned painting to Martin van Cleve without any reservations, and furthermore does not attribute any of the other known versions of the variant to Brueghel the Younger.¹⁰⁰⁹ It is likely that Martin van Cleve generated this composition after a lost painting by Bruegel the Elder, adapting it to his own vision and preferred format, in keeping with his approach to Bruegel the Elder's large-scale *Massacre of the Innocents* composition, which he painted in a different format to the original (similar to that of his *Wedding Dance in the Open Air*) and altered the image to fit his idiosyncratic compositional and figural style (fig. 622a-c). Van Cleve's preparatory drawing for his *Massacre* composition survives, and although the final painting is lost, the image is known through numerous copies produced by Brueghel the Younger and his workshop.¹⁰¹⁰ As Van Cleve's version of the *Wedding Dance in the Open Air* recalls more strongly the conception of Brueghel the Younger's small scale *Wedding Dance in the Open Air* series than Bruegel the Elder's Detroit *Peasant Wedding Dance* composition, it suggests that the artist based his composition on a separate lost painting by Bruegel the Elder rather than the Detroit version.

¹⁰⁰⁴ For Jan's copies of his father's works, see notes 717 and 722.

¹⁰⁰⁵ Klaus Ertz calls this group the 'Bordeaux group' and points out the differences in orientation and colour from Pieter Brueghel the Younger's usual variant (ERTZ 2000, p. 693).

¹⁰⁰⁶ There are at least five examples of this variant by Martin Van Cleve or his followers: Brussels, Gal. Finck, 14 December 1969, no. 22, 77 x 106 cm (MARLIER-FOLIE 1969, no. 6; ERTZ 2000, cat. A988); Drouot, Paris, 4 December 2000, no. 77, 44.5 x 140.5 cm, fragment of composition, (not in MARLIER-FOLIE; ERTZ 2000, cat. A989); London, Sotheby's, 3 July 1985, no. 38, 73 x 105.5 cm (not in MARLIER-FOLIE; ERTZ 2000, cat. A1001); Madrid, coll. de Bermejillo 1977, 100 x 130 cm (not in MARLIER-FOLIE; ERTZ 2000, cat. A1002). The main figural arrangement in these three paintings is also repeated in another painting attributed to Martin Van Cleve by Klaus Ertz, but with a different background (ERTZ 2000, cat. A982, fig. 577); there is also another version of this composition attributed by Ertz to a follower of Van Cleve: London, Sotheby's, 12 July 1978, no. 132, 72 x 111.1 cm (ERTZ 2000, cat. A1000).

¹⁰⁰⁷ In the chapter entitled, 'Pierre le Jeune et Martin van Cleve' Marlier mentions that 'le chien [...] a la valeur d'une marque de fabrique de Martin van Cleve' (MARLIER-FOLIE 1969, p. 344) [the dog (...) has the value of the maker's mark of Martin van Cleve].

¹⁰⁰⁸ MARLIER-FOLIE 1969, no. 6, fig. 110 [very close to Van Cleve] [cited note 1006].

¹⁰⁰⁹ ERTZ 2000, p. 694, see also his catalogue entries for the various versions of this particular composition [cited note 1006].

¹⁰¹⁰ On the Van Cleve drawing, see MARLIER-FOLIE 1969, p. 333; on two versions of Brueghel the Younger's *Massacre of the Innocents* after Van Cleve, see also CURRIE 2003 and Chapter IX, Section 15.2.

Another painting, at first glance appearing to be a faithful rendition of Jan Brueghel's 'right-handed' version of the *Wedding Dance in the Open Air*, is distinguished from both Jan and Pieter's copies by the presence of dog in the centre foreground (fig. 623).¹⁰¹¹ The prominent position, as well as the diagonal pose of the dog again brings to mind Martin van Cleve. Furthermore, as far as can be judged by the photographic reproduction, the painting shows no similarities to either Pieter Brueghel the Younger or Jan Brueghel's painting style; indeed Klaus Ertz likens the style to the work of Van Cleve. If this painting is indeed by Martin van Cleve, or even a copy after a lost version by the latter artist, this would strengthen the argument that Van Cleve had access to a lost original work by Bruegel the Elder, also serving as inspiration for his larger and stylistically more individualised version of the theme, as discussed above, as well as for the later copies by Jan and Pieter Brueghel.

13.1.6.h *Colour comparisons between the different artists' versions*

Jan and Pieter Brueghel's copies of the *Wedding Dance in the Open Air*, as well as Van Cleve's versions each have their own respective colour scheme for the draperies of the figures, which remains constant in their various versions and in most of the copies of their followers. The only figure in which the drapery colours are shared between all these artists' versions is the central male dancer, who wears a red jacket and black trousers; it is probably no coincidence that the corresponding figure is similarly attired in the Detroit painting by Bruegel the Elder. Whether any of these artists' colour scheme conforms to that of a lost painting by Bruegel the Elder is impossible to know in the absence of the latter. The current research has shown that Brueghel the Younger appears to have copied the colour scheme of his father's paintings' quite precisely when he was aware of it, for example, in his copies of the *Battle between Carnival and Lent*, although he reinforces certain hues to give a brighter, more contrasty result.¹⁰¹² Jan Brueghel on the other hand appears to have taken liberties with colour schemes, even when he most likely had intimate knowledge of the original version, for instance in his copies of the *Sermon of Saint John the Baptist*, where bright blues have been substituted for Bruegel the Elder's choices in certain draperies; indeed, Jan's Bordeaux and Florence versions of the *Wedding Dance in the Open Air* show a leaning towards the range of blue hues he typically favoured.¹⁰¹³ Of course, it is possibly that the respective colour schemes were personal inventions by all three artists, particularly if a drawing, rather than a painting was their model (unlikely in the case of Martin van Cleve, who would not have had access to Bruegel the Elder's personal drawings); nonetheless, one of the versions could conceivably represent the original colour scheme of a lost painting by Bruegel the Elder, possibly adjusted slightly in places to suit the individual vision of the particular artist.

All things considered, there is a strong case that Brueghel the Younger copied a lost painting and/or preparatory drawing for the painting by his father for his versions of the *Wedding Dance in the Open Air*, as suggested by Marlier, rather than the Van der Heyden engraving or Detroit painting. This lost painting would represent the missing link amongst the versions of Pieter Brueghel the Younger, Jan Brueghel the Elder, Martin van Cleve and Pieter van der Heyden and was probably 'right-handed' in orientation, as in the latter three artists' works. Why Pieter Brueghel the Younger's versions show the composition in reverse in respect to the other artists' works is open to debate. He may have simply preferred the scene in that orientation; the left-handedness of a few lone figures is hardly a noticeable feature of the composition and the dancers and buildings function perfectly on an aesthetic level and do not appear noticeably in 'reverse'. The most likely possibility is that he had access to a detailed preparatory drawing or cartoon for or after his father's lost painting, but chose to flip it over and copy the image in reverse; he may or may not have seen his father's final painted version. Françoise Van Hauwaert's hypothesis that Brueghel the Younger based his copies on the drawing made by Bruegel the Elder for Pieter van der Heyden's engraving – that Van der Heyden subsequently adapted – is considerably weakened by the lack of correspondence between the proportions of the figural group in the engraving with those in Jan and Pieter's copies and by Nadine Orenstein's arguments that the engraving style and draftsmanship do not match up to the quality of other engravings by Van der Heyden proven to be taken from original drawings by Bruegel the Elder. In the case of the engraving, the most likely scenario is that Van der Heyden (or an assistant) based himself loosely on the aforementioned lost painting by Bruegel the Elder, but added anecdotal details such as the bridal gifts as well as transforming the setting, including the removal of a tree on the right that the engraver probably felt broke up the continuity of the figure group. A remote possibility in terms of a model for Brueghel the Younger's 'left-handed' composition is that he had access to another 'inversed' drawing by his father, specifically intended for an engraving and closely conforming to the composition of the lost painting, but that the engraving project was subsequently abandoned.

¹⁰¹¹ Amsterdam, Muller, Bringenberg sale 17 June 1925, no. 196, 39.5 x 50 cm (MARLIER-FOLIE 1969, no. 7, listed twice in ERTZ 2000, as cat F945 and cat A980). There is a black and white photograph of this painting in the IRPA archives listing it as part of the former Becker collection in Brussels. Ertz describes the painting as close to the manner of Van Cleve, based on examination of a photograph. Nonetheless, since the painting has not been personally examined by either Marlier, Ertz or by the current author, the question of its authorship remains open.

¹⁰¹² For *Battle between Carnival and Lent*, see Chapter II.

¹⁰¹³ On Jan's versions of *Sermon of Saint John the Baptist*, see Chapter III, Section 9.1.6.a.i. figs. 374a-b.

13.1.6.i *Two compositional variants*

Georges Marlier divided Brueghel the Younger's many copies of the *Wedding Dance in the Open Air* into two main variants, or more precisely, orientations for the composition, one a mirror image of the other. The variant in which the protagonists are left-handed – to which the Brussels and Ghent versions conform – is by far the more common. Examination of all the available reproductions of the paintings forming part of the rarer 'right-handed' variant (Marlier's numbers 1-7) shows that, barring a few possible exceptions, these are works by other artists.

Taking the paintings one at a time in the order they appear on Marlier's list, his number 1, from the Borchard collection (former Dorius Hermsen collection, The Hague),¹⁰¹⁴ is considered suspect by Marlier himself owing to its medium and support, tempera on canvas; furthermore, Ertz says that the reproduction he consulted of the painting shows it as the left-handed variant, and therefore that the painting forms part of Brueghel the Younger's main group.¹⁰¹⁵ The black and white reproduction of the Borchard collection version consulted by the present author in Edouard Michel's 1931 book on Bruegel the Elder appears to contradict Ertz's observation – not only does the painting show a right handed image, the taffeta-like sleeve of the male dancer second from left and the black dress with lighter lining of the female dancer in the left foreground are clearly present. The painting is therefore clearly part of the group conforming to Jan Bruegel's variant.¹⁰¹⁶ Marlier's number 2, on copper, from the Musée des Beaux-Arts in Bordeaux is considered by the latter, Jacqueline Folie, Klaus Ertz and Robert Genaille to be by Jan Brueghel the Elder (fig. 617).¹⁰¹⁷ Marlier comments that his number 3, from the Musée des Beaux-Arts in Quimper is of poor quality although points out certain similarities to Jan Brueghel's style in the painting of certain heads; Ertz attributes the painting to Pieter Brueghel the Younger with a question mark (fig. 624a-b).¹⁰¹⁸ Clearly, the painting is taken after Jan Brueghel's variant, even if it is by Pieter Brueghel, owing to the corresponding colours of certain draperies (as for the aforementioned Borchard collection copy) which are closer to those of Jan's two versions than to any of Pieter Brueghel's copies. Marlier's number 4, from the Musée des Beaux-Arts in Nîmes, can be removed from the list entirely according to Jacqueline Folie, who claims that this painting in fact shows the 'left-handed' orientation of the composition. Although Klaus Ertz confirms that Marlier's number 5, from the Harveld Gallery in Antwerp, indeed shows the 'right-handed' orientation, he admits that the quality of the photograph he consulted was not sufficiently good to attempt a stylistic evaluation; the current author did not have access to a reproduction of this painting.¹⁰¹⁹ Marlier's number 6, from the former Dr. F. Ludwig collection in Berne and exhibited at Finck in Brussels in December 1969, is discussed above in relation to Martin van Cleve, and can be removed from Brueghel the Younger's oeuvre.¹⁰²⁰ Lastly, Marlier's number 7, sold at Muller's in Amsterdam in 1925 and also discussed above (fig. 623), is more likely to be by Martin van Cleve or a follower than one of the Brueghel brothers.

Klaus Ertz cites four further copies of the 'right-handed' variant, two of which are portrait format (figs. 625-8). One of the portrait format works is signed 'P. BREVGHEL' (fig. 627).¹⁰²¹ All imitate the colour scheme of Jan Brueghel's Bordeaux and Florence versions. The signed work, according to Ertz, is the only painting in the 'right-handed' orientation that can be firmly attributed to Brueghel the Younger.

The weight of the evidence points against Pieter Brueghel the Younger ever having created a 'right-handed' variant of his own of the *Wedding Dance in the Open Air*, although he may have been inspired to copy his brother's version, in orientation as well as colour scheme on at least one occasion.¹⁰²²

¹⁰¹⁴ New York, Borchard collection after 1925, tempera on canvas, mounted onto wood, 35.5 x 43 cm (MARLIER-FOLIE 1969, no. 1, p. 193; ERTZ 2000, cat. F967).

¹⁰¹⁵ ERTZ 2000, cat. F967, p. 730.

¹⁰¹⁶ Unfortunately, photocopies of the copy of Edouard Michel's book consulted by the present author were not permitted. This version was considered by Georges Hulin de Loo to be the original version by Bruegel the Elder according to Michel: 'nous savons que M. Hulin de Loo, en 1925, acceptait l'oeuvre pour un original de la main meme de Bruegel: nous nous rangeons bien volontiers à l'avis du savant professeur' [we know that Mr. Hulin de Loo, in 1925, accepted the work as an original from the hand of Bruegel himself: we willingly endorse the opinion of the knowledgeable professeur] (MICHEL 1931, pp. 79-80). Marlier only studied the painting after a photograph so abstains from giving his opinion (MARLIER-FOLIE 1969, p. 195); the same applies to the present author – clearly, the attribution merits further study.

¹⁰¹⁷ Cited note 1002.

¹⁰¹⁸ Quimper, Musée des Beaux-Arts, inv. 873-1-10, 40 x 47.5 cm (MARLIER-FOLIE 1969, no. 3; ERTZ 2000, cat. F971).

¹⁰¹⁹ Antwerp, Harveld Gallery (MARLIER-FOLIE 1969, no. 5; ERTZ 2000, cat. F947).

¹⁰²⁰ Cited note 1006.

¹⁰²¹ Brussels, Giroux 12 March 1928, no. 29, 47 x 37 cm, (MARLIER-FOLIE 1969, p. 191, note 9 [not part of numbered list]; ERTZ 2000, cat. F953); Paris, De Jonckheere 1990 [cited note 964]; London, Sotheby's, 6 July 1988, no. 74, 40 x 47 cm, (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. F964); London, Philips, 1 July 1997, no. 162, 33.3 x 42.2 cm (not in MARLIER-FOLIE 1969; ERTZ 2000, cat. A999a).

¹⁰²² For example, in the case of the signed portrait format version, fig. 627, which in reproduction, does not look out of place for Brueghel's workshop.

13.1.7 Conclusion

On a technical level, the Brussels and Ghent versions of the *Wedding Dance in the Open Air* conform to the usual pattern expected of works from Brueghel's studio. Both are executed on oak panels, although the Ghent version comprises one single plank whilst the Brussels copy is painted on two joined boards. Unfortunately, planing down of the Brussels version prevents any further assessment of the support; in the case of the Ghent version, the support was found through dendrochronology to originate from Meuse wood and the untouched reverse of the panel revealed the stamp of the Antwerp guild as well as Michiel Claessens' clover mark, proving the support was made outside the Brueghel workshop by a professional Antwerp panel-maker. Since the particular iron used to stamp the Ghent panel was used for a panel by Brueghel signed and dated 1616 (*Good Shepherd*), the Ghent *Wedding Dance in the Open Air* could also have been painted in 1616 – or later – and probably at least nine years after the Brussels version, which is signed and dated 1607. Both *Wedding Dance* versions' examined have thin, grey *imprimatura* layers above the white ground and a typical black, dry medium, outline underdrawing of the entire composition. The evolution of the paint layers, the colour scheme and the handling of paint is almost identical in the two copies.

Stylistically, the underdrawing is much bolder in the Brussels version, with vibrant outlines and frequent areas of spirited hatching for tone and contour; nonetheless, the Ghent version is outlined with an extremely subtle touch. Small differences in style can also be discerned at the level of the paint, although to a much lesser extent; figures and faces in the Brussels version again more boldly modelled. Hatching strokes in the paint layer of the Brussels version mirror the style and type of hatching in its underdrawing suggesting the same hand was responsible for both stages. Despite the differences in approach, considerable similarities in style between the two versions mean that the possibility of common authorship cannot be excluded.

The author's tracings of the painted outlines of the Ghent and Brussels copies shows that the figural arrangement was transferred using the self-same cartoon, or at the very least, copies of it. As in the vast majority of cases, no signs of the actual transfer process remain. Since the underdrawings are clearly too animated to be traced, pouncing – a rapid and accurate means of transferring a complex image – is by far the most likely possibility for the initial laying-out of the image, followed by freehand joining-up of the dots. When the dated copies are seen as a whole, it becomes apparent that there must also have been a painted model kept in the studio at all times owing to the almost unchanging colour scheme, with the exception of one figure's drapery, which was most likely switched from blue to light brown around 1612.

A re-examination of the evidence regarding the original model for Pieter Brueghel the Younger's copies leads to the conclusion that the model was most likely a painting, now lost and/or drawing or cartoon of the latter by Pieter Bruegel the Elder, and not Pieter van der Heyden's engraving or a drawing made specifically for the engraving by Bruegel the Elder. Jan Brueghel must also have had access to the same model, in view of the similarities in motif and format between his Bordeaux version and his brother Pieter's copies. The hypothesis of a lost painting by Bruegel the Elder, showing exactly the same composition of the *Wedding Dance in the Open Air* as in his sons' respective copies (although following Jan's right-handed orientation), which may or may not have been accessible to the latter, is strengthened by the existence of a series of paintings by Martin van Cleve probably based on the same composition.

**PART II: ANALYSIS OF PIETER
BRUEGHEL THE YOUNGER'S
PAINTINGS – COMPARATIVE WORKS**

CHAPTER VIII

Large format works

This section surveys the remainder of the works in the study, concentrating on underdrawings and the possible use of cartoons. Any particularly unusual observations and discoveries related to the supports or layer structure are also pointed out. Purely technical information is listed in Appendix 2.

14.1 Christ Carrying the Cross

Two versions of this complex figural scene were studied. Both form part of the collection of the Koninklijk Museum voor Schone Kunsten in Antwerp and one is signed and dated, 'P. BRVEGHEL./1603.' (figs. 629-30).¹⁰²³ The original model is unknown and its paternity contested, some opting for a lost work by Bruegel the Elder, others favouring an invention by Brueghel the Younger based on motifs derived from his father's oeuvre.¹⁰²⁴

Dendrochronology of the unsigned version gave a *terminus post quem* of 1593 for the execution of the painting, and established that the wood originated in the Baltic.¹⁰²⁵

14.1.1 Underdrawing

Both underdrawings are spectacularly clear in infrared, although in the unsigned version retouched losses registering as dark patches mar the image in places. The underdrawings are executed freehand, notwithstanding the use of cartoons for guidance (see below, 'Use of cartoons', 14.1.5).

Drawing notations such as squiggles, hatchings, creases under arms and drapery fold outlines are often placed in exactly the same places in both paintings. This is particularly noticeable in the clothing of the foreground figures and certain faces (figs. 631a-b). The phenomenon of matching notations is also observed in other series' in the current study, for example, the *Census at Bethlehem*, *Sermon of Saint John the Baptist* and *Peasant Lawyer*. As with these cases, the most likely explanation is that these notations were present on an independent, scaled drawing or cartoon.

14.1.2 Influence of Bruegel the Elder's drawings on underdrawing style

In the case of *Christ Carrying the Cross*, common drawing notations occur on figures that appear to have been transferred by way of a common cartoon, making it feasible they were present on the latter. This does not reduce in any way the possibility of the existence of a separate drawing, complete with hatchings and other drawing notations, independent of the actual sheet – sometimes described as the 'substitute cartoon' – used to transfer the image.¹⁰²⁶

14.1.3 A missing link identified? A possible drawing by Brueghel the Younger after an original drawing by Bruegel the Elder

There exists a highly faithful copy of a detailed pen and ink landscape drawing by Bruegel the Elder, *Mule Caravan on Hillside*, c. 1552 (figs. 632-3). This copy is currently unattributed to any particular artist.¹⁰²⁷ The drawing is the same format as the original version and is extremely faithful in its rendering of details, even down to the tiny 'lollipop' trees in the background. What particularly strikes the present author is the inscription on the central rock. The inscription on the copy reads, 'BRVEGHEL 1603' [V and E joined and H and E joined].¹⁰²⁸ Not only is the copy dated the same year as *Christ Carrying the Cross*, but the style of the painted date in both painting and copy drawing is virtually identical. The very fact that the date in copy drawing is so prominently displayed indicates that it was by no means intended as a forgery, like so many copies of Bruegel

¹⁰²³ *Christ Carrying the Cross*, 117-117.1 x 164.1 x 164.3 cm, signed and dated, 'P. BRVEGHEL./1603.', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 5006; *Christ Carrying the Cross*, 109.35-109.6 x 164.1 x 164.4 cm, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 31.

¹⁰²⁴ MARLIER-FOLIE 1969, pp. 280-2; ERTZ 2000, p. 396. According to these sources, Georges Hulin de Loo was the first to suggest that a lost work by Bruegel the Elder was the model for the composition; Gustav Glück, Klaus Ertz and to a lesser extent Georges Marlier, are convinced that the composition was an invention of Brueghel the Younger, but using motifs borrowed from his father.

¹⁰²⁵ Pascale Fraiture's unpublished dendrochronology report, 6 September 2000.

¹⁰²⁶ See discussion of 'substitute cartoon' relative to the *Census* series, see Chapter I, Section 7.2.8.g.vi.

¹⁰²⁷ According to Nadine Orenstein, the sheet was previously considered, like the original version, to be possibly by Jan Brueghel, after a lost original by Pieter Bruegel the Elder (CAT. ROTTERDAM-NEW YORK 2001, p. 94).

¹⁰²⁸ Pieter Bruegel the Elder, *Mule Caravan on Hillside*, c. 1552, 21.8 x 30.1 cm, pen and black-brown ink, signed and dated at bottom left of centre, barely readable and hatched over in red-brown ink, 'b...hel 15...[52?]', Rotterdam, Museum Boijmans Van Beuningen, inv. 146 (CAT. ROTTERDAM-NEW YORK 2001, cat. 6, p. 94); Anonymous, after Pieter Bruegel the Elder, *Mule Caravan on Hillside*, 21.7 x 30.2 cm, pen and brown ink, with green and blue wash, signed on central rock, 'BRVEGHEL 1603' [VE and HE joined] and at bottom left of centre (as in original), 'brueghel', Munich, Staatliche Graphische Sammlung, inv. 1097 (CAT. ROTTERDAM-NEW YORK 2001, cat. 7, p. 94).

the Elder's drawings circulating around the turn of the sixteenth century;¹⁰²⁹ furthermore, the artist certainly intended the drawing to be recognised for what it is – a copy after a work by Bruegel the Elder – as it also contains the inscription, 'brueghel' in lower case to the left of centre at the bottom of the sheet, following a similarly spelled inscription in the same location in the original drawing.¹⁰³⁰ The particular spelling, including an 'h' in the name, is typical of Bruegel the Elder's drawings before 1561. Regarding the signature and date on the rock, the lack of a 'P' prior to the name is typical of Bruegel the Elder's signatures, as is the use of ligatures (joining of letters); the VE ligature is found mostly on his drawings,¹⁰³¹ for example, in the drawing for *Prudentia (Prudence)*,¹⁰³² one of the set of *Virtues*, the signature and date 'BRVEGHEL 1559', has the 'VE' and the 'HE' joined, as in the signature on the copy of *Mule Caravan*. There is also another precedent in Bruegel the Younger's work for 'HE' ligature in a small, signed and dated roundel of a Flemish proverb, inscribed, 'P. BRVEGHEL. 15.94.', which is also slightly peculiar in its inclusion of a dot in between the '5' and the '9' of the date (see fig. 682d). The drawing notations in both copy and original of the *Mule Caravan*, such as the depiction of trees in the distance as loose circles, open at the bottom, with sticks for trunks,¹⁰³³ the outline of a windmill on the upper right horizon and special attention given to rock formations are all found in the underdrawing of Bruegel the Younger's two versions of *Christ Carrying the Cross*; furthermore, the composition of the latter, with the winding river and distant townscape and hills, is not dissimilar to that of the *Mule Caravan* (fig. 634).

If Bruegel the Younger were the author of the copy of *Mule Caravan*, the drawing would represent an important missing link between the graphical works of his father and Bruegel the Younger's underdrawings. It is likely that Bruegel the Elder's drawing style, either in *Mule Caravan* or another similar lost work or works heavily influenced Bruegel the Younger's drawing style and hence his underdrawing notations in *Christ Carrying the Cross*. It is feasible that there was once a landscape drawing by Bruegel the Elder showing exactly the same landscape background as in Bruegel the Younger's copies of *Christ Carrying the Cross*.

There appear to be two main reasons why Bruegel the Younger might have made a faithful copy of a landscape drawing by his father. The most likely is that he was working on commission, or for the open market, signing and dating the drawing to avoid any confusion with the original version, as was his habit with many of his painted copies of his father's works. Both original and copies are clearly 'finished' drawings, to be appreciated as such, and not preparatory to engravings or paintings. There is only one other example of a drawing signed and dated with an inscription typical of Bruegel the Younger, and this too is a 'finished' drawing rather than a sketch or study: *The Château of Hoerzuylens*, signed and dated, 'P. BREVGHEL 1625, the inscription and attribution to Bruegel the Younger considered correct by Georges Marlier.¹⁰³⁴ There was a clear demand for such collectible items during the period. A second possibility is that Bruegel inherited the original drawing of the *Mule Caravan*, and made a close copy of it for reference purposes prior to selling the former; alternatively, he could have borrowed the drawing from a collector in order to make his own copy.

Another possible author for the *Mule Caravan* copy drawing is of course Jan Bruegel the Elder, who usually signed his name 'BRVEGHEL' without a preceding 'P'. He too would have found such a drawing useful for his own landscape compositions, whose backgrounds are sometimes similar in conception to that of the *Mule Caravan*, for example, *Large Landscape with Caravan*.¹⁰³⁵

It is worth mentioning that another motif from Bruegel the Younger's *Christ Carrying the Cross* is securely identified in an engraving taken after a design by Bruegel the Elder: the Cross and house behind it, plus the leper coming out of the door, in *Plaustrum Belgium (The Belgian Wagon)*, c 1555-6.¹⁰³⁶ This supports the hypothesis of certain authors, who suggest that for *Christ Carrying the Cross*, Bruegel the Younger simply put together motifs from his father's drawings to create his own composition.¹⁰³⁷ A drawing depicting *Christ Carrying the Cross*, attributed by Hans Mielke and Nadine Orenstein to 'Pieter Bruegel the Elder?' may well

¹⁰²⁹ On the infamous 'naer het leven' forgeries, previously given to Bruegel the Elder and now securely attributed to Roelandt Savery, see CAT. ROTTERDAM-NEW YORK 2001, pp. 284-8.

¹⁰³⁰ The inscription on the original drawing is damaged, but the letters that are legible correspond to those in the copy (see note 1028).

¹⁰³¹ On the various forms of spelling for Bruegel the Elder's signature, see VAN SCHOUTE and VEROUGSTRAETE 2000, p. 145.

¹⁰³² This is illustrated in CAT. ROTTERDAM-NEW YORK 2001, cat. 68, p. 182 and the signature is clearly discernible.

¹⁰³³ This type of notation for distant trees is not unique to Pieter Bruegel the Elder; trees are drawn in this manner by other sixteenth century artists, for example, Hans Bol (1534-1593), in the background of *Abraham and the Three Angels in a Panoramic Landscape*, 11.9 x 17.8 cm, pen and brown ink, grey wash, signed and dated bottom right, 'Hbol 1589', Belgian private collection (illustrated in CAT. ROTTERDAM 2002, cat. 14, p. 41) and Roelandt Savery, *Far River Valley in Gebirge*, Dresden, Staatliche Kunstsammlungen (illustrated in MIELKE 1996, p. 201, fig. B3).

¹⁰³⁴ 15.4 x 20 cm, pen and wash, Paris, Musée du Louvre, Cabinet de Dessins, inv. 19735.

¹⁰³⁵ 36 x 43, dated 1614, Madrid, Prado, inv. 1432. See black and white reproduction of this painting in ERTZ 1979, fig. 20, p. 51.

¹⁰³⁶ Joannes and Lucas van Doetecum after Pieter Bruegel the Elder, *Plaustrum Belgicum (The Belgian Wagon)*, 32 x 42.3 cm, engraving, first state of two, inscribed at lower right, 'BRVEGHEL INVE/H.cock excudel', Washington, National Gallery of Art, Rosenwald Collection, inv. 1964.8.412 (CAT. ROTTERDAM-NEW YORK 2001, cat. 30, p. 130).

¹⁰³⁷ See MARLIER-FOLIE, pp. 280-2 for these opinions.

represent another type of lost drawing by Bruegel the Elder referred to by Brueghel the Younger for his version of the composition.¹⁰³⁸

14.1.4 Stylistic differences in underdrawings of the two copies

As in other series', a close comparison of the two underdrawings' general approach and style points up several subtle differences: the underdrawing in the signed painting is slightly bolder, more assured, more accomplished and more detailed than the unsigned version (fig. 635a-b); the draftsman of the signed version pressed more heavily with his drawing point on the surface of the panel; the signed version's anatomy and folds are more naturalistically rendered and its portrayal of trees and foliage includes bold scribbled lines not seen in the unsigned copy (fig. 636a-b). However, the similarities in the actual drawing notations make it extremely difficult to tell the two apart; indeed, a qualitative assessment remains highly subjective. Interestingly, in the buildings in the upper left and centre, the unsigned version abbreviates the outlines in a quick but somewhat hesitant manner, skipping some, whilst the signed version boldly but loosely indicates every rooftop and window (fig. 637a-b). Likewise, in draperies, more detail as regards tone and contour is given in the signed version.

The signed version's underdrawing can be linked to the style and manner of underdrawings seen in a Core group of underdrawings that are possibly by the hand of Brueghel the Younger himself (see below, 'Core group of underdrawings', Section 17.1.1). If this assessment is correct, it would represent an occasion where the artist's signature does indeed carry significance as to authorship. The unsigned painting's underdrawing may represent the work of a less accomplished studio assistant; alternatively, the same hand as the signed version could be responsible, but from an earlier date, when the artist was just starting to copy the image and was less confident, or even from a later occasion, when the artist was more restrained and less exuberant in his approach due to age.

14.1.5 Use of cartoons

As is typical in Brueghel's painting, no clear signs of the actual transfer process are found in infrared. There is however, one small area in the unsigned version where the remains of pouncing dust might be discerned (fig. 638a-b). Here, pouncing dots around the eye of a horse may correspond to a drawn line in the signed version; furthermore, other outlines in this zone also appear to be pounced in places. Likewise, in the signed version, traces of dark dots around the collar of a figure in the lower right might well be the remains of pouncing dust (fig. 639). These observations would imply the use of a pricked cartoon or cartoons to transfer the image in both cases.

Comparisons of the author's tracings of the painted outlines of both composition are more useful than infrared examination, although the use of cartoons is not immediately apparent. When the author's tracings of the painted outlines of the two versions are superposed, there is no perfect match for the composition as a whole, eliminating the possibility of a single common cartoon for the two paintings (fig. 640a-b). Nonetheless, when the two tracings are shifted slightly in respect to one another several times, a number of good matches result for specific groups of motifs, as in the *Census at Bethlehem*. This suggests that most areas of the composition may have been transferred with the aid of common cartoons (or copies of the same cartoons), each containing a small portion of the composition (fig. 641a-f). A diagram was made to locate these zones, which comprise the group of soldiers to the centre right, a group of figures around and including Christ, the large-scale figures in the lower left, the standing and weeping figures in the lower right (although perhaps not the two figures at the extreme right edge) and possibly the major buildings in the townscape, although the latter is more ambiguous (fig. 642). In fact, most of the composition seems to have been covered by cartoons. An area where cartoons may well have been used, but where the evidence is less conclusive, is the group of small figures and animals in the far upper right.

14.1.6 Influence of Bruegel the Elder on painting style, either from an extant work or a lost one

The painterly handling and subtle colour scheme in the townscape background in Brueghel the Younger's two copies of *Christ Carrying the Cross* discussed here resembles strongly that of the townscape background in Bruegel the Elder's signed and dated version of the *Tower of Babel*, 1563 (114 x 155 cm, Vienna, Kunsthistorisches Museum), suggesting Brueghel the Younger imitated his father's manner of painting townscape for his copies of *Christ Carrying the Cross*, either through a painting such as the *Tower of Babel* or from a lost painting identical to Brueghel the Younger's *Christ Carrying the Cross* (fig. 643a-c).

¹⁰³⁸ Pieter Bruegel the Elder?, *Christ Carrying the Cross*, pen and brown ink, Vienna, Graphische Sammlung Albertina. This drawing does not relate precisely to either Brueghel the Younger's *Christ Carrying the Cross*, or to Bruegel the Elder's version of the composition in the Kunsthistorisches Museum in Vienna (MIELKE 1996, p. 195; CAT. ROTTERDAM-NEW YORK 2001, fig. 112, p. 262).

14.2 Crucifixion

Only one copy of the *Crucifixion* was examined as part of the present study. This version is part of the collection of the Koninklijk Museum voor Schone Kunsten in Antwerp (fig. 644a-b).¹⁰³⁹ As in the case of *Christ Carrying the Cross*, the original model for the copies is contested between a lost work by Bruegel the Elder and an invention by his eldest son.¹⁰⁴⁰

14.2.1 Underdrawing

This is an underdrawing typical of Brueghel's workshop. It is highly functional in terms of detailing the composition for the subsequent painting stage. The freehand execution, with detailed outlining of forms and the occasional presence of drawing notations such as hatching and hooks at the ends of drapery folds is consistent with observations of other works in the current study (fig. 645). As usual, trees and rock forms are loosely indicated (see fig. 646).

From an artistic point of view, the underdrawing is not particularly distinguished. The level of detail in the upper left townscape is relatively low in comparison to that in the two versions of *Christ Carrying the Cross* and many buildings are not even shown at the drawing stage (fig. 647).

14.2.2 Use of cartoons

As the background is quite similar in appearance to that in *Christ Carrying the Cross*, the author's tracings of the two townscapes were overlaid to see whether a common cartoon could have been employed. The result was negative. No signs of pouncing were detected in infrared.

14.3 Flemish Proverbs

Two versions of the *Flemish Proverbs* were examined, a version signed and dated, 'P. BRVEGHEL 1607' from the Stedelijk Museum Wuyts-Van Campen en Baron Caroly in Lier and an unsigned version from the Koninklijk Museum voor Schone Kunsten in Antwerp (figs. 648-9).¹⁰⁴¹ The original version is undisputedly Pieter Bruegel the Elder's version in the Staatliche Museen in Berlin although the model for the copies was probably a preparatory drawing by the elder master, as proposed for the *Census at Bethlehem*.¹⁰⁴²

14.3.1 Underdrawing

Both paintings have freehand underdrawings detailing figures, landscape elements and architecture (fig. 650a-f). Drapery folds are also shown, terminating sometimes in small loops. In both drawings, background foliage is sketchily indicated. Nonetheless, certain differences in style and quality of draftsmanship can be discerned. Although the Antwerp version is generally drawn in a loose and sketchy manner, this sketchiness conveys the impression of an unsure and hesitant touch rather than confidence and assurance. The Lier version is slightly less sketchy, and there are fewer reworkings along the line, but the general impression is one of bold and rapid mastery of the forms, including figures, animals and inanimate objects. Anatomy is also more convincingly portrayed in the Lier version; for example, the proper left arm of a seated woman is overly long and the hand clumsily rendered in the Antwerp version unlike the Lier copy (fig 650e-f).

Drawing notations in the Antwerp version are occasionally atypical of Brueghel's usual workshop style; for example, the circle for the eye socket in a standing woman (fig. 650e) and the sharp zigzag notation for drapery folds in the sleeve of a man carrying a large container (fig. 650e).

In view of its style and accomplished draftsmanship, the Lier version would appear to form part of the Core group of underdrawings that might be attributable to the master himself (see below, 'Core group of underdrawings', Section 17.1.1). The Antwerp version's artist does not show as much familiarity with the image, and was most likely a workshop assistant.

¹⁰³⁹ *Crucifixion*, 100 x 149.4 cm (sight size – panel examined in its frame due to fragility), unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 962.

¹⁰⁴⁰ MARLIER-FOLIE 1969, pp. 285-294; ERTZ 2000, pp. 417-434.

¹⁰⁴¹ *Flemish Proverbs*, 116.9-117.3 x 171.65-171.9 cm, signed and dated, 'P. BRVEGHEL 1607.', Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 46; *Flemish Proverbs*, 125 x 170 cm, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 5111. For the latter work, the measurements were kindly supplied by Jean-Albert Glatigny, who conserved the support, as the fragility of the painting meant it could only be examined in the frame by the current author.

¹⁰⁴² Pieter Bruegel the Elder, *Flemish Proverbs*, 117 x 163 cm, Berlin, Staatliche Museen zu Berlin, Preussischer Kulturbesitz, Gemäldegalerie, inv. 1720. Rebecca Duckwitz recently convincingly argued that the original model for the copies was most likely a lost preparatory drawing for the Berlin painting by Bruegel the Elder (see DUCKWITZ 2001, pp. 75-8). Duckwitz's findings are discussed and illustrated in Chapter I, figs. 213a-c

14.3.2 A common cartoon?

The infrared examination of both versions of the *Proverbs* did not reveal any obvious signs of transfer that might indicate the use of a cartoon. Possible pouncing dots are seen in places in the Lier version, but these are admittedly ambiguous and by no means constitute the level of proof provided by the *Battle between Carnival and Lent* (fig. 651).

The superposition of the author's tracings of both versions was more elucidating. An excellent match was obtained for the whole composition, with minor exceptions, suggesting the use of a common cartoon or copy thereof (fig. 652).

Motifs not coinciding include certain tree branches and rooftops in the upper left and the figures, animals, architectural structures and motifs in the distant landscape vista in the upper right. This might be explained by the fact that these elements are amongst the variable motifs only found in Rebecca Duckwitz's 'Variant A' of the composition, to which the Lier and Antwerp versions both belong.¹⁰⁴³ Perhaps a common cartoon was used for the motifs common to Brueghel's two compositional variants (Duckwitz's 'Variant A' and 'Variant B'), but the variable motifs were each time added by eye, therefore not necessarily coinciding precisely in position.¹⁰⁴⁴ It would be useful to test the hypothesis of a common cartoon for paintings of both variants;¹⁰⁴⁵ tracings of copies forming part of Duckwitz's 'Variant B' would be necessary for this.

Another minor discrepancy between the two copies examined is the broom coming out of the window in the upper left, differently placed in each version. Since this motif is certainly not underdrawn in the Lier version, and does not appear to be underdrawn in the Antwerp copy, it is probable that it was added during painting, and did not figure on the cartoon (see fig. 650c-d); moreover, the broom varies in position in other copies of the composition. There are also more tarts on the rooftop in the Antwerp version, although those common to both versions superpose well, suggesting that a certain number of them at least were present on a common cartoon.

14.4 Kermis with Theatre and Procession

For this composition, two versions in the Musées Royaux des Beaux-Arts de Belgique were studied, one a complete, large format copy, the other a fragment of a large format version (figs. 653-4).¹⁰⁴⁶ The creator of the original model for this large and complex figural scene has been variously identified as Pieter Bruegel the Elder, Pieter Brueghel the Younger and Pieter Balten.¹⁰⁴⁷

Several unusual factors distinguish the complete version of the *Kermis with Theatre and Procession*. Although it has unpainted edges and corresponding right-angled cuts on the reverse, the ground layers, and for the most part, the *imprimatura* layer continues right up to the edges of the panel, as does the paint layer for approximately 3 cm in the extreme upper left corner (fig. 655a-c).¹⁰⁴⁸ The *imprimatura*, although grey, is solid in tone, rather than streakily applied as in most other paintings. A sample of the *imprimatura* layer was analysed by gas chromatography/mass spectroscopy; the medium proved to be a drying oil, most likely linseed.¹⁰⁴⁹

Another peculiarity of the complete copy is its painterly brushwork. Although the painting is severely damaged and retouched and some areas completely repainted, faces without repainting appear particularly thickly painted and in a more three-dimensional manner than is typical for Brueghel's workshop (fig. 656a-b). On the other hand, certain features are characteristic of Brueghel's style, for example, tree foliage, the painting of eyes in profile with a 'v' shape and white highlights below eye sockets (fig. 656b-d). Dendrochronology established a *terminus post quem* for the execution of the painting of 1591 (Baltic wood), situating it well within Brueghel's lifetime.¹⁰⁵⁰ Further comment on the painting style is risky in view of the condition of the work; cleaning would clarify matters, but at the risk of exposing a ruin.

¹⁰⁴³ Rebecca Duckwitz divided ten 'autograph' copies (attributed to the hand of Brueghel the Younger by Klaus Ertz) into two separate variants, A and B (DUCKWITZ 2001, p. 61).

¹⁰⁴⁴ This scenario is proposed for the *Census at Bethlehem* series (see Chapter I, Section 7.2.8.g.iv).

¹⁰⁴⁵ Exceptions to this would necessarily be the two copies on copper panel discussed by Duckwitz, approximately half the size of the other paintings in the series (DUCKWITZ 2001, p. 71).

¹⁰⁴⁶ *Kermis with Theatre and Procession*, 110.35-110.6 x 164.1 x 164.4 cm, undated, Musées Royaux des Beaux-Arts de Belgique, inv. 6870; *Kermis with Theatre and Procession*, fragment, 26.2-26.6 x 36.0-36.4 cm, undated, Musées Royaux des Beaux-Arts de Belgique, inv. 671.

¹⁰⁴⁷ MARLIER-FOLIE 1969, pp. 294-305; ERTZ 2000, p. 894. Ertz cites and supports J. Kostyshyn's view that the original model for Brueghel the Younger's versions is Pieter Balten's version in Amsterdam, dated to the late 1560's by the former specialist.

¹⁰⁴⁸ The Bruges version of *Sermon of Saint John the Baptist* is another example of this (Chapter III, Section 9.1.2, fig. 334).

¹⁰⁴⁹ Analysis and interpretation of results at IRPA by Steven Saverwiyns.

¹⁰⁵⁰ Pascale Fraiture's unpublished dendrochronology report, 29 April 2002.

14.4.1 Underdrawings

Since the complete copy is extremely damaged, full assessment of its underdrawing is impossible. However, where visible, it reveals features typical of underdrawings from Brueghel's workshop: detailed outlining of forms and figures and limited hatching in places for tone (fig. 657a). Similar remarks can be made for the fragment, although due to the pigments used, little drawing can be made out (fig. 657b).

14.4.2 Use of common cartoon?

When the author's tracings from the painted outlines of the fragment and from the complete copy are superposed a good match is obtained for the majority of the forms, but the architectural details do not align to the far left of the image (fig. 658). A common cartoon for at least the greater part of the area covered by the fragment is therefore possible.

14.5 Massacre of the Innocents

One version of the large format *Massacre of the Innocents* composition forms part of the current study, a copy signed and dated 'P. BRVEGHEL 16[-]4' from the Musées Royaux des Beaux-Arts de Belgique (fig. 659a-c).¹⁰⁵¹ The original model is now agreed by most scholars to be Bruegel the Elder's version in Hampton Court.¹⁰⁵²

14.5.1 Underdrawing

The underdrawing in this painting conforms to the usual pattern – neat, carbon-based, freehand outlines delineating the entire composition (figs. 660a-e). Characteristics typical of Brueghel's workshop include: bold but wobbly lines for the architecture; gables of houses drawn in short, broken strokes with slight gaps in between; loosely indicated trees and branches including short vertical and diagonal dashes for treetops; a wiggly line to indicate the transition of the snow with the uncovered part of a barrel. The underdrawing however, shows a bolder, more vigorous and more confident touch than in many paintings in the study and there are more hatchings for tone and contour than usual – often in groups of several lines, sometimes curved and uneven in length and sometimes lightly joined. Importantly, excellent draftsmanship is evident in the drawing of animals and figures.

This underdrawing is clearly one of the most masterly and self-assured in the entire study and forms part of the Core group attributed to the master's own hand, which includes the signed versions of *Christ Carrying the Cross* and *Flemish Proverbs* (see below, 'Core group of underdrawings', Section 17.1.1).

¹⁰⁵¹ *Massacre of the Innocents*, 120.5 x 167.5-168 cm, signed and dated in lower right, 'P. BRVEGHEL 16[-]4', Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 361. The fact that the signature contains the 'VE' spelling signals an execution date before or during 1616 (ERTZ 1998, p. 19). The illegible digit must therefore either read '0' or '1'.

¹⁰⁵² Pieter Bruegel the Elder, *Massacre of the Innocents*, 109.2 x 158.1 cm (these are not the original dimensions as the painting has been cut down on three sides, CAMPBELL 1985, cat. 9, p. 15), signed in lower right, 'BRVEGEL' ('only the topmost parts of the letters are visible, the rest having been cut away' *ibidem*, p. 14), Hampton Court, The Queen's collection, inv. 1270. The identification of Bruegel the Elder's original version is still debated, but most have accepted Lorne Campbell's convincing arguments in favour of the Hampton Court version in his catalogue of early Flemish pictures in the collection of the Queen (*ibidem*, pp. 13-19). Campbell relates that the original painting was defaced prior to 1660 through deliberate repainting of the 'Innocents' and references to the Biblical story, but that most parts of the picture are well preserved – the latter fact allowing Campbell to conduct a valid and convincing stylistic comparison between the Hampton Court version and the other purported original versions.

CHAPTER IX

Medium format works

15.1 Bridal Procession

The *Bridal Procession*, signed ‘P. BREVGHEL’ in the lower right, forms part of the collection of the Koninklijk Museum voor Schone Kunsten in Antwerp (fig. 661a-c).¹⁰⁵³ It is the sole example of the composition in the present study. The original model is now generally accepted as lost; the version in the ‘Maison du Roi’ in Brussels previously given to Pieter Bruegel the Elder is now firmly ascribed to his second son, Jan Brueghel.¹⁰⁵⁴

15.1.1 Underdrawing

The underdrawing conforms in all ways to Brueghel’s workshop style: a detailed linear outline drawing, including delineation of drapery folds, creases under arms and looser indications of landscape contours and trees (fig. 662a-d). Faces are drawn precisely, using short, broken outlines, with short dashes for features. The church and buildings are typically outlined, with reinforcement and minor adjustment of the line along the way. Tree foliage is indicated with loose, cloud-shaped lines and earth patterns are shown in the lower right by a series of loose, scalloped and wavy lines.

The slightly staccato style of drawing in the faces can be likened to others in the Core group (see below, ‘Core group of underdrawings’, Section 17.1.1).

15.2 Massacre of the Innocents

Two versions of the medium format *Massacre of the Innocents*, taken after an original model by Martin van Cleve form part of the current study.¹⁰⁵⁵

The versions under consideration are part of the collections of the Koninklijk Museum voor Schone Kunsten in Antwerp and the Musées Royaux des Beaux-Arts de Belgique in Brussels (figs. 663-4) respectively.¹⁰⁵⁶ Both are signed ‘P. BREVGHEL’ indicating a date during or after 1616; the Brussels version is also dated ‘16[–]’, the latter two digits illegible.

15.2.1 Underdrawings

The two underdrawings are typical of Brueghel’s workshop and share several identical drawing notations, for example in the sleeve of the mounted soldier in the lower centre-left and in the woman’s face in the lower right, where an idiosyncratic, upside-down ‘v’ stroke indicates the eyebrow (fig. 665a-d). The Brussels version, although difficult to make out in most places, is slightly more naturalistic than the Antwerp version and may possibly form part of the Core group; the Antwerp version, confidently and articulately drawn, shows more stylisation of forms and fewer hatchings than most of the underdrawings forming part of the Core group, but the possibility of its membership cannot be excluded nonetheless.

Owing to flaking paint, the Antwerp version could not be traced; thus the possibility that the Brussels and Antwerp versions were transferred using common cartoons cannot be tested.

Examination of the Brussels version led to a totally unexpected discovery: the *Massacre of the Innocents* composition is painted on top of another painting, with a subject matter totally unrelated to Brueghel’s workshop.¹⁰⁵⁷ Since this is such a rare and curious phenomenon – with implications regarding Brueghel’s workshop practice – the technical examination and data analysis will be presented here in detail.

¹⁰⁵³ *Bridal Procession*, 70.4 – 70.9 x 117.6-117.7 cm, signed, ‘P. BREVGHEL’, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 807.

¹⁰⁵⁴ Jan Brueghel I, *Bridal Procession*, 61.1 x 114.6 cm (measurements from IRPA dossier), Brussels, Musée communale de la Ville de Bruxelles, Maison du Roi (formerly collection Spencer Churchill, Northwick Park). Attribution to Jan Brueghel the Elder made by Klaus Ertz (ERTZ 1998, p. 86, note 1).

¹⁰⁵⁵ See ‘Status Quaestionis’, Section 5.1, for history of the discovery of the model for this painting.

¹⁰⁵⁶ *Massacre of the Innocents*, 73.3-74.25 x 105-105.1 cm, signed in lower right, ‘P. BREVGHEL.’, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 832; *Massacre of the Innocents*, 73.65-73.8 cm, signed and dated in lower right, ‘P. BREVGHEL 16[–]’, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 8726, Delporte Bequest 1973. During examination with the binocular microscope, the date on the Brussels version was read as ‘16[–]’, rather than ‘1564’ as Georges Marlier thought (MARLIER-FOLIE 1969, p. 336). The two last digits were completely overpainted and the second number partially reinforced during a previous restoration. The spelling ‘BREVGHEL’ suggests a date during or after 1616 (ERTZ 1998, p. 19).

¹⁰⁵⁷ This discovery was published in the *Revue belge d’archéologie et d’histoire de l’art* in January 2003 (Currie 2002b).

15.2.2 Technical examination of the Brussels copy

From the start, extremely confusing infrared and x-radiographic data raised the possibility that there was another image underneath the *Massacre of the Innocents* composition (fig. 666). Strange areas of relief unrelated to the *Massacre* image (fig. 667a-e), and the presence of drying cracks in several places revealing different colours in an underlying layer supported this hypothesis (figs. 668a-c).

Investigation of small losses with the binocular microscope shows that there is an overall off-white ground layer directly on top of the wooden support, followed by the paint layer of the underlying composition unrelated to the *Massacre* (figs. 669a-b). This is superposed by a grey layer, thicker than the usual greyish *imprimatura* layers found in Brueghel's painting, which provides the underlayer for the whole of the *Massacre* composition (figs. 670a-f). The *Massacre* scene is fully underdrawn on top of this underlayer in a dry, black medium, in a manner typical of Brueghel the Younger's work (see fig. 665a-d, above). Likewise, the paint layer is composed of one to two thin layers, using brushwork techniques consistent with those habitually observed in Brueghel's paintings.

15.2.3 The covered-up painting

Painstaking tracing of unidentified forms from the infrared reflectogram, the x-radiographs and the pattern of drying cracks onto transparent film led to the discovery that underneath the surface of the painting, there lies a fish market scene, upside-down in relation to the *Massacre* (fig. 674).¹⁰⁵⁸ Three, perhaps four figures, in fashionable bourgeois, 'Spanish' style clothing stand in the centre of the composition, each wearing a hat and what appears to be a ruff (fig. 671). The one to the right carries a tall shopping basket. Behind their heads, there is a distant horizon and light sky. To the left, forms resembling fish hang from the roof of a market stall (fig. 672). At the bottom and to the left, other produce, probably mainly fish, is laid out. To the right, a large barrel accommodates a platter. Just above this barrel, a server, whose social status is identified by her apron and headdress, stretches out her hand (fig. 673). A second barrel appears to be present above and slightly to the right of the female server, as well as a large recipient. In the upper right corner, two other figures can be distinguished, one of whom seems to carry a knife. In view of other scenes of this nature in Antwerp painting of the sixteenth century, it is probable that a fishmonger is also present to the left, just below the hanging fish, but this area of the composition is impossible to decipher.

Although a large part of the fish market scene appears to be complete at the level of the paint layer, it cannot be established whether it is entirely finished. Certain forms, such as the barrels, are only distinguished as dark contours in a liquid medium in infrared and are not visible in the x-radiographs. This evidence is not enough to conclude that these areas are incomplete, as certain colours, for example browns based on iron pigments, cannot be detected in infrared nor in x-radiographs.

The fish market composition is not underdrawn in the style of Brueghel the Younger. A few lines, perhaps the first indications of the composition, are applied in a liquid medium, although these might also be part of the paint layer proper.

The two compositions, as mentioned above, are separated from each other by a grey paint layer (figs. 669-70). This was probably applied before the first composition was completely dry, as there are many drying cracks and a history of lifting paint.

15.2.4 Attribution of the first composition

A market scene is not part of the canon of known subjects treated by Brueghel the Younger (fig. 674). If other factors characteristic of his technique and style were found in the underlying picture, it might be thus concluded that the hidden work represents a new facet in Brueghel's art. However, there is no corroborating evidence that would support an attribution to Brueghel: the large proportions of the figures in relation to the landscape are atypical of the artist; the brushstrokes, as revealed in the x-radiographs, show a freedom of expression never seen in Brueghel's work; finally, the absence of a detailed underdrawing in a dry medium is without precedent in paintings from Brueghel's workshop.

The market theme in painting goes back to Pieter Aertsen in his *Butcher's Stall*, 1551.¹⁰⁵⁹ The subject matter was adopted by Aertsen's nephew Joachim Beuckelaer and by Jean-Baptiste Sève, the latter adding well-to-do customers from the bourgeoisie. This type of market composition was also treated numerous times by Lucas van Valckenborch (1535-1597). Valckenborch's followers, notably his nephew Frederick van Valckenborch (1566-1623) and other artists such as Adriaen van Utrecht (1599-1652) reworked the theme using parts of Lucas van

¹⁰⁵⁸ I would like to thank Sophie De Potter for carefully scanning and cleaning-up my tracings of the x-rays, for further deciphering elements from the infrared image that I had not noticed or understood and for producing a neat, accurate and clear diagram using Adobe Photoshop.

¹⁰⁵⁹ Pieter Aertson, *Butcher's Stall*, 124 x 169 cm, Uppsala, Universitets Konstsamling. See HONIG 1998 for an in-depth study on market scenes in painting in Antwerp in the sixteenth century.

Valckenborch's compositions to create a multitude of variants. The theme of bourgeois customers at a fish market is also taken up by Jan Brueghel the Elder in his *Large Fish Market*, 1603.¹⁰⁶⁰

The underlying fish market scene in the *Massacre of the Innocents* strongly resembles the compositional structure of market scenes in the paintings of Lucas van Valckenborch, even if the exact model could not be traced. Nonetheless, the fact that the panel support of the *Massacre* is dated by dendrochronology to after 1613¹⁰⁶¹ eliminates the possibility of Lucas van Valckenborch himself as the painter of the covered-over image, as he died in 1597. It is more likely that the artist was a member of the family or follower who either directly copied or adapted a model by the former artist. The closest composition identified by the present author is a fish market scene that Alexander Wied describes as an early copy after a lost work by Lucas van Valckenborch or workshop follower (figs. 674-5).¹⁰⁶²

15.2.5 Re-use of panels in the sixteenth century

The recycling of other artists' paintings is unusual. A few examples of the practice in panels already underdrawn and/or painted have been published by Molly Faries and J.R.J. van Asperen de Boer. These include the case of an *Adoration of the Magi* after Hieronymus Bosch¹⁰⁶³ covering-up a *Parable of the Prodigal Son*,¹⁰⁶⁴ as well as two examples of the *Temptation of Saint Antony* after the same artist, concealing portraits.¹⁰⁶⁵ The same authors also point out examples of re-use in the oeuvre of the Master of Saint Ursula,¹⁰⁶⁶ Jacob of Utrecht, Jean Fouquet, the Master of the Legend of Saint Catherine, Cornelis Matsys, Jan van Scorel, Giorgione and even Picasso.¹⁰⁶⁷ Peter van den Brink has since found a new case of a re-used panel in a painting showing, on the surface, a copy of the *Temptation of Saint Antony* after Hieronymus Bosch¹⁰⁶⁸ but underneath, a completely different figurative scene, the latter underdrawn and at least partially painted.¹⁰⁶⁹ In the majority of cases, the re-used supports originate in the workshop of the artist who carried out the second composition, although it is not always possible to be certain. In the case of the paintings copied after Bosch, however, the possibility remains, as with the *Massacre* by Brueghel the Younger, that the panels originated from a source outside the studio. An alternative hypothesis, made by Peter van den Brink, is that these copyists after Bosch were painting in a workshop producing portraits as well as copies after Bosch's paintings.¹⁰⁷⁰

15.2.6 Why this re-use in Brueghel's workshop?

The reason for the re-use of a painted panel for the *Massacre of the Innocents* is unknown. Brueghel must surely have known the likely deleterious effects of such a practice on the future stability of the work. Moreover, he took this risk on a painting signed with his name, a work that Marlier considered one of his better productions from an aesthetic point of view. It is strange that Brueghel did not even take the trouble to sand down the first composition, whose marked texture must have been visible under certain lighting conditions right from the start. It would appear that in this case at least, Brueghel was more concerned by the quantity of paintings produced by his studio than their quality. A logistical explanation might be more appropriate, such as a problem with the delivery of prepared panels at that particular moment in time, but this would still not explain why the first composition was not levelled down or better, removed completely prior to starting the second. It is also interesting to consider why the fish market scene was covered-over. There does not appear to be anything controversial or immoral attached to the subject matter; the reason for the abandonment of the first painting may have been purely economic – the work did not find a buyer, or, if it were a commissioned work, the client had not paid his bill; the artist may even have died before finishing or selling it.

There are no other examples to date of Brueghel's recycling a painted panel. However, Pascale Fraiture's dendrochronological analysis of a large range of works from Brueghel's studio has identified examples of the use of extremely old boards, either never painted or scraped down completely.¹⁰⁷¹ She found that the Bucharest version of the *Winter Landscape with Bird Trap* has a *terminus post quem* of 1565 although the painting is

¹⁰⁶⁰ 59.5 x 91.7 cm, signed and dated, 'BRVEGHEL 1603', Munich, Alte Pinakothek, cat. 1756, no. 70.

¹⁰⁶¹ Pascale Fraiture's unpublished dendrochronology report, 23 may 2000.

¹⁰⁶² *Fish Market*, 112 x 155 cm, oil on canvas, sold in Vienna, Dorotheum, 12 February 1980, cat. 78, pl. 9. The painting is number 104 of Alexander Wied's book on Lucas und Marten Van Valckenborch (WIED 1990, p. 195).

¹⁰⁶³ Aix-la-Chapelle, Suermondt-Museum.

¹⁰⁶⁴ FARIES and VAN ASPEREN DE BOER 1997.

¹⁰⁶⁵ *Temptation of Saint Antony*, Kansas City, Nelson-Atkins Museum of art; *Temptation of Saint Antony*, Indianapolis, Indianapolis Museum of Art, Clowes Collection, inv. C 10008.

¹⁰⁶⁶ FARIES *et al.* 1987.

¹⁰⁶⁷ *Ibidem*, note 16; FARIES and VAN ASPEREN DE BOER 1997, pp. 9-10 and notes 5-14.

¹⁰⁶⁸ Long-term loan by the Rijksmuseum, Amsterdam to the Bonnefantenmuseum, Maastricht.

¹⁰⁶⁹ VAN DEN BRINK 2001a (forthcoming) and VAN DEN BRINK 2001b, pp. 36-9, figs. 33-7.

¹⁰⁷⁰ VAN DEN BRINK 2001b, p. 38.

¹⁰⁷¹ FRAITURE 2002 (forthcoming).

signed and dated, 'P. BRVEGHEL 16[--]. She suggests that this could be a case of a re-used panel.¹⁰⁷² Likewise, the Arras version of the *Census at Bethlehem* produced vastly different dates for three out of the five boards suggesting the panel was made from re-used wood from different sources.

15.3 Return from the Kermis

One of the many versions of the *Return from the Kermis* was studied from the collection of the Musées Royaux des Beaux-Arts de Belgique (fig. 676).¹⁰⁷³ It is signed in the lower left corner, 'P. BREVGHEL'. Brueghel the Younger is usually credited as inventor of this rustic scene.¹⁰⁷⁴

The oak support is unconventional in its preparation, made from a thin, single, exceptionally wide, radially cut plank.¹⁰⁷⁵ Warping has occurred in all directions, giving the panel a 'cushion' shape. The panel lacks the 'finish' of a professional panel-maker; crude sawing marks have been left visible and the panel very roughly bevelled on three sides (probably to facilitate framing).

15.3.1 Underdrawing

The underdrawing is typical of Brueghel the Younger's workshop, consisting of a simple outline drawing with indications of folds in draperies, hooks at the end of fold lines and looser notations for trees and bushes (fig. 677a-b). The church is simply outlined, with few reinforcements to the line. Interestingly, several of the figures in the background in front of the church are not indicated in the underdrawing, suggesting that if a cartoon were used for the transfer of the image, these figures were not on it. Infrared reflectography and visual comparison of the Brussels version with other versions of the same composition would be necessary to test this hypothesis.

15.4 Wedding Feast

The Ghent Museum voor Schone Kunsten version of the *Wedding Feast*, signed, 'P. B[-]EVGHHEL' in the lower right, was examined as part of the present study (fig. 678).¹⁰⁷⁶ The original model, of a larger format, is Pieter Bruegel the Elder's version in the Kunsthistorisches Museum in Vienna.¹⁰⁷⁷

The panel support, made of three boards,¹⁰⁷⁸ is of poor quality, which has resulted in a severe convex warp. The lowest plank is split right along its width, approximately 7-9 cm from the bottom edge and there are further irregular splits in this same plank, below the aforementioned split and just below the join with the middle board. Wooden buttons have been applied during restoration at right angles to the wood grain to support the joins and splits. It is unlikely that this support was made by a professional panel-maker.

15.4.1 Underdrawing

The poor condition of the paint layer means that the infrared images are less clear than for other paintings (fig. 679). Nonetheless, there is sufficient detail to show that the underdrawing is a typical outline drawing from Brueghel's studio, with lines for seams in clothing and occasional sets of short hatching for tone. However, the style of the drawing is unlike that associated with the Core group: outlines are less tight, nervous and broken-up along the strokes than in the latter group of painting and are generally more undulating, suggesting the work of a workshop assistant.

¹⁰⁷² Other explanations suggested by Fraiture for the very early *terminus post quem* of this panel include the possibility that the wood was stocked a long time prior to use, that there were the maximum number of sapwood rings (36 for the Baltic) or that there were an unusually large number of heartwood rings removed during the manufacture of the panel (private communication, September 2002).

¹⁰⁷³ *Return from the Kermis*, 48.4-48.5 x 78.4-78.5 cm, signed, 'P. BREVGHEL.' in lower left, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 10831.

¹⁰⁷⁴ MARLIER-FOLIE 1969, pp. 393-401; ERTZ 1998, pp. 414-16.

¹⁰⁷⁵ I would like to thank Pascale Fraiture for her advice on the cut. She observed that the tree rings are at right angles to the panel edges and that the medullar rays are almost parallel with the panel, leading her to conclude the panel support is made from a radially cut plank.

¹⁰⁷⁶ *Wedding Feast*, 69.55-70.1 cm x 105.15 cm, signed in lower right, 'P. B[-]EVGHHEL' ['P' looks original, but other letters appear uncertain and wavy], Ghent, Museum voor Schone Kunsten, inv. S. 46.

¹⁰⁷⁷ Pieter Bruegel the Elder, *Wedding Feast*, 114 x 164 cm, unsigned, Vienna, Kunsthistorisches Museum, inv. 1027.

¹⁰⁷⁸ Two dowels are clearly visible in the x-radiograph at right angles to the join between the uppermost and middle boards but none are discernible along the join between the middle and lower boards.

CHAPTER X: Small format Works

16.1 Good Shepherd

A rare version of the *Good Shepherd*, signed and dated, '[–] BREVGHEL.1616.' from the collection of the Musées Royaux des Beaux-Arts de Belgique was studied as part of the current campaign (fig. 680a-c).¹⁰⁷⁹ Interesting, the inscription provides an unusual example of the transition year during which Brueghel changed the spelling of his name from 'BRVEGHTEL' to 'BREVGHEL'.¹⁰⁸⁰ The original model for this small composition is unknown, but is considered by some to be a painting in the Kronacker collection.¹⁰⁸¹

The panel support is heat-branded with the Antwerp brand (castle plus two hands) and stamped with panel-maker Michiel Claessen's clover mark (fig. 680d). The Antwerp brand is identical to that of the Ghent version of the *Wedding Dance in the Open Air* (fig. 563),¹⁰⁸² which Jørgen Wadum considered similar, but not identical, to his iron number 6. It is also identical to that on the reverse of the Bonn version of the *Peasant Lawyer* (see figs. 563a-c and rubbings, fig 563d). The support is indeed of professional quality, unlike those of the aforementioned *Return from the Kermis* and *Wedding Feast* copies: the panel is made from one quarter-cut plank and the reverse side is neatly planed in the direction of the wood grain and the edges bevelled for easy insertion into a frame. The support shows no signs of warping, a sign of a good choice of wood.

16.1.1 Underdrawing

The underdrawing is neat and functional, and typical of Brueghel's studio (fig. 681). Drapery folds are indicated, at least one with a small hook at the end. The shepherd's staff appears to have been ruled with a straight edge, unusually for Brueghel the Younger. The shepherd's face and sheep are outlined in short, wiry, nervous strokes, the drawing line broken into tiny segments. Short sets of hatchings in the sleeve, hat and under the cheek-bone suggest contours. Typically, landscape elements and earth patterns are indicated with loose, wavy lines. The drawing may possibly form part of the Core group attributed to the master (see below, 'Core group of underdrawings', Section 17.1.1).

16.2 Flemish Proverbs (roundels)

Five out of a series of six small roundels depicting individual *Flemish Proverbs* were examined from the collection of the Koninklijk Museum voor Schone Kunsten in Antwerp (fig. 682a-g).¹⁰⁸³ Most of the images were initially conceived by Bruegel the Elder, although Brueghel the Younger adapted them to make his own small compositions, sometimes working after engravings taken after his father's drawings.¹⁰⁸⁴

The small proverbs are all painted on thin oak panels. The reverses sides are covered by a protective white layer. One is signed and dated, '.P. BRVEGHTEL. 15.94.' (H and E joined) and one signed, 'P. BRVEGHTEL.' The dated inscription becomes particularly clear in infrared (fig. 682d), unlike the inscription with the signature only, which cannot contain as much carbon-based pigment.

16.2.1 Underdrawing

All the images are underdrawn with a dry, carbon-based drawing material, including outlines for figures, trees and architecture (fig. 683a-e). Unfortunately, the underdrawings are not clearly revealed in infrared, partially attributable to the outlining of many forms in dark paint at the painting stage. The surfaces of the panels also seem particularly smooth, so the underdrawing lines may have rubbed off slightly during painting.

No clear sign of a cartoon transfer technique such as pouncing or tracing is detected in infrared.

¹⁰⁷⁹ *Good Shepherd*, 41.2-41.3 x 56.75-56.95 cm, signed, '[–] BREVGHEL.1616.', Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 10830.

¹⁰⁸⁰ ERTZ 1998, p. 19.

¹⁰⁸¹ *Good Shepherd*, 40.2 x 52.2 cm, unsigned, Kronacker collection (MARLIER-FOLIE 1969, pp. 263-4, ERTZ 2000, pp. 142-6). The fact that the visible underdrawing notations in the nose of the shepherd in the latter work correspond closely to those detected in the underdrawing of the Brussels museum version raises the possibility of an attribution to Pieter Brueghel the Younger for the version in the Kronacker collection. Ertz attributes the latter work to 'Jan Brueghel the Younger (?)'.

¹⁰⁸² To check that these two markings were indeed identical, the author's rubbings of these two brand marks were overlaid. A perfect correspondence was obtained.

¹⁰⁸³ Antwerp, Koninklijk Museum voor Schone Kunsten: *If a blind person leads another blind person, they will both fall* (Als de ene blinde de andere leidt vallen beiden in de sloot), 19 cm diameter, signed, 'P. BRVEGHTEL.', inv. 872/1; *The world is so unworthy of confidence, I am going into mourning* (Om dat de werelt is soe ongetru/Daer om gha ic in den ru), 17 cm diameter, signed and dated, '.P. BRVEGHTEL. 15.94.', inv. 872/2; *It is too late to block the well after the calf is drowned* ('t Is te laet den put gevult, als 't kalf verdroncken is), 17 cm diameter, inv. 872/3; *Unidentified Proverb*, inv. 872/4; *Who knows why geese have naked feet?* (Wie weet waer omme de ganze bervoets gaen?), 17 cm diameter, inv. 872/5; the sixth panel in the series was stolen from the museum in 1997 and has not been recovered.

¹⁰⁸⁴ Marlier-Folie 1969, pp. 141-159; Julien Vervaeet in ERTZ 1998, pp. 327-331.

16.3 Visit to the Farm: Two brothers, two different approaches

The opportunity arose to examine Jan Brueghel's monochrome version of the *Visit to the Farm* at the same time as one of Pieter's version, both forming part of the collection of the Koninklijk Museum voor Schone Kunsten in Antwerp (figs. 684-5).¹⁰⁸⁵ Only Pieter's version is signed, but no doubts have been expressed as to the attribution of the *grisaille* to Jan.¹⁰⁸⁶ Both paintings are thought to be taken after a lost work by Pieter Bruegel the Elder, although Klaus Ertz is giving serious consideration to the possibility that a *grisaille* painting in the Fondation Custodia in Paris might be Bruegel's original version.¹⁰⁸⁷ Ertz dates Jan Brueghel's two versions – the work described here, and a colour version in the Kunsthistorisches Museum in Vienna – to around 1597, on the basis of their similarities with the Jan's Munich copy of the *Sermon of Saint John the Baptist*, signed and dated 1598.¹⁰⁸⁸

16.3.1 Panel supports

Both paintings are painted on oak panels, neither possible to assess owing to the presence of a probable lead white layer on the reverse of Jan Brueghel's version, and a wooden cradle on Pieter Brueghel's version. Jan's version is significantly smaller in format than Pieter Brueghel's – 30.5 x 46.5 cm to Pieter's 43 x 58.5 cm.

16.3.2 Underdrawing

In both Jan and Pieter's versions, there is a freehand, linear underdrawing for the outlines of forms, executed in a dry, carbon-based medium. In Jan's version, the quality of the drawing line is more easily distinguished in close-up photographic details than in the infrared reflectograms, where it is easily confused with the finely brushed-on black outlines of the paint (fig. 686 a-d). The drawing lines in Jan's copy are looser and more wiry than Pieter's, although both tend to vary in density and thickness along the line and from stroke to stroke.

Both Jan and Pieter's underdrawings carefully indicate outlines of forms, although the assessment of the presence of hatchings or other indications of tone in Jan's version is impossible due to the overlying, carbon-based, *grisaille* paint layer; Pieter's underdrawing is a typical workshop production, displaying small patches of hatching or squiggles for tone and detailed outlines for drapery folds (figs. 687-8).

Unlike in his brother's copy, Jan Brueghel used his underdrawing as a rough guide only, adjusting the positions and outlines of forms in some places during painting. Small changes include: the butter churn in the upper background, moved to the right of its drawn position; the domed hat of the visiting lady, more rounded in the upper right in the underdrawing stage; the feet of the seated child to the right of the central fire, moved down and to the left of their original location; the shoe underneath the latter figure, for which a wider profile was foreseen; and the clippers on the stool in the front of the image, lower down in the underdrawing than the final paint layer (fig. 687).

Neither painting reveals any signs of a mechanical transfer process or squaring lines. The possible use of a cartoon for Pieter's copy would have to be verified through the study of additional copies. Since Jan Brueghel's only other known copy of the composition is a copper panel with different dimensions to the Antwerp version (27 x 36 cm), he could not have used a common cartoon to transfer the image for his two versions. In view of the adjustments to the outlines during painting, it is probable that Jan copied the design by eye from another drawing or painting.

The aforementioned Paris *grisaille*, suggested by some as the original version, measures 28.5 x 42.7 cm, which does not correspond to any of Pieter or Jan Brueghel's known copies.

16.3.3 Paint Layer

Although Pieter's example of the *Visit to the Farm* does not represent the best of his production from the point of view of characterisation of expression and draftsmanship, it still represents well the type of brushwork typical of his studio and is interesting to compare with the very different approach to modelling used in Jan's version, notwithstanding the fact that Jan Brueghel's version is limited to greys and browns (figs. 689-90).

The faces show thinly applied paint layers in both cases, leaving the light underlying layer visible or still discernible through thin paint for the mid-tones. Both artists also outline features with dark paint. Jan however, does not apply thick white paint under eye sockets as does Pieter, instead articulating facial contours using subtle

¹⁰⁸⁵ Pieter Brueghel the Younger, *Visit to the Farm*, 42 x 58 cm (sight size; approx. measurements from reverse: 43 x 58.5 cm – accurate measurements from reverse impossible due to presence of cradle), signed in lower right, 'P. BREVGHEL', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 5100; Jan Brueghel the Elder, *Visit to the Farm*, 30.5 x 46.5, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 645. Measurements for Jan Brueghel's version from ERTZ 1998, p. 80.

¹⁰⁸⁶ ERTZ 1998, pp. 80-5.

¹⁰⁸⁷ Pieter Bruegel the Elder (?), *Visit to the Farm*, 28.5 x 42.7 cm, *grisaille* on wood panel, Paris, Fondation Custodia (former Lugt collection) (ERTZ 1998, p. 84). Ertz cites other sources attributing the painting to Bruegel the Elder (*Ibidem*, note 3).

¹⁰⁸⁸ See Chapter III, Section 9.1.6.a.i.

sets of fine, dark hatching lines. To indicate the shape of shoulders under clothing, Pieter, as usual, uses the seams in the fabric to suggest the form; Jan, on the other hand, uses delicate shadows and half-shadows to model the same contours. Jan Brueghel often reworks the immediate backgrounds to his figures, adding dark paint in the same direction as the forms, helping to firmly anchor the figures in their surroundings as well as bringing the figures forward, as in the case of the nursing mother. Pieter instead distinguishes background from figures by giving a decorative crack pattern to the floor, as he does in other compositions, for example the *Peasant Lawyer* series.

Finally, and perhaps too obvious a point to comment on, Jan Brueghel's superior draftsmanship, mastery of anatomy and naturalistic movement are manifest in this comparison.

16.4 Works of Charity

One example of *Works of Charity* forms part of the present study (fig. 691a-c). The painting, signed in the lower right, 'P. BREV[...]' is part of the collection of the Koninklijk Museum voor Schone Kunsten in Antwerp.¹⁰⁸⁹ The composition is generally agreed to be taken after an engraving by Philips Galle after a design by Bruegel the Elder.¹⁰⁹⁰

16.4.1 Underdrawing

The underdrawing is a typical outline drawing from Brueghel's studio (fig. 692a-b). However, the execution is distinguished by a series of odd weaknesses that set it apart from the Core group. The most striking aspect of the underdrawing is the abundance of intricately outlined but unnaturalistically flat drapery folds. The drawing line itself varies from quite thick to relatively fine, the artist often leaving parts of forms incompletely outlined. Unusual, short semi-circular strokes denote the musculature in the backs of figures. Seen together, these observations suggest the underdrawing may represent the work of an inexperienced studio assistant or pupil.

¹⁰⁸⁹ *Works of Charity*, 43 x 58.7 cm, signed in lower right, 'P. BREV [...]', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 969. The signature is partly repainted but the original five letters can be clearly read.

¹⁰⁹⁰ Pieter Bruegel the Elder, *Caritas (Charity)*, 22.4 x 29.9 cm, pen and brown ink, 1559, on permanent loan to Museum Boijmans Van Beuningen, Rotterdam N8 (CAT. ROTTERDAM-NEW YORK 2001, p. 180-1).

Discussion

17.1 Underdrawings and drawings: Can the true hand of the master be distinguished?

Is the underdrawing really the master's true signature, as argued by Françoise Van Hauwaert in 1985?¹⁰⁹¹ Can Brueghel's own hand be distinguished amongst the multiple copies from his workshop presented in this study? If this is possible, can these 'autograph' underdrawings help to authenticate works amongst the small and diverse corpus of sheets attributed to Brueghel the Younger or circle of Bruegel the Elder, as proposed by Jacqueline Folie in 1980?¹⁰⁹² The high quality infrared reflectograms presented in this study open the door to a fresh consideration of these outstanding questions.

17.1.1 Core group of underdrawings

Throughout the study, certain underdrawings have been singled out on a number of counts, namely through their exceptional mastery of gesture, anatomy, movement and facial expressiveness, together with a certain assuredness, boldness and liberty of touch. In these drawings, hatching strokes tend to be more abundant and loosely applied than in other works from Brueghel's workshop and their function as indicators of tone and contour better understood. Drapery folds are frequently loosely reinforced and shadows in folds indicated with long hatchings. Drawing lines are often pressed firmly on the surface. This set of underdrawings has been referred to up to now as the 'Core group'.

The common features and general drawing style of the underdrawings of the Core group are best shown visually (figs. 693-723).

Confusing the identification of a Core group is the fact that many underdrawings, clearly executed by hands of varying abilities and styles have common underdrawing notations in the same spots, a good example being the Mayer van den Bergh and Lons-le-Saunier versions of the *Census at Bethlehem*, which are very different stylistically and in all likelihood underdrawn and painted by different hands (figs. 217-8, 239). This means that specific drawings notations cannot always be interpreted and used as proof of the idiosyncrasies of the style of a particular artist – suggesting rather a common independent drawing as model or one copying the other's underdrawing.

When the condition of a painting or the poor quality of the reflectogram adversely affect the appearance of an underdrawing in infrared to such an extent that judgement is impaired, underdrawings are impossible to categorise, for example in the case of the Uruguay version of the *Peasant Lawyer* and several versions of the *Census at Bethlehem*.

17.1.1.a The Core group

Paintings defined as members of the Core group comprise the following, listed in order of date (when known):

Christ Carrying the Cross, signed and dated, 'P. BRVEGHEL./1603.' (Antwerp, Koninklijk Museum voor Schone Kunsten).

Flemish Proverbs, signed and dated, 'P. BRVEGHEL 1607' (Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly).

Wedding Dance in the Open Air, signed and dated, 'P. BRVEGHEL 1607' (Brussels, Musées Royaux des Beaux-Arts de Belgique).

Census at Bethlehem, signed and dated 'P. BRVEGHEL 1610', (Brussels, Musées Royaux des Beaux-Arts de Belgique).

Good Shepherd, signed and dated, '[-] BREVGHEL. 1616.' (Musées Royaux des Beaux-Arts de Belgique).

Peasant Lawyer, signed and dated, '.P. BREVGHEL.1618.' (Maastricht, Bonnefantenmuseum).

Peasant Lawyer, signed and dated, 'P.BREVGHEL. 1618' (Norwich, Castle Museum).

Peasant Lawyer, signed and dated, '.P. BRE[--]HEL. 1620' (Bruges, Groeningemuseum).

Peasant Lawyer, signed and dated, '.P. BREVGHEL. 1621' (Ghent, Museum voor Schone Kunsten).

Sermon of Saint John the Baptist, signed and dated, 'P. BREVGHEL 1624', (Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly).

¹⁰⁹¹ VAN HAUWAERT 1985.

¹⁰⁹² FOLIE 1980, p. 142.

Massacre of the Innocents, signed and dated, 'P. BRVEGHEL 16[-]4', (Brussels, Musées Royaux des Beaux-Arts de Belgique, large format version).

Bridal Procession, signed, 'P. BREVGHEL' (Antwerp, Koninklijk Museum voor Schone Kunsten).

Battle between Carnival and Lent, unsigned (Brussels, Musées Royaux des Beaux-Arts de Belgique).

17.1.1.b Possibly by same hand as Core group, doubts remain

Census at Bethlehem, signed, 'P. BRVEGHEL' (Antwerp, Koninklijk Museum voor Schone Kunsten).

Sermon of Saint John the Baptist, signed, 'P. BREVGHEL' (private collection).

Winter Landscape with Bird Trap, signed with 'BREVGHEL' spelling and dated, '16[-]2' (Antwerp, Museum Mayer van den Bergh).

Massacre of the Innocents, signed and dated, 'P. BREVGHEL 16[--]' (Brussels, Musées Royaux des Beaux-Arts de Belgique, medium format version).

Massacre of the Innocents, signed, 'P. BREVGHEL' (Antwerp, Koninklijk Museum voor Schone Kunsten).

Return from the Kermis, signed, 'P. BREVGHEL' (Brussels, Musées Royaux des Beaux-Arts de Belgique).

Adoration of the Magi, signed, 'P. BREVGHEL.' (Brussels, Musées Royaux des Beaux-Arts de Belgique).

Adoration of the Magi, signed, 'P. BREVGHEL.' (Antwerp, Koninklijk Museum voor Schone Kunsten).

Census at Bethlehem, unsigned (Antwerp, Museum Mayer van den Bergh).

Sermon of Saint John the Baptist, unsigned (Bruges, Groeningemuseum).

Christ Carrying the Cross, unsigned (Antwerp, Koninklijk Museum voor Schone Kunsten).

Peasant Lawyer, unsigned (Paris, Gal. St. Honoré, after 1998).

Wedding Dance in the Open Air, unsigned (Ghent, Museum voor Schone Kunsten).

17.1.1.c Documents of insufficient quality to allow secure categorisation

Flemish Proverbs, five roundels, one signed and dated, 'P. BRVEGHEL. 15.94.' (H and E joined) and one signed, 'P. BRVEGHEL.' (Antwerp, Koninklijk Museum voor Schone Kunsten).

Census at Bethlehem, signed and dated, 'P. BRVEGHEL. 16.7' (Vaduz, Sammlungen des Fürsten von - Liechtenstein).

Peasant Lawyer, signed and dated, 'BREVGHEL 1618' (private collection, Uruguay).

Census at Bethlehem, unsigned (Lille, Musée des Beaux-Arts).

Census at Bethlehem, unsigned (Maastricht, Bonnefontenmuseum).

17.1.1.d Same workshop, different hand(s) to Core group

Census at Bethlehem, signed and dated, 'P. BRVEGHEL./1604' (Sardinia, private collection).

Works of Charity, signed, 'P. BREV [...]' (Antwerp, Koninklijk Museum voor Schone Kunsten).

Visit to the Farm, signed 'P. BREVGHEL' (Antwerp, Koninklijk Museum voor Schone Kunsten)

Census at Bethlehem, unsigned (Lons-le-Saunier, Musée des Beaux-Arts).

Census at Bethlehem, unsigned (Arras, Musée des Beaux-Arts).

Census at Bethlehem, unsigned, (Caen, Musée des Beaux-Arts).

Flemish Proverbs, unsigned (Antwerp, Koninklijk Museum voor Schone Kunsten).

Sermon of Saint John the Baptist, false signature (Antwerp, Koninklijk museum voor Schone Kunsten).

Crucifixion, unsigned (Antwerp, Koninklijk Museum voor Schone Kunsten).

Wedding Feast, unsigned (Ghent, Museum voor Schone Kunsten)

17.1.1.e Outside the workshop

Peasant Lawyer, unsigned (Bonn, Rheinisches Landesmuseum).

Peasant Lawyer, unsigned (private collection, Munich-Milwaukee).

Peasant Lawyer, unsigned (Antwerp, Koninklijk Museum voor Schone Kunsten).

Peasant Lawyer, unsigned (Brussels, Musées Royaux des Beaux-Arts de Belgique).

17.1.1.f *Do not know*

Peasant Lawyer, copper panel, unsigned (Berlin, Deutsches Historisches Museum).¹⁰⁹³

17.1.2 A ‘Morellian’ approach

Up to this point, an overall or ‘holistic’ approach has been used to distinguish underdrawings forming part of the Core group, judging quality of line, mastery of form and anatomy and the general impression of confidence/hesitation. It is useful to complement this method with a more Morellian-style analysis, which entails a comparison of very small details.¹⁰⁹⁴

In the depiction of faces in paintings belonging to the Core group, certain characteristics are regularly noted: idiosyncratic angles and bone structures are well-defined with no banal stylisation of outlines as in copies outside the Core group, tone is often given by short, nervous sets of hatchings, sometimes joined and the artist sometimes stipples his line (figs. 709-23).

Faces in works outside the Core group, but still considered executed in Brueghel’s workshop were also isolated and compared to test whether their exclusion is justified (for example, figs. 724-8). The author’s subjective impression is that these details do not ‘fit’ comfortably with those from the Core group – an opinion open to debate.

17.1.3 Implications regarding Core group

Since the Core group encompasses works dating from 1603 through 1624 it is reasonable to hypothesise that these works represent the hand of Brueghel the Younger himself. It is always feasible, if unlikely, that they could be due to a particularly long-serving *compagnon*. Brueghel’s son Pieter III however, can be excluded from consideration as he would only have been fourteen years old in 1603, the year during which the first dated painting in the group was finished, an exquisite version of *Christ Carrying the Cross*. Supporting the attribution of the Core group to the master is the fact that these paintings are, for the great part signed, and often dated. If the master is indeed the author of this group, it would imply that there is almost no evolution in his underdrawing style over the years, the 1603 copy of *Christ Carrying the Cross* resembling closely the 1624 version of *Sermon of Saint John the Baptist*. The style does seem to oscillate from bold, *virtuoso*, outlining (e.g. *Christ Carrying the Cross*, 1603; *Peasant Lawyer* 1618, *Peasant Lawyer* 1621) through to quite a sketchy touch (e.g. *Census*, 1610); many underdrawings simply show wiry, precise, unelaborated outlining (e.g. *Good Shepherd*, 1616); nonetheless, one or all of these adjectives can often be applied to a single work. Factors clearly influencing style are format and the use of cartoons – cartoon-aided zones are underdrawn in more detail and less freely than those drawn by eye alone.

Smaller paintings without large-scale figural motifs are more difficult to integrate within the Core group and would need a wider sample of similar compositions for comparison, for example, in the case of the *Winter Landscape with Bird Trap*.

This attempt to identify and compare stylistic traits in order to establish a Core group of underdrawings by the master is entirely subjective. The aesthetic judgements leading to an acceptance of a work as part of the Core group remain subject to revision by current author in the light of further comparative works as well as by art historians of sixteenth and seventeenth century drawings and underdrawings. Connoisseurship will always remain an art, not an exact science. Whether, for example, certain of the paintings outside the Core group showing more functional and less detailed underdrawings are indeed by the master or by an assistant remains a question to be debated on a case-by-case basis, and preferably through comparison with other underdrawings of the same composition.

¹⁰⁹³ The unique support and small scale of this painting make comparisons with other works impossible (see Chapter VI for further comments).

¹⁰⁹⁴ The Italian physician and art collector Giovanni Morelli (1816-91) ‘devised a systematic means of establishing the authenticity of attributions by training his eye to recognize minute but characteristic details of style, in a highly concentrated form of scholarship [...]. His method was extremely narrow, involving using his eye rather like a chemist using formulae to test the age of a canvas, practising what might be called scientific connoisseurship.’ (FERNIE 1995, p. 12). The method was followed to some extent by the art historian Bernard Berenson, and later by the Rembrandt project. Van de Wetering, in his contribution to the Rembrandt project, tried to find ‘links between complexes of similar features, explicitly extrapolated or otherwise, in order to arrive at groups of works that stylistically show such strong similarity that they can be assumed to come from one and the same hand’ (VAN DE WETERING 1986, p. 62). Van de Wetering goes on to compare the manner of painting lace collars and cuffs in works attributed to Rembrandt in order to try to distinguish different hands (*Ibidem*, pp. 63-76).

17.1.4 Are the paintings executed by the same hands as the underdrawings?

An overall, stylistic cross-comparison of the paint layers of all the works in the study was not undertaken; nonetheless, an analysis of the stylistic relationship between the underdrawing and the painting stages was attempted in Chapters I-VII as well as detailed comparisons of the painterly style in paintings within the same subject group. This sheds considerable light on the issue of whether the works whose underdrawings form part of the Core group were also painted by the same hand – i.e. that of the master – and whether certain works outside the Core group were the results of single efforts or collaborations.

In the *Census at Bethlehem* series, the loose and accomplished underdrawing of the Brussels version compares favourably in style to its paint layer, suggesting the same hand is responsible. Similarly, the vibrant and deft underdrawing in the *Wedding Dance in the Open Air* matches its exuberant and yet precise painting style, making common authorship likely for both stages. The three, signed and dated versions of the *Peasant Lawyer* (Bruges, Ghent, Maastricht) are remarkably similar to each other in style at both underdrawing and painting stages, suggesting the same hand throughout. The detailed and precise underdrawing in the *Battle between Carnival and Lent* is matched by its accomplished and nuanced paint layer, although specific stylistic links are less easy to find. Similar comments can be made regarding the Lier version of the *Sermon of Saint John the Baptist*.

Paintings from Brueghel's workshop whose underdrawings are considered outside the Core group were also examined for clues as to whether the same hand executed individual works from start to finish.

From the *Census at Bethlehem* series, the slick and rapid underdrawing in the Lons-le-Saunier version shows unmistakable stylistic traits in common with its paint layer, implying the same hand for both stages of execution, although clearly not the artist of the Core group. Again, the Caen version's sketchy yet imprecise underdrawing matches well with its painterly style implying yet another hand, and clearly not the same as the artists responsible for either the Brussels or Lons-Le-Saunier versions. The privately owned version too shows a neat and precise underdrawing style, matched by its detailed and fastidious execution at the painting stage, as well as betraying weakness in the mastery of form and anatomy at both levels, suggesting yet another artist's authorship for both phases of execution. Curiously, the latter painting is not only signed with Brueghel's signature, but is also secretly inscribed, 'van kan...' on a wooden door, supporting its attribution to a hand other than the master.

The Antwerp version of *Sermon of Saint John the Baptist* shows weaknesses and hesitations at both underdrawing and painting stages, perhaps implying the same hand throughout, although this is not as clear as in the aforementioned cases, as specific stylistic links are hard to identify. The same remarks apply to the Paris version of the *Peasant Lawyer*.

It would seem that for a significant number of paintings within the Core group, the same artist, probably the master, underdrew and painted the works himself. Similarly, there is no firm evidence for collaboration within single works in paintings lying outside this group, which were mostly likely painted by a series of different workshop assistants. Further cross-layer stylistic analyses would be necessary to confirm whether these findings are typical of Brueghel's wider output. The evidence does appear to support however, Jacqueline Folie's observation that the better quality works from Brueghel's studio are often signed; the present study also shows that this high quality is not only characteristic of the paint layer, but also of the underdrawing.¹⁰⁹⁵

17.2 Can the underdrawings help with the attribution of surviving independent drawings?

Despite the very different functions of drawings and underdrawings, it is still useful to compare the very few surviving drawings attributed to Brueghel the Younger with the underdrawings to see if any light can be cast on the attribution of the former.¹⁰⁹⁶

Of the drawings for which reasonable reproductions could be examined, three 'categories' can be discerned: polished landscape drawings, loose sketches of individual motifs and freehand studies with hatchings and other notations for tone and contour.

Drawings that would have been interesting to discuss but for which the reproductions consulted were not sufficiently detailed include: *Adoration of the Magi*,¹⁰⁹⁷ *Pilgrimage of the Epileptics to Molenbeek-Saint*

¹⁰⁹⁵ see Section 5.7.

¹⁰⁹⁶ The problems entailed in comparing these very different documents has been examined by Molly Faries, Maryan Ainsworth and Stephanie Buck among others (FARIES 1985, AINSWORTH 1989, BUCK 2001).

¹⁰⁹⁷ 30.5 x 41 cm, pen drawing, unsigned, but dated '1595' at the foot of the post supporting stable, Lyon, coll. Damiron (in 1969).

John,¹⁰⁹⁸ *Dulle Griet (Mad Meg)*,¹⁰⁹⁹ a sheet of motifs of the *Crucifixion* composition¹¹⁰⁰ and three drawings for Flemish proverb roundels¹¹⁰¹ (figs. 729-34).

17.2.1 Polished landscape drawings

Two drawings make up this category, *Mule Caravan on Hillside* (discussed in Chapter VIII, Section 14.1.3, fig. 633) and a pen and wash *Study of the Chateau of Hoerzuylens, Utrecht* (fig. 735).¹¹⁰² In the former case, Brueghel the Younger's authorship was suggested although Jan Brueghel remains a strong possibility. In the case of the *Study of the Chateau of Hoerzuylens*, the overall, tightly controlled and regular hatching lines as well as zones of softly graduated dots for areas of tone do not resemble any drawing notations in Brueghel the Younger's underdrawings. The inscription however, 'P. BREVGHEL 1625', in its handwriting style and spelling, pleads in favour of an attribution to Brueghel the Younger, as Marlier argues.¹¹⁰³ Since the drawing closely resembles strongly in style and subject matter three of Jacob Savery's forgeries of Bruegel the Elder's work (*Views of Amsterdam*), perhaps the *Chateau of Hoerzuylens* represents a copy by Brueghel the Younger after a lost forgery by Jacob Savery?¹¹⁰⁴

17.2.2 Loose sketches of individual motifs

There are two drawings that could qualify for this category, one a study sheet of motifs for the *Crucifixion* (fig. 736),¹¹⁰⁵ the other a study for a small-scale Flemish proverb, *Block up the Well after the Calf is Drowned* (fig. 737).¹¹⁰⁶

In the case of the *Crucifixion* sheet, the horse and the leftmost figure are identical with motifs in the left foreground of Brueghel the Younger's versions of the *Crucifixion*, and the two rightmost figures identical with motifs in the centre-right of the same composition.¹¹⁰⁷ Within this sheet there are two styles of drawing: the horse, very sketchily indicated and the figures, more studiously drawn and with elaborate hatchings. The horse was most likely sketched after a painted model as a rough aid; the figures were probably copied after drawn models, replete with indications of tone. Neither style resembles Brueghel the Younger's underdrawings, either from the Core group or outside; the imprecise, clumsy sketch of the horse has no precedent in even the loosest of Brueghel's underdrawings and the figures' regular hatchings for contour and shade, gradated both in length of stroke and lightness of touch do not find any match either (figs. 736a-c).

The sketch for *Block up the Well after the Calf is Drowned* is extremely loosely drawn, but unlike the horse in the above-mentioned study sheet, contains many areas of hatching for tone and contour. It shows one major adjustment in the position of the legs and apron, and the figure's hat has two profiles. In view of these major changes, it is unlikely the drawing was copied after another drawing or painting, unless the artist was particularly incompetent. If the drawing were produced by Brueghel the Younger, the idea of a preparatory drawing is the only logical possibility, as argued by Klaus Ertz.¹¹⁰⁸ Since the role of this drawing is more explorative than Brueghel's underdrawings, stylistic comparisons are difficult; nonetheless, it is worth comparing it with the relatively sketchy underdrawings in the Brussels versions of the *Census at Bethlehem* (1610) and large format *Massacre of the Innocents* (16[-]4) (figs. 737a-c), both part of the Core group. Characteristics in common amongst the independent drawing and the selected details from the underdrawings include the manner in which areas of darker tone are marked off with a line and filled in with scribbled hatching, the way in which drapery folds around elbows are drawn and the going-over of the line several times. The stiffness of the independent drawing is only mirrored to a minor extent in the *Massacre* underdrawing; this could be due to the drawing and the underdrawings' respective stages of development regarding the elaboration of the motifs, the underdrawings representing a more advanced level for which the outlining of the forms was probably also guided by the use of cartoons. Based on these comparisons, common authorship cannot be excluded.

¹⁰⁹⁸ 28.6 x 41.4 cm, pen and brown ink, strengthened with white, inscribed with a description of the subject and the name 'Bruegel 1564' in lower right, Vienna, Albertina, Graphische Sammlung, inv. 7868.

¹⁰⁹⁹ 39 x 53.4 cm, brush and watercolour, pen and brown [ink?], Düsseldorf, Kunstmuseum, Graphische Sammlung, inv. FP 4838.

¹¹⁰⁰ *Raising of Cross of One of the Criminals*, 37.6-37.8 x 30.6-31.0 cm, brown ink and blue wash, signed in lower right, 'BREGEL', Cologne, Wallraf-Richartz Museums, Alter Bestand, inv. Z1335.

¹¹⁰¹ *Fool sitting on an Empty Egg*, London, British Museum, inscribed 1569; *The Misanthropist*, Coll. Masson (ERTZ, fig. 19, p. 79); *The Misanthropist*, London, Sotheby's, lot 154, sold as 'circle of Pieter Bruegel the Elder', from F. Abbott, no further information regarding place or date of sale (ERTZ 2000, fig. 18, p. 79). See also MARLIER-FOLIE 1969, note 26.

¹¹⁰² 15.4 x 20 cm, pen and wash, Paris, Musée du Louvre, Cabinet des Dessins, inv. 19735. I would like to thank Jacqueline Folie for showing me a good photographic reproduction of this drawing.

¹¹⁰³ MARLIER-FOLIE 1969, p. 227.

¹¹⁰⁴ The three drawings by Savery resembling the Chateau of Hoerzuylens are illustrated in MIELKE 1996, p. 222, figs. 43-5.

¹¹⁰⁵ 17.2 x 10.1 cm, Paris, private collection.

¹¹⁰⁶ 14.3 x 9.5 cm, pen and brown ink, Paris, Musée du Louvre, Cabinet des Dessins, inv. 19722.

¹¹⁰⁷ See Status Quaestionis, Section 5.4 for scholarly commentary on this drawing and Chapter VIII, Section 14.2. for comments on a version of the painting by Brueghel the Younger.

¹¹⁰⁸ See Status Quaestionis, Section 5.4.

17.2.3 Freehand studies with hatchings and other notations for tone and contour

This category also comprises several drawings, notably the well-known *Adoring Shepherd* from the Budapest Museum of Fine Arts,¹¹⁰⁹ a newly discovered drawing of the proverb roundel, *Man Forging Iron*, from a Brussels private collection,¹¹¹⁰ *Five Standing Men* from the Musée des Beaux-Arts et d'Archéologie de Besançon,¹¹¹¹ *Man and Woman with Baby* from the former Delacre collection in Ghent,¹¹¹² two drawings of Flemish proverb roundels from a private collection – *Every Merchant Vaunts his Merchandise* and *Fire an Arrow after Another One*¹¹¹³ – and finally, *A Drunken Man being Led Home by his Wife*¹¹¹⁴ (figs. 738-44).

The drawing, *Adoring Shepherd* is considered by Hans Mielke a weak copy by a bad draftsman after a lost work by Bruegel the Elder (fig. 738).¹¹¹⁵ The signature in the lower right is typical of Bruegel the Elder's drawings before 1561, with the 'H' and 'E' joined. There is no date. The manner in which outlines are reinforced and the pen lifted frequently along the lines is typical of the drawing for the Flemish proverb, *Man Blocking the Well*, as well as many of Bruegel's underdrawings. However, the hatchings, cross-hatchings and depiction of the face and hair is not at all characteristic of Bruegel the Younger's underdrawings; it may follow closely the drawing notations in a lost study by Bruegel the Elder.

The drawing, *Man Forging Iron* is monogrammed, 'P B.' in the lower centre, an inscription probably referring to Pieter Bruegel the Elder (fig. 739a). The composition was painted by Bruegel the Younger several times (fig. 739b). Georges Marlier suggests the Bruegelian character of this image could link it to a lost original by Bruegel the Elder or alternatively, that it might be an original invention by Bruegel the Younger. The independent drawing, of which neither Marlier nor Ertz were aware, was clearly not made after one of Bruegel the Younger's paintings of the composition as there are small changes; furthermore, the general sketchy quality suggests it is a working drawing prior to a definitive image. Therefore in theory it either represents a drawing prior to a lost or never-executed painting or engraving by Bruegel the Elder or a drawing by his son (or son's workshop). There are indeed many characteristics that tie the drawing to graphical works from Bruegel the Elder's oeuvre that might favour an attribution to the elder master, for example, the preparatory drawings for the *Alchemist* and *Last Judgment* engravings (fig. 740a-d); nonetheless, a somewhat naive portrayal of background details in the upper left and centre and the clumsy manner of abbreviating the man's left hand cast doubt on an attribution to Bruegel the Elder.¹¹¹⁶ On the other hand, the drawing does share some characteristics seen in Bruegel the Younger's underdrawings, for example, the stippling of the line to the left of the man's head, the fact that outlines are made up of many short, often straight lengths and the manner in which the hands are drawn. Since no underdrawings in Bruegel the Younger's paintings show such regular hatching and cross-hatching strokes for tone and contour, no specific cross-comparisons are possible which might further the discussion on attribution. In view of *Man Forging Iron's* drawing style, as well as the strong resemblance between the manner and specific drawing notations with Bruegel the Elder's drawings for engravings, the newly discovered drawing is probably a copy by Bruegel the Younger after a lost drawing for an engraving by Bruegel the Elder. The younger Bruegel would then have created his painted version based on his new drawing, both of which are the same size (figs. 739a-b).

Five Standing Men has many drawing notations in common with *Man Forging Iron* that are not found in Bruegel the Younger's underdrawings, for example, curved cross-hatching to show drapery contours (fig. 741). *Man Forging Iron* does appear to be slightly more subtle and nuanced in its execution than *Five Standing Men* although this may well be due to the harsher contrast in the reproduction of *Five Standing Men*. Both drawings may represent freehand copies of lost originals from Bruegel the Elder; confrontation of the actual drawings would be necessary to assess whether they are drawn by the same hand, possibly that of Bruegel the Younger. An attribution to his brother Jan should also be considered, as suggested by Klaus Ertz.

In the case of *Man and Woman with Baby* (fig. 742), the drawing notations, especially in the man's face, are comparable with those in *Five Standing Men*, and the presence of hatching and cross-hatching for contours recall

¹¹⁰⁹ 29.2 x 19.5 cm, pen and brown ink, signed in lower left, 'BRVEGHHEL', Budapest, Szépművészeti Múzeum, inv. 1309. I am grateful to Jacqueline Folie for showing me a good photograph of this drawing.

¹¹¹⁰ Pen and ink on paper, 16.2 cm diameter, private collection, Brussels. I would like to thank the owner for kindly showing this drawing to me and providing me with photographs.

¹¹¹¹ 14.6 x 19.6 cm, pen drawing, inscribed 'Breugel' in lower right, Musée des Beaux-Arts et d'Archéologie, Besançon (See Status Quaestionis, Section 5.4).

¹¹¹² Dimensions unknown, inscribed, 'BRVEGEL' in lower left, offered for sale at Galerie Gerda Bassenge, Berlin at an unknown date (archive of Jan De Maer, Brussels).

¹¹¹³ *Every merchant vaunts his merchandise*, 16.3 cm diameter, pen drawing, Ghent, private collection 1969; *Fire an Arrow after Another One*, 16.3 cm diameter, pen drawing, Ghent private collection 1969 (See Status Quaestionis, Section 5.4). Both drawings are inscribed 'bruegel' in lower case.

¹¹¹⁴ 17.7 x 13.2 cm, pen drawing, Frankfurt, Städtisches Kunstinstitut und Städtische Galerie, Kupferstichkabinett (See Status Quaestionis, Section 5.4.).

¹¹¹⁵ MIELKE 1996, p. 72.

¹¹¹⁶ See Yoko Mori's commentary on this drawing in MORI 2001, p. 56, figs. 45-7.

the latter and *Man Forging Iron*. The drawing is less delicate in its portrayal of tone and contour through hatching and cross-hatching than either of the two aforementioned drawings. The drawing's inscription 'BRVEGEL' in the lower left suggests it is a copy after a lost drawing by Bruegel the Elder. This drawing may possibly have been made in the studio of Bruegel the Younger; again, in view of its very different drawing notations, comparison with the underdrawings is not useful.

The two pen drawings, Flemish proverbs *Every Merchant Vaunts his Merchandise* and *Fire an Arrow after Another One* (fig. 743) also use regular and extensive hatching and cross-hatching to suggest tone and contour, much in the same way as *Man and Woman with Baby* and *Five Standing Men*, but more schematically, perhaps due to their smaller scale. Since such notations are not found in Bruegel's underdrawings, these cannot be compared; nonetheless, the general outlining of figures and drapery folds, the drawing of hands (one as a 'glove' shape) and the wavy, freehand lines for buildings is typical of Bruegel's studio style. These drawings could well represent routine copy drawings from Bruegel the Younger's studio, perhaps after lost models by Bruegel the Elder, or after other copy drawings of the latter's work. The question of their actual authorship remains unresolved in the light of evidence from the underdrawings; an attribution to Bruegel the Younger cannot be excluded but is far from certain.

The drawing, *Drunken Man Being Led Home by his Wife* does not show cross-hatchings in the same way as most of the aforementioned drawings. Instead, it has delicate, schematic and regular small areas of hatching strokes for tone and contour (fig. 744a). As no examples of Bruegel the Younger's painted versions of this motif were examined as part of the present study, a dancing couple in the 1607 Brussels version of the *Wedding Dance in the Open Air* serves as a substitute for comparison (fig. 744b). The independent drawing is clearly tighter and more schematic than the underdrawing, the latter showing several reinforcements of the line not present in the more rigid outlines of the former; nonetheless, many drawing notations are similar, for example, those for the creases on the sleeve of the male figure, the distinctive stroke to define the lower profile of the noses of the protagonists and the short sets of hatchings here and there to indicate a shaded dip in the fabric or area of shadow. The independent drawing is unlikely to be the same hand as the underdrawing, owing to the difference in handling; however, it represents the type of drawn model Bruegel and his assistants probably worked after for their underdrawings. It may well have formed part of Bruegel's the Younger's workshop stock.

17.3 Conclusion

This brief survey shows that the usefulness of the underdrawings to the attribution of independent drawings previously given with a question mark to Bruegel the Younger is limited, except in the case of the sketchily executed *Block up the Well after the Calf is Drowned*, where an attribution might be considered based on comparison with two underdrawings from the Core group, and perhaps in the case of *Man Forging Iron*, in which certain general stylistic traits from the underdrawings can be identified. Nonetheless, other useful inferences can be drawn in regard to these drawings, particularly the fact that *Man Forging Iron* is closely related in drawing style to freehand drawings by Bruegel the Elder, suggesting the former is a close copy, perhaps by Bruegel the Younger, of a lost drawing for an engraving by the elder master; by extension, several of the other independent drawings showing similar, if more schematic drawing notations to *Man Forging Iron* are probably also copies after lost drawings by Bruegel the Elder or copies after copies of the latter's work, and most likely created in Bruegel the Younger's studio. All such drawings would have been regarded as valuable reference material in a workshop such as Bruegel the Younger's, whose prime activity was producing copies of Bruegel the Elder's work, or paintings inspired by Bruegelian motifs.

Missing categories of drawings that Bruegel the Younger must surely have had in his studio in the light of the current study include pricked scaled drawings and possibly 'substitute cartoons' consisting of pricked outlines only. None at all have survived.

Conclusion

18.1 Techniques and materials in Brueghel's workshop

The forty-seven paintings from Brueghel the Younger's workshop forming part of this study present a remarkably consistent range of techniques and materials,¹¹¹⁷ despite a wide variety of subject matter and format and the considerable time period covered (1594-1624).¹¹¹⁸

18.1.1 Painting supports

Painting supports, barring the Lille version of the *Census at Bethlehem*, on canvas, are invariably oak panels. For the most part, supports conform to one of four main formats, large (120 cm x 170 cm approx.), medium (75 x 120 cm), medium-small (55 x 86 cm. approx.) and small (38 x 55 cm approx.).¹¹¹⁹ Of the sixteen works examined by dendrochronology, Baltic oak appears to have been almost invariably used for large format panels and local wood for small format works. The only large format painting on local wood is the Arras version of the *Census at Bethlehem*, made from planks of different ages, probably re-used. Only one medium format panel was examined by this method, the *Massacre of the Innocents* (Brussels) and this was found to derive from Baltic wood. Large format panels are made up of four to six boards, five being the most common number. Small-scale panels frequently consist of a single, wide plank although two planks are also frequent. In medium- and large format works, joins are usually bridged by wooden dowels.

Large format panels almost always display ungrounded and unpainted lateral edges; these invariably correspond to squared cuts on the reverse sides where the evidence for the latter has not been removed by thinning prior to cradling. This feature is attributed to the application of channel edge supports to prevent warping of the panel during priming and painting. Rare exceptions of large format panels without unpainted edges include the Lier version of the *Sermon of Saint John the Baptist*, a poor quality panel, probably not made by a professional. This feature is never found on medium- or small format works.

Of the eleven¹¹²⁰ works whose reverse sides do not appear to have been planed-down during restoration, two are heat-branded with the stamp of the Antwerp Guild of Saint Luke, one has the Antwerp brand plus an 'A' marking, signifying a date of 1621-22, three more display the Antwerp brand together with the clover mark of panel-maker Michiel Claessens and two show a clover mark only. The presence of Michiel Claessens' stamp, cold-pressed into the reverse, proves a panel was professionally made outside Brueghel's workshop. This was probably the case for many more supports in the study, but any evidence has been removed by thinning. Three of the paintings in the study display the same Antwerp brand, comprising two from Brueghel's workshop, the Ghent version of *Wedding Dance in the Open Air* and *Good Shepherd*, and one from outside, the Bonn version of the *Peasant Lawyer*. Since the *Good Shepherd* is signed and dated 1616, this pushes back the possible execution date for the unsigned *Wedding Dance* to 1616.

There is one case of a re-use of a previously painted panel, the Brussels version of the *Massacre of the Innocents*. This important finding emphasises the commercial nature of the workshop, where quality was perhaps sacrificed on occasion to meet market demands. Like the Lier version of the *Sermon of Saint John the Baptist*, whose panel support is of very low quality, the actual painting is of the highest level from a pictorial point of view, and likely painted by the master himself. This shows that in at least some certain cases, there is little correlation between the quality of the panel support and the quality of the painting. In the Arras version of the *Census at Bethlehem* however, not only is the panel of relatively low quality, made from re-used local wood from different dates and including a knot in one of the planks, the paint layer also appears to have been carried out by a studio hand of lesser ability.

18.1.2 Ground layers

Ground layers are invariably white in the case of panel supports, and where analysed, are found to consist of calcium carbonate in a glue-based medium. It is possible that the Lille version of the *Census at Bethlehem*, on canvas, has a dark red ground, which may have been reserved for canvas supports only.

18.1.3 Imprimatura

All the paintings examined show some evidence of a tinted *imprimatura* layer above the ground, detected variously in cross-sections, infrared reflectography and x-radiography. This layer is invariably medium-rich, and ranges from almost colourless – perhaps better characterised as a slightly pigmented, isolation layer – through to

¹¹¹⁷ See also chart of technical data, Appendix 2.

¹¹¹⁸ Dated paintings in the study range from 1594-1624. Of the undated paintings, 2 are signed, 'P. BRUEGHEL' indicating an execution date of 1616 or before and 9 are signed, 'P. BREVGHEL' indicating a date of 1616 or after. 19 works are neither signed nor dated.

¹¹¹⁹ See Appendix 2 for exact measurements of all panels.

¹¹²⁰ This figure does not include the miniature roundels.

grey and streaky and to slightly ochre in tonality. The lead white, carbon and iron content in the layer varies considerably. In one painting, *Kermis with Theatre and Procession*, the medium of the grey *imprimatura* was positively identified as linseed oil; in several others staining tests on paint cross-sections established it was not protein-based, suggesting oil by default. The layer certainly had a practical function – to seal the porous ground layer – as well as serving an aesthetic role in certain cases.

18.1.4 Transfer of the image

One dramatic example probably provides the key to the transfer process in the entire group of paintings studied. The discovery of pouncing dots alongside many of the underdrawing lines in the *Battle between Carnival and Lent* shows that at least parts of the design were transferred onto the panel with the aid of a pricked cartoon. Faint pouncing dots may also be discerned in the signed and unsigned versions of *Christ Carrying the Cross* and the signed version of *Flemish Proverbs*. Since the general style of application and level of detail of the underdrawing in these paintings are comparable to most of the other works in the study, it would not be surprising if this method were also responsible for the transfer process in the latter. Why so little evidence remains on the paintings themselves is demonstrated by the author's practical tests (Appendix 1): under certain conditions – compatible with those identified in Brueghel's paintings – the total erasure of pouncing dots is not only possible, but desirable, or the paint layer is sullied with black pouncing dust. All that remains visible in infrared after sweeping away the pouncing is the detailed underdrawing.

The superposition of the author's tracings of the painted compositions in several works of the same subject provides further evidence for the use of cartoons. However, these lost cartoons could not always have been in one piece, nor have provided total coverage in all cases. In the case of the large format *Flemish Proverbs*, the composition appears to have been transferred as a whole on a single sheet, excepting certain variable motifs in the upper right background. Similarly, the entire composition of *Sermon of Saint John the Baptist* appears to have figured on a cartoon, although this might possibly have been on two sheets, rather than one. In contrast, the similarly sized *Census at Bethlehem* composition only reveals the use of cartoons for the transfer of large-scale foreground motifs and groupings; the buildings and many mid-ground and background figures were probably copied by eye, possibly aided by some form of squaring although there is no evidence for the latter technique. *Christ Carrying the Cross* presents a slightly different scenario: full coverage of the composition with cartoons is possible – although debatable for the distant townscape – but at least five separate sheets may have been used. The only other large-scale composition for which the possibility of cartoons could be tested was the *Kermis with Theatre and Procession*. In this case, the outlines of the fragment correspond well with those of the complete work suggesting a common cartoon was possible in the area tested. In the case of the medium format *Peasant Lawyer* composition, the superposition of three versions shows that a common cartoon may have been used to transfer the composition as a whole, barring certain details and adjustments at the edges, but this must have been split between a sheet for the left side and a sheet for the right. All the smaller format paintings tested – *Adoration of the Magi*, *Winter Landscape with Bird Trap* and *Wedding Dance in the Open Air* – appear to have been based on cartoons on single sheets for the whole composition, barring certain small details and background trees. This also appears to have been the case for the smaller format *Peasant Lawyer* composition, but in the absence of tracings from the actual paintings for two of the copies, the evidence is not verifiable. In the case of *Wedding Dance in the Open Air*, Jan Brueghel the Elder may have used the same cartoon as his brother for his Bordeaux version, but the other way around.

In all compositions large and small, motifs such as background trees and foliage are usually sketchily underdrawn and they do not superpose well from copy to copy, suggesting they were drawn in by eye alone.

In cartoon-transferred draperies, the tightly controlled, but at the same time freehand nature of the drawing line supports the hypothesis that the underdrawing lines detected in infrared are the direct result of the joining-up of pounce marks rather than representing stylus-transferred tracing lines. Of all the methods available to Brueghel, pouncing would have been the most eminently suited to the rapid, accurate and straightforward copying of designs, as shown in the author's practical tests. Furthermore, the technique demanded little artistic skill apart from accurate placement of the cartoon and careful pouncing without moving the paper, meaning the task of transfer could easily have been delegated to a lowly studio member.

18.1.5 Underdrawing

Over and over again, examination with the binocular microscope and inspection of the infrared reflectograms prove that the drawing layer lies above, and not underneath the *imprimatura*. In two different paintings, *Massacre of the Innocents* (Antwerp) and *Wedding Dance in the Open Air* (Ghent), this observation was confirmed by cross-sections. Clearly a dry medium in all cases, in the aforementioned cross-sections, SEM analysis identified carbon as the basis for the black tonality, eliminating the possibility of metal-point. In one of the two samples, the drawing layer was also found to contain significant amounts of clay, suggesting black chalk; in the other, only pure carbon was detected, meaning that graphite must be retained as a possibility, although black chalk cannot be excluded. Charcoal was not considered a possibility in any cases, as its

alternately smooth, tapering, friable lines are incompatible with the neat, wiry and even appearance of the line in Brueghel's underdrawings.

The underdrawings themselves invariably comprise a precise, detailed outlining of the whole composition, with occasional hatching and other markings for tone and contour. Contour lines for landscape features and background trees are loosely indicated. Changes during drawing are never significant and consist of minor adjustments to outline. This particular manner of underdrawing is easily recognisable, both in Brueghel the Younger's copies of his father's paintings as well as his works that were taken after other artists' compositions, such as the *Peasant Lawyer* (original model unknown) and Martin Van Cleve's *Massacre of the Innocents*.

Underdrawing notations such as hatchings, particularly in complex draperies, are often similarly positioned in copies of the same composition, suggesting they were taken after a common model drawing, probably a cartoon; in some cases however, where copies appear to have been executed around the same time period, the hatchings for tone from one underdrawing may have been directly copied in another underdrawing, as may have been the case for the Lons-le-Saunier and Mayer van den Bergh versions of the *Census at Bethlehem*. The scaled cartoons may well have been supplemented by pricked sheets, known as 'substitute cartoons', for the actual transfer of the image, to prevent the pouncing dust masking any notations such as hatching on the original cartoon.

18.1.6 Paint layer: Evolution, handling and pigment analysis

In terms of the paint layer build-up, the paintings all show a similar evolution. The painted forms closely follow the outlines of the underdrawing and the paint is applied in one or two thin layers, reserving spaces for the forms to follow. There is no deliberate overlapping of colours, except for the application of final glazes, scumbles and details. In some cases, small background figures are added during painting, for example in the Ghent version of the *Wedding Dance in the Open Air* and *Return from the Kermis*. Brushwork varies from linear and precise in nature, as in the privately owned version of the *Census at Bethlehem* to rare cases where it is relatively painterly, for example, the Brussels and Caen versions of the latter composition. Typical techniques include the use of short, white strokes for highlights below eye sockets and delicate wet-in-wet touches for seams of clothing and fine tree branches. Although very little comparative pigment analysis was undertaken, in terms of skies, only smalt was detected as the blue colouring matter in the paintings sampled, as in Bruegel the Elder's version of the *Census at Bethlehem*. In approximately half the paintings in the study, discolouration of the red pigment vermilion to a grey-mauve colour is clearly noticeable; again, this phenomenon was also noted in Bruegel the Elder's *Census*.¹¹²¹ There is no correlation whatsoever of this discolouration with the period of execution, the first recorded case amongst the paintings studied dating from 1603 and the last from 1624.

The study demonstrates that paintings produced in Brueghel's workshop were made in a conservative, yet highly efficient and streamlined manner, with little variation in techniques and materials or even handling of paint. Although the scale of production was unprecedented in Flemish painting, the transferral of images with pricked cartoons represents the tail-end of a long tradition going back to the fifteenth century in Northern Europe. The use of a tinted priming layer, painterly reserves and one or two thin paint layers is also entirely consistent with Flemish painting in the second half of the sixteenth century.

18.2 Division of labour within the studio and the significance of a signature

The stylistic analysis of the underdrawings, and in some cases, the latter's stylistic links with the paint layer gives a few pointers as to the division of labour within Brueghel's workshop. For a large number of mostly signed works in the study, the underdrawings appear to be by the same, talented hand; these underdrawings are labelled the Core group and are tentatively given to the master himself on account of their wide range of dates. These underdrawings are generally found in paintings for which the paint layer is also recognised as amongst the highest quality in the workshop, due to their mastery of form, gesture, movement and expression. This might well mean that the same hand, i.e., that of the master, was responsible for the Core group paintings from start to finish. Further cross-comparisons amongst paintings of different compositions would be necessary to confirm this hypothesis.

There are also several cases of underdrawings for which the style clearly differs from the Core group; of these, several show recognisable stylistic links with their respective paint layers, suggesting again that individual hands executed works in their entirety. Examples of the latter are particularly frequent in the *Census at Bethlehem* series.

¹¹²¹ Twenty-two works show discolouration of reds.

Clear cases of collaboration between or within the underdrawing and painting stages were not identified, but the possibility of collaboration cannot be ruled out in the case of minor background motifs in the paint layer, as these resemble each other closely from one work to the next.

The presence or absence of a signature remains an interesting topic for debate. Although paintings of most of the Core group are signed, suggesting the master wished to distinguish them in some way, an important work from this group is not, the *Battle between Carnival and Lent*. Likewise, the presence of a signature is not confined to works from the Core group, for example the privately-owned version of the *Census at Bethlehem*, signed and dated 1604, nor for paintings stylistically less accomplished than other versions of their theme, for example, the Brussels version of the *Adoration of the Magi*, signed, 'P. BREGHEL'. In the latter two cases, it would seem that the signature represents the mark of the workshop rather than a guarantee of the master's hand.

18.3 Original versions and models for the copies

An intrinsic part of the investigation was the question of models for Bruegel's paintings, particularly as none of the key works in the study are considered to be his own invention.

For certain compositions, namely the *Census at Bethlehem* and *Battle between Carnival and Lent*, the authenticity of the original version by Bruegel the Elder is not disputed and the technical analysis of the former work supported this assumption. However, the issue of whether Bruegel the Younger actually consulted these original paintings in the making of his copies is more controversial. Different conclusions were reached for each of the two series'. For the *Census at Bethlehem* copies, numerous clues, such as different colours and motifs in the copies versus the original and various misunderstood details in the former point to Bruegel not having seen the original painting, instead relying on a preliminary drawing for the composition made by his father, plus detailed drawings or even perhaps inherited cartoons for certain foreground motifs; for the *Battle between Carnival and Lent* on the other hand, the extreme fidelity in colour, motif and even certain aspects of the painterly style of the copies versus the original, as well as tiny rectifications to the pounced design in the Brussels version to bring it in line with the image in Bruegel the Elder's final painted composition, strongly favour the argument that Bruegel had access to the original work, in addition to using a preparatory cartoon of the composition deriving from his father's workshop. This proven desire for fidelity in the presence of the original version counters the view of Bruegel the creative copyist, as argued by Klaus Ertz.

In the case of compositions such as *Winter Landscape with Bird Trap*, *Adoration of the Magi* and *Sermon of Saint John the Baptist*, questions have been raised in the past concerning the attribution of the original versions. In view of this uncertainty, the authenticity of each of these works was considered prior to a discussion of the possible models for Bruegel the Younger's copies. The technical and stylistic analysis of the MRBAB version of the *Winter Landscape with Bird Trap* led to the conclusion that the painting was not only the first version of its theme, but that its attribution to Bruegel the Elder is correct. Regarding the actual model for the copies, comparison of the original version with the latter showed up such clear links in the positioning and colour of motifs that it is highly likely Bruegel the Younger not only had access to his father's painting, but possessed or made a tracing of its final painted composition. As in the *Battle between Carnival and Lent*, the result is a highly faithful set of copies. Turning to the *Winterthur Adoration of the Magi*, stylistic links with other paintings by Bruegel the Elder and the presence of minor changes during execution would appear to confirm its authenticity; in the case of the copies however, the observation of a series of fixed variations in scale, colour and motif versus the *Winterthur* painting make it more likely they were based on a preliminary drawing by Bruegel the Elder, as in the *Census at Bethlehem*. The authenticity of the Budapest version of the *Sermon of Saint John the Baptist* was not cast into doubt by the present study in view of its stylistic links with other paintings by Bruegel the Elder; however, the possible former existence of another version by Bruegel the Elder and two key differences in colour and composition between the Budapest version versus all the copies mean that the Budapest painting might not have been the model for the latter; alternatively, it is also possible that Pieter Bruegel the Younger indeed copied the Budapest version, but was also influenced by his brother Jan's copies, which display the changes in question.

The final category of copies treated in Part I of the analysis includes those works made after paintings for which the original version is unknown. In the case of the *Wedding Dance in the Open Air*, the model for the copies is proposed as a lost painting and/or drawing or cartoon of the painting by Bruegel the Elder, based on a comparison of Pieter and Jan Bruegel's copies of the image, Van der Heyden's engraving and the existence of a series of paintings by and after Martin van Cleve inspired by the same composition. The evidence favours a right-handed orientation for the original painting, as in all the versions except Pieter Bruegel the Younger's. In regard to the *Peasant Lawyer*, no changes are proposed to the established view that the composition is clearly not an invention of Bruegel the Elder; the present study did not attempt an identification of the model but suggests that the latter could have been a painting, drawing or engraving.

18.4 Variants amongst the copies

In certain compositions, there are small but marked differences in colour and motif amongst the copies, independent of any fixed changes versus the original version. Unlike Klaus Ertz, who claims that in some series', such as the *Adoration of the Magi* and *Peasant Lawyer*, these variations are signs of the artist wishing to distinguish one copy from the other, the present study reveals a more methodical approach; nonetheless, the very existence of variants indicates a measure of creativity on the part of the artist.

In the case of the *Census at Bethlehem*, variations amongst the copies were found not to be random occurrences; instead, it was discovered that the surviving thirteen versions could be neatly divided into four groups of similar copies, with two paintings lying outside. Based on an analysis of motif, which showed no evolution of the image over the years, it was surmised that each of the new variants must have referred back to the same compositional drawing or set of drawings by Bruegel the Elder. The now-lost preparatory material inherited from Bruegel was presumably incomplete and/or unclear, hence the necessity to invent and clarify certain mid- and background motifs. This would also explain why some of the corresponding motifs in original and copies were misunderstood in the latter. Since the four groups can be roughly divided chronologically, paintings from a single group were probably painted around the same approximate time period. This may indicate that a new variant was invented every few years once the last copy from a particular grouping was no longer in the studio to serve as model; alternatively, in view of the possible co-existence in the studio of paintings from more than one grouping, the author of the first copy in a group, possibly Bruegel himself, might have introduced at least some of the small changes to improve the composition, or simply for change's sake, as Marlier suggested. The first copy in a group would have served as a copy *princeps* for the rest; evidence from infrared reflectography suggests that sometimes the underdrawing as well as the paint layer of this first version served as model for the others, implying simultaneous side-by-side executions in such cases as the Mayer van den Bergh and Lons-le-Saunier and also the Brussels and Caen versions. This is a similar, but more complex hypothesis than Marlier envisioned and totally different to that proposed by Ertz.

The *Sermon of Saint John the Baptist* series also revealed two main variants, distinguished again by minor differences in colour and motif. Only a very few of these variable features are present in the underdrawing, suggesting they were added at the painting stage for the most part, and were not part of the design on the cartoon. Although there are not enough dated versions to form any hypotheses regarding the reasons why two variants might have been created, the two groups may possibly have co-existed as two paintings in Group 2 are dated 1601 and 1636 respectively whereas one in Group 1 is dated 1620. The seemingly random presence of the figure having his palm read is not explained by technical factors; he was clearly present on the cartoon.

Regarding the *Adoration of the Magi*, small variations amongst the copies are also observed. Careful cross-comparison turns up several groupings of copies, based on minor differences in colour and motif. This suggests again that there were a number of copy *princeps*'; in this case, the variable motifs, such as birds, minor tree branches and drapery colours were added during painting and were probably copied directly from another finished version in the studio at the time.

The *Wedding Dance in the Open Air* shows one variable drapery colour that appears to change at around 1612 from blue to light brown; apart from this, three small figure motifs in the upper right of the painting come and go, but their inclusion does not form part of a pattern according to date. Their positioning is not identical either, indicating they were not present on the cartoon. Since these are somewhat erotic in nature, their inclusion might have depended on the desires of the market or purchaser at any one time. In the Ghent version, these figures were added during painting suggesting that, as with the *Adoration of the Magi*, these small variable elements were not part of the underdrawing stage but were added during painting and copied after another finished version in the workshop, or from memory.

In the case of the *Peasant Lawyer*, two main variants can be distinguished; one of these appears only in works dated 1615 to 1617 and the other appears in paintings dated from 1618-1622, with two exceptions. This largely follows the pattern observed in the *Census at Bethlehem* series, where the variants appear to succeed each other chronologically. In the case of the *Peasant Lawyer*, the artist probably took a conscious decision to permanently adjust or 'improve' the composition and colour scheme around 1618.

Within the *Battle between Carnival and Lent* series, one version, the Christie's copy, stands out as different from the rest in motif and colour. Technical evidence of the Brussels version shows that the Christie's version does not represent a true variant at all, but that it was the only copy to follow the design on the preliminary cartoon through to the paint layer, whereas the Brussels version clearly adjusted the cartoon in line with the original version as well as imitating the latter's colour scheme. The other existing copies closely conform to the Brussels version in motif and colour.

The *Winter Landscape with Bird Trap* series does not have any compositional variants, suggesting that the original model was not only complete, but was so successful that Bruegel the Younger was happy to replicate

the formula without adjustment over the years. However, as with the *Wedding Dance in the Open Air*, small additional motifs are occasionally present, in this case, the figures on the bridge and Mary, Joseph and the ass in the centre left. The Mayer van den Bergh example contains these figures; close examination shows they were clearly added during painting, proving they were not part of the design on the cartoon. The latter example and another privately-owned copy containing these motifs are both dated 1622, suggesting that one of the two versions may have been used as the model for the other.

Within all the series' examined for which tracings could be taken of the painted compositions, it can be demonstrated that the same cartoons were used regardless of variant; that is, the whole composition – or in the case of series' such as the *Census at Bethlehem*, important motifs – were transferred from a common cartoon(s) prior to the addition of the variable motifs. These motifs were sometimes indicated during underdrawing and at other times added during painting; the variable colours would have been added during painting after a finished version in the workshop.

18.5 The source of the cartoons

The cartoons used in Brueghel's workshop were most likely inherited from his father for the *Battle between Carnival and Lent* and perhaps for the *Census at Bethlehem* but may have been generated by Brueghel the Younger himself in other cases. For compositions such as the *Peasant Lawyer*, taken after the work of an unknown artist, Brueghel almost certainly generated the cartoons himself, one per compositional format. For the *Winter Landscape with Bird Trap*, a cartoon must have been taken after the final composition of the finished version, possibly through tracing; this could have been made by Bruegel the Elder, Brueghel the Younger or another artist in the family. In the case of the *Adoration of the Magi*, where the copies' compositions are of a slightly different scale to the original, the cartoon was probably created after a preliminary drawing by Bruegel the Elder. For the *Wedding Dance in the Open Air*, there is not enough surviving evidence to deduce whether Brueghel generated a new cartoon after the lost painting, or based his copies on a cartoon or drawing inherited from his father. For the *Sermon of Saint John the Baptist*, the Budapest version, and ideally Jan Brueghel's Basel version should be traced before hypothesising on the source of the cartoon used by Brueghel the Younger.

18.6 Unexpected findings regarding Bruegel the Elder's techniques and materials

The technical study of two paintings by Pieter Bruegel the Elder, the *Census at Bethlehem* and *Winter Landscape with Bird Trap* not only helps establish the nature of the relationship of Brueghel the Younger's copies to the original versions, but provides new, detailed information regarding the elder Bruegel's working techniques and materials. Furthermore, the stylistic comparison of these original works with the copies of Bruegel the Younger supports and enriches the observations of Jacqueline Folie and Françoise Van Hauwaert regarding the father and son's different approaches to painting.

The analysis of Brueghel the Younger's Brussels version of *Battle between Carnival and Lent* reveals that Bruegel the Elder must have used a cartoon at some stage in the preparation of his original version – the same sheet later re-used by his son – although it cannot be proven from the current evidence whether it was Bruegel the Elder or Brueghel the Younger who actually pricked the document for transfer. Examination of the original version might clarify matters, although a preliminary examination of photographic details and x-radiographs of the latter suggests the situation might be more complex than supposed.

There is no firm evidence, based on the current study, that Pieter Bruegel the Elder made drawings or 'record copies' of his compositions after painting for his own future use, the same documents later used by Brueghel the Younger for his copies, as recently proposed as a possibility by Dominique Allart in private discussions and by Yoko Mori and Lorne Campbell in recent publications.¹¹²² Even in the case of the *Winter Landscape with Bird Trap*, where the original and the copies are extremely close in scale and motif, Brueghel the Younger relied on the subtle colours of the original version as well as a cartoon of the original composition – and he could clearly have made the cartoon himself if he had had the original painting to hand. In the case of the *Census at Bethlehem*, a drawing of the finished original painting would surely have included the key figure of the man doing up his skates in the lower right corner, missing in all the copies; the same remark can be made for the *Adoration of the Magi*, where two figures above the central tent are absent in the copies. Finally, for the above-mentioned *Battle between Carnival and Lent*, the cartoon used for the copies was clearly made prior to, and not after, Bruegel's original composition.¹¹²³

¹¹²² Cited note 731.

¹¹²³ Similar evidence was recently found by Rebecca Duckwitz for the *Flemish Proverbs* (DUCKWITZ 2001).

18.7 A view to the future

The current thesis covers a representative portion of Pieter Brueghel the Younger's work, particularly regarding the *Census at Bethlehem* series and establishes a thorough and workable methodology for the study of further compositions. The study defines and details the precise characteristics of a painting originating in Brueghel's workshop, both from a technical and stylistic point of view. As a result, copies of the same composition originating from outside the workshop are easily distinguished. Even within Brueghel's studio, the isolation of different hands, including the identification of a Core group of underdrawings by the master will help guide categorisation of additional paintings. The infrared images of the underdrawings may also be useful to the attribution of independent drawings, although the initial attempt to attribute several works using this approach was only fruitful in a few cases, and never provided conclusive proof.

The thesis represents the present stage in the evolution of the author's thinking on Brueghel the Younger. This is an on-going process, constantly moving and continually re-adjusting in the light of new documents. In the future, technical studies of further examples of Bruegel the Elder's original versions will be undertaken, wherever possible, to help further the knowledge of both father and sons' techniques, particularly regarding the use of cartoons and other preparatory material. If feasible, the scope of the current research will be extended to include Jan Brueghel the Elder's copies of his father's work. The latter would be useful to examine in the light of Pieter's copying practice, to promote further insights into both brothers' techniques as well as regarding the original models, especially in cases where the latter are missing or disputed. Finally, the author aims to carry out research on Brueghel the Younger's own original compositions.

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List of figures.

All colour illustrations are by the author unless specifically mentioned. Graphics by Sophie De Potter at IRPA. X-radiography by Guido Van de Voorde at IRPA. Apart from certain versions of *Census at Bethlehem* and one version of *Peasant Lawyer* (credits given in notes 494 and 931 respectively), infrared reflectography with IRPA's 'Inframetrics Infracam SWIR (short-wave infrared) video camera' (for technical details, see note 10). Infrared images captured by author, Sophie De Potter and Kristof Van Bellingham and digitally assembled and processed at IRPA by Sophie De Potter and Kristof Van Bellingham, using Adobe Photoshop software to produce seamless results. Printing of infrared material by Sophie De Potter. Unless indicated otherwise, infrared images are reflectograms. Infrared and x-radiographic material shown actual size except where labelled differently. Copyright for infrared reflectograms, x-radiographs and any graphics held by IRPA, unless otherwise mentioned.

Frontispiece: Engraving of Pieter Brueghel the Younger by Antony Van Dyck for his *Iconographia* (1630-1) © Mauquoy-Hendrickx 1991, vol. 2, pl. 3.

<i>Census at Bethlehem</i>	
1	Pieter Bruegel the Elder, <i>Census at Bethlehem</i> , panel, 115.3 x 164.5 cm, signed and dated in lower right, 'BRVEGEL/ 1566', Musées Royaux des Beaux-Arts de Belgique, inv. 3637. a Unframed. Notice ungrounded and unpainted lateral edges. The paint and ground extend to the panel edge on the upper and lower edges (wooden battens added to these edges during restoration) © IRPA. b Important motifs indicated.
2	Reverse of painting after 1969-9 restoration © IRPA.
3	Detail from x-radiograph showing original wooden dowel at right angles to a join in pre-made holes in the planks.
4	X-radiograph showing <i>imprimatura</i> , upper right.
5	Pieter Bruegel the Elder, <i>Hunters in the Snow</i> , panel, 117 x 162 cm, signed and dated 1565, Vienna, Kunsthistorisches Museum, inv. 1838, x-radiograph, detail © Kunsthistorisches Museum.
6	Detail, underdrawing, taken with binocular microscope, magnification factor x 25.
7	Rooftop, upper right.
8	Figure, lower left. a normal light, b infrared
9	Virgin and ox. a normal light © IRPA, b infrared.
10	Roof motif, upper centre right, infrared.
11	Figure group, upper right. a normal light, b infrared.
12	Woman, lower right, infrared.
13	Face of woman to right of Virgin, infrared.
14	Jug, leper's house, infrared.
15	Figures on ice, upper left pond. a normal light, b infrared.
16	Women being greeted at portal, upper left. a normal light, b infrared.
17	Inn sign. a normal light © IRPA, b infrared.
18	Post with alms bowl and leper's house. a normal light, b infrared.
19	Houses on horizon, upper left. a normal light, b infrared.
20	Figure putting on skates, lower right. a, b normal light, a1, b1 infrared.
21	Sun. a normal light, b infrared.
22	Ruined castle, upper right. a normal light, b infrared.
23	Detail of woman pulling sled, lower right pond. a normal light, b infrared.
24	Mule's foot. a normal light, b infrared.
25	Lean-to wooden shed. a normal light, b infrared.
26	Tree branches against rooftop of leper's house. a normal light. b infrared.
27	Bird on barrel, lower left. a normal light. b infrared.
28	Trunk of large tree to left of composition. a normal light © IRPA, b infrared
29	Tree branches in sky, upper left. a infrared (infrared photograph) © IRPA, b Detail of 27a, underdrawn tree branches not carried through to the paint layer, normal light.
30	Unidentified form on roof of house in upper left, possibly tree branch or chimney, in underdrawing stage only.
31	Large left side branch to tree containing <i>The Swan</i> inn, dropped during painting. a normal light © Musées Royaux des Beaux-Arts de Belgique, b infrared
32	Roof of house to upper right of tree with <i>The Swan</i> inn.
33	Ring leaning against tree in front of central house, possibly from a barrel, in drawing layer only. Infrared.
34	Figure with basket. a normal light, b infrared.
35	Virgin's face. a normal light, b infrared.

36	Pieter Bruegel the Elder, <i>Standing Shepherd</i> , 24.6 x 14.8 cm, pen and brown ink, traces of black chalk, Staatliche Kunstsammlungen Dresden, Kupferstich-Kabinett, inv. C2128 © MIELKE 1996, fig. 57.
37	Pieter Bruegel the Elder, <i>Flemish Proverbs</i> , panel, 117 x 163.5 cm, signed and dated 1559, Berlin, Staatliche Museen zu Berlin, Preussischer Kulturbesitz, Gemäldegalerie, inv. 1720, detail, man with globe and monk, infrared © DUCKWITZ 2001, fig. 17b.
38	Pieter Bruegel the Elder, <i>Sermon of Saint John the Baptist</i> , panel, 95 x 160.5 cm, signed and dated 1566, Budapest, Szépművészeti Múzeum, inv. 51.2829, infrared. a woman with rucksack © URBACH 1999, fig. 11, b gypsy wife © as a), fig. 12.
39	Pieter Bruegel the Elder, <i>Wheat harvest</i> , panel, 116.5 x 159.5 cm, signed and dated 1565, New York, Metropolitan Museum of Art, inv. 19.164, infrared photograph © Metropolitan Museum of Art.
40	Pieter Bruegel the Elder, <i>Adoration of the Magi</i> , panel, 111.1 x 83.5 cm, signed and dated 1564, London, National Gallery, Davis 1968, cat. 3556, infrared photographs. a detail, king b detail, Virgin and Child © National Gallery, London for both images.
41	Pieter Bruegel the Elder, <i>Peasant Wedding Dance</i> , 119 x 157 cm, signed and dated 1566, Detroit, Institute of Arts, inv. 30.374. a detail, dancers © MARIJNISSEN 1988, p. 294, b detail, dancers © ROBERTS-JONES 1997, p. 258.
42	Probable sequence of paint layers. a Layer of sky paint. b Thick layer of white snow paint on cartloads and in many rooftops, leaving reserves for certain tree trunks and other motifs such as the <i>Swan inn</i> sign. c Blue ice paint in upper left pond leaving reserves for tree trunk, small sunken boat to left and punt only; blue ice paint in lower right leaving reserves for figures; thin, lead-white rich layer of snow paint in foreground and midground, leaving reserves for major forms (true extent of this layer difficult to judge). d Figures in foreground, midground and background; animals and birds; brick walls and chimneys of houses; large icicles on the 'Save Garde' inn; major trees and possibly distant trees and red sun; extra layer of blue sky paint in places followed quickly by wet-in-wet application of fine, dark tree branches on horizon. e Additional layer of thick white snow paint in foreground and parts of midground, turning carefully around forms; impasted white highlights for snow; possibly white paint around sun; sleeve of lady with pan and possibly man coming out between trees in lower right; defining of edges of certain trees with brown lines; final touches on dry underlayer including birds, small blue icicles and fine tree branches.
43	Trees profiled against snowy rooftops, centre right. a x-radiograph, b detail, normal light, unreserved small tree painted directly on top of thick layer of snow paint, c detail, tree trunks, normal light.
44	Inn sign. a normal light, b x-radiograph (2x actual size).
45	Tree and house, upper left, x-radiograph.
46	Small girl on sled in lower right. a normal light, b x-radiograph.
47	Woman pulling sled. a normal light, b infrared.
48	Dwarf or small boy. a normal light, b x-radiograph.
49	Small girl in upper left pond.
50	Small girls playing snowballs just below central house.
51	Small branches near horizon, painted wet-in-wet into blue sky paint, detail taken with microscope at magnification factor x 25.
52	Hens, lower centre left. a normal light, b detail taken with microscope at magnification factor x 25, c x-radiograph
53	Figures above the Virgin.
54	Icicles. a detail, b detail taken with microscope at magnification factor x 25.
55	Cart and waggon, upper right.
56	People playing snowballs.
57	Birds on house of leper.
58	Bird on handle of cart, centre of painting.
59	Pan, lower right.
60	Rooftop.
61	Cross-sections: a sky, b sky, c brown branch, d dark green apron, e green apron, f hat with dark shadow
62	Discolouration of red paint to mauve. a Head covering of child, lower left. b Bundle held by male figure, lower right.
63	Child on ox-bone sled, lower right. a original version, b privately owned copy, c Mayer van den Bergh copy.
64	Small figure being pushed over in the snow. a original version, b KMSK copy, c Mayer van den Bergh copy.
65	Figures carrying heavy baskets, left pond. a original version, b Brussels copy, c Mayer van den Bergh copy.
66	Official accepting titles, 'Save Garde' inn. a original version, b Brussels copy, c privately owned copy.
67	Background figures, upper left pond. a original version, b privately owned copy, c KMSK copy.
68	Figures around large tree on left. a original version, b privately owned copy, c Brussels copy.
69	Blue caps. a original version, b KMSK copy, c Brussels copy
70	Tree, upper left. a original version, b privately owned copy, c Mayer van den Bergh copy.
71	Tree, upper right. a original version, b privately owned copy © IRPA.
72	Trees bordering frozen river, upper left. a original version, b Brussels copy, c privately owned copy

72bis	Half-sunken boat on frozen pond, upper left. a original version, b Brussels copy, c Mayer van den Bergh copy.
73	<i>Census at Bethlehem</i> , Antwerp, Museum Mayer van den Bergh, inv. 54, wood panel, 121.4 x 171.5 cm front and reverse. GROUP 1 © IRPA.
74	<i>Census at Bethlehem</i> , Antwerp, Koninklijk Museum voor Schone Kunsten (inv. 776), wood panel, 113.6 x 165 cm; signed on a fallen door in the centre foreground to the left, ‘P. BRVEGHEL.’, front and reverse © IRPA.
75	<i>Census at Bethlehem</i> , Arras, Musée des Beaux-Arts d’Arras, inv. 934.2, wood panel, 118.7 x 168.1 cm, front, reverse, detail of reverse showing knot in wood plank. GROUP 1.
76	<i>Census at Bethlehem</i> , Lons-le-Saunier, Musée des Beaux-Arts, inv. 5, wood panel, 117.7 x 170.4 cm. GROUP 1 © Studio Eureka, Lons-le-Saunier.
77	<i>Census at Bethlehem</i> , Maastricht, Bonnefantenmuseum, inv. 677, wood panel, 122 x 174 cm © Jan Schols, Bonnefantenmuseum.
78	<i>Census at Bethlehem</i> , private coll., Sardinia, wood panel, 118 x 168.4 cm, signed and dated on the left-hand barrel in the centre foreground (as in Brussels version), ‘P.BRVEGHEL./1604’, front and reverse. GROUP 2 © IRPA.
78	<i>Census at Bethlehem</i> , private coll. (sale Sotheby’s, 1980), oil on panel, 117.6 x 167.5 cm, signed, ‘P. BRVEGHEL.’. GROUP 2 © CAT. SOTHEBY’S 1980, lot 133.
80	<i>Census at Bethlehem</i> , private coll. (sale Brussels, Finck, 1981), oil on panel, 121 x 170 cm. GROUP 2 © CAT. FINCK 1981, number 6.
81	<i>Census at Bethlehem</i> , Vaduz, Sammlungen des Fürsten von Liechtenstein, inv. G720, signed and dated ‘P. BRVEGHEL. 16.7’ [1607]. GROUP 3 © Vaduz, Sammlungen des Fürsten von Liechtenstein.
82	<i>Census at Bethlehem</i> , Lille, Palais des Beaux-Arts, inv. P.863, canvas, 112 x 163 cm. GROUP 3 © CAT. TOBU 1995, p. 111.
83	<i>Census at Bethlehem</i> , Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 2903, wood panel, 121.8 x 167.5 cm; signed and dated on the left-hand barrel in the centre foreground, ‘P. BRVEGHEL. / 1610.’, front and reverse. GROUP 4 © Musées Royaux des Beaux-Arts de Belgique (front), © IRPA (reverse).
84	<i>Census at Bethlehem</i> , private coll. (sale Christie’s, 1988), oil on canvas, 117.5 x 166 cm. GROUP 4 © ERTZ 2000, p. 235.
85	<i>Census at Bethlehem</i> , a Caen, Musée des Beaux-Arts, inv. 22, wood panel, 108.5 x 160.5 cm front. GROUP 4. b Caen, reverse. c Caen, false signature in lower left © Musée des Beaux-Arts de Caen.
86	Signatures a private collection, ‘P.BRVEGHEL./1604’. b KMSK, ‘P. BRVEGHEL’ © IRPA. c Brussels, ‘.1610./P. BRVEGHEL.’.
87	Detail of reverse of Brussels version.
88	Diagonal striations made into the Mayer van den Bergh panel with a hard instrument such as a tothing plane © IRPA.
89	Diagonal striations made directly into the wood of the privately owned panel.
90	A tothing plane or <i>rabot à dent</i> © Storck, not dated.
91	The clover mark of panel-maker Michiel Claessens (working dates: 1590–1637), punched into the reverse of Lons-le-Saunier version © Ingrid van Rooy, Maastricht.
92	Privately owned version, four corners of panel.
93	KMSK version, upper left and lower right corners: another example of <i>barbes</i> and unpainted edges on the two lateral sides of the panel.
94	Privately owned version, profile of lateral edge, showing right angled cut on reverse to accommodate temporary grooved batten, b detail of reverse, showing right angled cut along the right edge, corresponding to unpainted edge on the front © IRPA.
95	Martin de Vos, <i>Holy Family</i> , panel, 135.5 x 179 cm, signed and dated 1585, Museum voor Schone Kunsten, Ghent, inv. S51. a front, b reverse © IRPA for both images.
96	<i>Crucifixion</i> by Frans II Francken and Ambrosius Francken, 170 x 195 cm, signed by both artists and dated 1604-1617, Wijnegem, Church of Our Lady. a Four corners showing <i>barbes</i> and unpainted edges on upper and lower sides only, at right angles to the grain of the wood, b Detail of lower edge showing right angled cuts corresponding to unpainted edges on the front.
97	Bonnefantenmuseum, infrared detail, upper left.
98	Caen, infrared detail, lower right. As in 97.
99	KMSK, detail, lower right.
100	Mayer van den Bergh a detail lower right, b x-ray detail, lower centre, c x-ray detail.
101	Private collection. a tower, b upper left, c Bank of frozen pond, upper left.
102	Brussels.
102bis 1	Lille. There appears to be a red ground, visible through abrasion in the paint layer.
102bis 2	Underdrawing material: Black chalk or graphite? a early illustration of a graphite pencil © Petroski, p. 37, b Natural black chalk (left) and natural graphite (right), both from Kremer Pigmente, c Graphite wrapped in string © Petroski, p. 47, d A wooden holder for graphite or black chalk © Petroski, p. 48, e a carpenter’s pencil found in the roof of a seventeenth century house © 2000 Doug Martin.
103	Standing figures in front of ‘Save Garde’ inn, lower left, infrared. a Vaduz, b Lille, c Brussels, d Caen, e KMSK, f private collection, g Lons-le-Saunier, h Arras, i Mayer, j private collection.

104	Dog, centre, infrared. a Caen, b Lons-le-Saunier, c Lille, d KMSK, e Arras, f Vaduz, g Bonnefantenmuseum, h Mayer van den Bergh, i private collection, j Brussels.
105	Hens, lower centre, infrared. All details 80% of actual size. a Brussels, b KMSK, c Mayer van den Bergh, d Bonnefantenmuseum, e Arras, f Vaduz, g Caen, h private collection, i Lons-le-Saunier.
106	House in construction and carts, infrared. a Brussels, b Mayer van den Bergh, c KMSK, d Bonnefantenmuseum.
107	A wavy line delineates the junction of the snow with the visible part of the form in a and c; in b, a wavy line indicates the outline of the straw. Infrared details. a Mayer van den Bergh, b Bonnefantenmuseum, c Caen.
108	Large tree on horizon, infrared. a Mayer van den Bergh. b private collection. The underdrawing for the tree stops a short way up into the sky.
109	Small trees and bushes on horizon are indicated in the underdrawing with short vertical and diagonal dashes, typical for both small and large format works by Brueghel the Younger. Infrared. a Mayer van den Bergh, b KMSK.
110	Landscape contours, infrared. a Lons-le-Saunier, upper left landscape vista, b Mayer van den Bergh, left of leper's house, c Caen, lower right, reeds along edge of pond.
110	Sheathes of corn, lower left, infrared. a KMSK, b Brussels.
112	Wicker basket, lower left, infrared. a Brussels, b Lons-le-Saunier, c KMSK, d Bonnefantenmuseum, e private collection, f Mayer van den Bergh.
113	Cooking pot, lower left, infrared. a Arras, b Bonnefantenmuseum, c Mayer van den Bergh, d Vaduz, e Caen, f Brussels, g KMSK, h Lons-le-Saunier, i private collection.
114	Central house, stepped roof gable, infrared. a Vaduz, b Lons-le-Saunier, c Bonnefantenmuseum.
115	Buildings in upper right, infrared. a KMSK, b private collection.
116	Brussels, figure collecting snowballs, infrared.
117	Lons-le-Saunier, two men walking, infrared.
118	Bonnefantenmuseum, infrared. a Figures huddling around fire in front of central house, b Two figures in front of church appear to the right of their initial underdrawn position.
119	Horns of ox, infrared. a Brussels, b Vaduz.
120	Private collection, Virgin's cloak, infrared.
121	Lons-le-Saunier.
122	Wheel motif, central house, infrared. a Vaduz, b Lille, c Bonnefantenmuseum, d Brussels, e KMSK, f Caen, g private collection, h Mayer van den Bergh, i Arras, j Lons-le-Saunier.
123	Small figure in underdrawing only, infrared. a Mayer van den Bergh, b Lons-le-Saunier c Brussels.
124	Rounded metal grille in window of inn, lower left, infrared. a Arras, b KMSK, c Lons-le-Saunier, d private collection.
125	Bonnefantenmuseum, infrared.
126	Snowballing figures, infrared. a Brussels, b Vaduz, c Lille, d Mayer van den Bergh, e KMSK, f Bonnefantenmuseum g Caen h Arras, i private collection j Lons-le-Saunier.
127	Figure collecting snowballs, infrared. a Mayer van den Bergh, b Lons-le-Saunier, c Arras, d KMSK e Brussels, f Caen, g Bonnefantenmuseum, h Vaduz, i private collection.
128	Slaughtering of boar. a Mayer, b KMSK, c private collection, d Brussels, e Lons-le-Saunier, f Bonnefantenmuseum, g Arras, h Caen, i Vaduz.
129	Houses, upper right, infrared. a Mayer, b KMSK, c Arras, d Lons-le-Saunier, e Bonnefantenmuseum, f private collection, g Brussels, h Caen, i Vaduz, j Lille.
130	Virgin, ox and ass. a Brussels, b Caen, c Bonnefantenmuseum, d private collection, e Mayer van den Bergh, f Lons-le-Saunier, g Arras, h KMSK, i Vaduz, j Lille.
131	Brussels version. a lady carrying basket, infrared, b lady carrying basket, normal light, c figures huddling around fire, infrared, d The figures are delicately painted, also in a naturalistic manner.
132	Figures, lower right. a Vaduz, b Brussels.
133	Lons-le-Saunier, slaughtering of boar. a underdrawing, infrared, 70% of actual size b paint layer © Jan Schols, Bonnefantenmuseum.
134	KMSK, ruined castle, upper right, infrared.
135	Male figure, lower left, infrared. a KMSK, b Mayer van den Bergh.
136	Closely scribbled lines for deep shadow. a private collection, church door, b Arras, church door, c private collection, tower, d private collection, underside of coat.
137	Probable sequence of paint layers. a Background sky and zones of snow and ice (landscape, ponds and rooftops), leaving reserves for large and medium-scale figures, architecture, waggons, major tree trunks and some side branches, and for small motifs such as inn signs and the grain-pecking hens in the lower left. Landscape vista in upper left. b Architectural elements and darker-toned details and zones such as wagon wheels, carts, the punt and interiors of building. Spaces reserved for forms to follow. c Figures and animals; for groups of figures, the forms at the back of the group were painted first, the artist working progressively forwards. d Covering of snow on motifs, snowballs and small details such as embroidered decoration on garments, icicles, sheathes of corn, small fires, thicker blue drapery paint, outlines to figures (although figure outlines may have been painted at same time as figures themselves).

138	Reserves in the first layer of white paint, x-radiographs. a Brussels, gap reserved for tree in snow paint on roof of central house, b KMSK, as a, c Brussels, space for tree reserved in light sky paint and rooftop, d Brussels, reserve in snow paint for hens and wagon wheel, e KMSK, as d, f Brussels, spaces reserved in snow paint for figure of Virgin and other figures, g Brussels, reserves in snow paint for small girls playing snowballs, h KMSK, reserve in snow paint for figure carrying log, i Mayer van den Bergh, reserve in snow paint for figures throwing snowballs.
139	Figure reserved in ice paint of pond, infrared. a Lons-le-Saunier, b Brussels.
140	Fine branches of background trees, painted early on, overlap into reserve for large-scale trees that were painted later, infrared. a Bonnefantenmuseum, b Arras, c Brussels.
141	The wagon wheel was clearly painted before Joseph as the dark paint of the wheel spills over slightly into spaces reserved for Joseph's hat and hand; all the copies are painted similarly. a Brussels, b Caen, c Mayer van den Bergh, d KMSK, e Lons-le-Saunier, f Arras, g private collection, h Bonnefantenmuseum, i Lille, j Vaduz.
142	Punt, infrared. a Brussels, b Caen, c Mayer van den Bergh, d KMSK, e Lons-le-Saunier, f Arras, g private collection, h Bonnefantenmuseum.
143	Privately owned version. Figure to left of Joseph, infrared.
144	
145	Figure carrying tree stump, infrared. a Brussels, b Caen, c Mayer van den Bergh, d KMSK, e Lons-le-Saunier, f Arras, g private collection, h Bonnefantenmuseum, i Lille, j Vaduz.
146	Reserve in waggon wheel in upper right for figures. a Lons-le-Saunier, b Mayer van den Bergh, c KMSK.
147	Bonnefantenmuseum. Stepped brick wall in upper left, infrared.
148	KMSK. Figures in front of central house, infrared.
149	Hanging wreath on 'Save Garde' Inn, infrared. a Mayer van den Bergh, b Arras, c Brussels, d private collection
150	Three-legged stool, infrared. a Brussels, b private collection
151	Child begging, infrared. a Brussels, b private collection, c Lons-le-Saunier, d Bonnefantenmuseum.
152	Embroidered details on yellow robe of figure in lower left. a Brussels, b KMSK, c Mayer van den Bergh, d Caen, e Caen, f Arras, g private collection.
153	KMSK. Blue paint of lady's apron painted late on in the painting process.
154	Figure tending plants, centre right. a Bruegel the Elder © IRPA b private collection, c Mayer van den Bergh, d KMSK, e Arras, f Caen, g Brussels.
155	KMSK. Ultramarine blues.
156	Virgin's robe in four other copies. a Mayer van den Bergh, b Brussels, c private collection (although this version was not analysed, the blues resemble the majority of copies and not those in the KMSK version), d Caen.
157	Cross-sections, a Brussels, b KMSK, c KMSK, d KMSK, e Mayer van den Bergh, f as in d.
158	Discolouration of red paint to mauve. a Brussels, b KMSK, c private collection, d Mayer van den Bergh, e Brussels, f Brussels, g KMSK
159	Soldiers meeting with civilians, centre right edge. a Brussels, b Caen, c private collection, d KMSK, e Arras, f Mayer.
160	Official collecting tithes, 'Save Garde' inn. a Brussels, b Caen, c KMSK, d Mayer van den Bergh, e private collection, f Arras.
161	Three figures in conversation, upper right. a KMSK, b Mayer van den Bergh.
162	Faces. a Mayer van den Bergh, b KMSK, c Brussels, d Caen, e KMSK, f KMSK, g private collection.
163	Small trees on horizon. a Mayer van den Bergh, b KMSK, c Arras, d Brussels, e Caen, f private collection
164	Footprints in snow. a KMSK, b Mayer van den Bergh, Vaduz © Jan Schols, Bonnefantenmuseum.
165	Blue caps. a Brussels, b Caen, c Arras.
166	Flamboyant slashed jacket, lower left. a KMSK, b private collection, c Caen
167	a-e Degraded blues in Brussels version.
168	Tree with bird, upper left. a Brussels, b KMSK, c Mayer van den Bergh, d private collection.
169	Reeds bordering river, upper left. a Brussels, b Caen, c Arras, d Mayer van den Bergh, e KMSK, f private collection.
170	Brussels. Reeds in lower right.
171	Brussels, snowballers. a infrared, b normal light.
172	a detail, Vaduz © Jan Schols, Bonnefantenmuseum, b detail, Brussels.
173	Lille © Jan Schols, Bonnefantenmuseum.
174	Lons-le-Saunier. a infrared, b normal light © Jan Schols, Bonnefantenmuseum.
175	Bonnefantenmuseum. a infrared, b normal light © Jan Schols, Bonnefantenmuseum.
176	KMSK. The child on the makeshift sled on the ice. a infrared, b normal light © Jan Schols, Bonnefantenmuseum.
177	Mayer van den Bergh, detail. a infrared, b normal light © Jan Schols, Bonnefantenmuseum.
177bis	Details from Mayer van den Bergh and KMSK. a KMSK, b Mayer.
178	Private collection, men gambling. a normal light, b infrared.
179	Caen, face of man in lower left.
180	Arras, face of man in lower left.

181	Virgin's face. a Brussels, b Vaduz, c Lille, d Bonnefantenmuseum, e KMSK, f Mayer van den Bergh, g private collection, h Lons-le-Saunier, i Caen, j Arras (illustrations for Bonnefantenmuseum, Lille, Vaduz, and Lons-le-Saunier versions © Jan Schols, Bonnefantenmuseum).
182	Men around table, 'Save Garde' inn. a Brussels, b Caen, c private collection, d Lons-le-Saunier, e Bonnefantenmuseum, f KMSK, g Mayer van den Bergh (illustrations for Bonnefantenmuseum, Lille and Lons-le-Saunier versions © Jan Schols, Bonnefantenmuseum).
183	Men in crowd in front of 'Save Garde' inn. a Brussels, b Vaduz, c Mayer van den Bergh, d KMSK, e Bonnefantenmuseum, f Lons-le-Saunier, g private collection, h Caen, i Arras, j Lille (illustrations for Bonnefantenmuseum, Lille, Vaduz, and Lons-le-Saunier versions © Jan Schols, Bonnefantenmuseum).
184	Figures playing snowballs. a Brussels, b Vaduz, c Lille, d private collection, e Mayer van den Bergh, f KMSK, g Bonnefantenmuseum, h Caen, i Arras, j Lons-le-Saunier (illustrations for Bonnefantenmuseum, Lille, Vaduz, and Lons-le-Saunier versions © Jan Schols, Bonnefantenmuseum).
185	Man bearing sack, centre-upper right. a Brussels, b KMSK, c private collection, d. Mayer van den Bergh.
186	Seated woman, inn 'De Swaen'. a Brussels, b Caen, c KMSK, d Mayer van den Bergh, e private collection, f Arras.
187	Pair of figures, upper left frozen pond. a Brussels, b Caen, c private collection, d Mayer van den Bergh, e KMSK.
188	Dwarf or small boy in lower right. a Brussels, b Caen, c KMSK, d Mayer van den Bergh e private collection, f Arras.
189	Figure begging for alms. a Brussels, b Caen, c KMSK, d Mayer van den Bergh, e private collection, f Arras.
190	Man greeting women at portal, upper left. a Brussels, b Caen, c KMSK, d Mayer van den Bergh, e private collection, f Arras.
191	Boar being led out to slaughter. a Brussels, b Caen, c Lille, d KMKS, e Mayer van den Bergh, f private collection, g Bonnefantenmuseum, h Lons-le-Saunier, i Arras (illustrations for Bonnefantenmuseum, Lille and Lons-le-Saunier versions © Jan Schols, Bonnefantenmuseum).
192	Horses, upper right. a Brussels, b Lille, c Vaduz, d KMSK, e Mayer van den Bergh, f Bonnefantenmuseum, g private collection, h Lons-le-Saunier, i Caen, j Arras (illustrations for Bonnefantenmuseum, Lille, Vaduz, and Lons-le-Saunier versions © Jan Schols, Bonnefantenmuseum).
193	Hens, lower centre. a Brussels, b Caen, c Vaduz, d KMSK, e Mayer van den Bergh, f private collection. g Arras, h Bonnefantenmuseum, i Lons-le-Saunier (illustrations for Bonnefantenmuseum, Vaduz, and Lons-le-Saunier versions © Jan Schols, Bonnefantenmuseum).
194	Barrel and sack, central house. a Brussels, b Caen, c KMSK, d Mayer van den Bergh, e private collection.
195	Wicker basket, 'Save Garde' inn. a Brussels, b KMSK, c private collection, d Mayer van den Bergh, e Caen.
196	Ears of corn. A Brussels, b KMSK, c Mayer van den Bergh, d private collection.
197	Curving wall, upper right. a Brussels, b KMSK, c Mayer van den Bergh, d private collection, e Caen.
198	Leper's house, privately owned version. a leper's house © IRPA, b detail, door with inscription © IRPA.
199	Axes, lower left of composition. Illustrations for Sotheby's axe from cover of Sotheby's <i>Preview 1980</i> ; for Caen, Arras, Bonnefantenmuseum, Lille, Vaduz, and Lons-le-Saunier axes © Jan Schols, Bonnefantenmuseum.
200	Details from three versions of Pieter Brueghel the Younger's <i>Autumn</i> . a Bucharest, National Museum, inv. 69402/2282, b private collection © ERTZ 2000, fig. 469, p. 570, c London, Sotheby's 1973 © ERTZ 2000, fig. 472, p. 572.
201	Pieter Brueghel the Younger, <i>Flemish Proverbs</i> , signed and dated 1607, two details from Lier version (Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 46). Makers' marks on metal sheep shearers.
202	Pieter Brueghel the Younger, <i>Man forging iron</i> . a Gundelfingen Kunsthaustrust, 1998 © ERTZ 2000, cat. 144, p. 214, b Amsterdam, Six sale, 1905 © ERTZ 2000, cat 143, p. 170.
203	Pieter Bruegel the Elder, makers marks on knives. a <i>Big fish eat little fish</i> , Graphische Sammlung Albertina, Vienna, inv. 7875 © CAT. ROTTERDAM-NEW YORK 2001, p. 140, b <i>Fall of the Rebel Angels</i> , Musées Royaux des Beaux-Arts de Belgique, inv. 584 © ROBERTS-JONES 1997, p. 111.
204	Traders' marks on sacks. a Caen version. This is the only version showing this feature of the ten studied, b Pieter Bruegel the Elder, <i>Everyman</i> , pen and brown ink, signed and dated 1558, The British Museum, London © CAT. ROTTERDAM-NEW YORK 2001, p. 166.
205	Lower right detail. a Original, b Caen.
206	Setting sun. a Original © IRPA, b KMSK © IRPA (this photograph was taken before cleaning – the sun's yellow colour is now more clearly visible).
207	Man with horses, upper right. a Original, b private collection, c original version, d KMSK.
208	Chimney of leper's house. a Original, detail, wicker chimney © IRPA, b KMSK, detail, leper's house with brick chimney © IRPA.
209	Central house. a Original, b Brussels.
210	Figures, upper left background. a Original © IRPA, b private collection.
211	Dog, upper centre. a Original, b privately owned, c KMSK.
212	Basket held by Virgin. a Original © IRPA, b privately owned © IRPA.

213	<i>Flemish Proverbs</i> , corresponding detail from original version and a copy. a Pieter Bruegel the Elder, original version, Berlin, Staatliche Museen, Gemaldegalerie, inv. 1720, infrared © Cat. Maastricht 2001, p. 77, b original version, paint layer © as in a, c Pieter Brueghel the Younger, Antwerp, Koninklijk museum voor Schone Kunsten, inv. 5111, paint layer © IRPA.
214	Figures huddled around the fire, central house. Group 1: a Lons-le-Saunier, infrared, b Mayer van den Bergh, infrared, c, Arras, infrared, d, KMSK, infrared, e Lons-le-Saunier, paint layer, f Mayer van den Bergh, paint layer, g Arras, paint layer, h KMSK, paint layer Group 2: i privately owned, infrared, j privately owned, paint layer, k Sotheby's, paint layer © cover of <i>Sotheby's Preview</i> 1980, l Finck, paint layer © CAT. FINCK 1981, number 6. Group 3: m Vaduz, infrared, n Vaduz, paint layer © Vaduz, Sammlungen des Fürsten von Liechtenstein o Lille, infrared, p Lille, paint layer © CAT. TOBU 1995, p. 111. Group 4: q Brussels, infrared, r Caen, infrared, s Bonnefantenmuseum, infrared, t Brussels, paint layer, u Caen, paint layer, v Christie's paint layer © ERTZ 2000, p. 235, w Bonnefantenmuseum © Jan Schols, Bonnefantenmuseum.
215	Willow trees, upper left landscape vista. a Arras, infrared, b Lons-le-Saunier, infrared, c Mayer van den Bergh, normal light, d KMSK, infrared, e private collection, normal light, f Sotheby's 1980, normal light © Sotheby's, g Finck 1981 © CAT. FINCK 1981, normal light, h Vaduz, infrared, I Lille, infrared, j Brussels, normal light, k Caen, infrared, l Christies 1990, normal light © ERTZ 2000, p. 235, m Bonnefantenmuseum, normal light © Jan Schols, Bonnefantenmuseum.
216	Church motif. a privately owned (Group 2), b KMSK, c Mayer van den Bergh (Group 1) d Lons-le-Saunier (Group 1), e Brussels (Group 4), f Lille (Group 3).
217	Figures, centre right. a Lons-le-Saunier, b Mayer van den Bergh.
218	Figures, lower right corner. a Lons-le-Saunier, b Mayer van den Bergh, c privately owned, d Brussels.
219	The head wearing a hat in the doorway of the Vaduz version is not carried through to the paint layer. a Vaduz, b Lille (© CAT. TOBU 1995, p. 111).
220	Group 4. a Brussels, b Caen.
221	Diagram showing copy process hypothesis.
222	Annotated photocopy of <i>Census at Bethlehem</i> showing lengths measured for comparison.
223	Correlation between the proportions of the composition of the original version and six copies.
224	Correlation between pairs of copies.
225	Tracings of Arras and Mayer van den Bergh versions superposed (Group 1).
226	Tracings of Caen and Brussels versions superposed (Group 4). a tracings centred on the lower right couple, b tracings aligned on the central house.
227	Tracings of central house in Brussels and Caen versions superposed (Group 4).
228	Tracings of figures in front of central house in Arras and Mayer versions superposed (Group 1).
229	Church motif, overlay of Group 3: Vaduz and Lille.
230	Church motif, overlays of Group 1 paintings: Lons-le-Saunier, Mayer van den Bergh, Arras.
231	Figures in upper left background, overlays of Group 3: Vaduz, Lille. As in 228.
232	Figures in upper left background, overlays of Mayer van den Bergh (Group 1) and Bonnefantenmuseum versions. As in 228.
233	Location of possible areas that may have been transferred with the aid of individual cartoons, shared amongst the entire series rather than by group.
234	Lower right couple. a tracings of Caen and privately owned versions superposed, b tracings of privately owned and KMSK versions superposed.
235	Virgin and ox. Tracings of Brussels and privately owned versions superposed.
236	Slaughtering of boar. a tracings of Arras and privately owned versions superposed, b tracings of KMSK and privately owned versions superposed.
237	Detail from Pieter Brueghel the Younger, <i>Battle between Carnival and Lent</i> , Musées Royaux des Beaux-Arts de Belgique, inv. 12045, infrared.
238	Details from two <i>Census at Bethlehem</i> copies. a private collection, b Mayer van den Bergh.
239	Virgin and ox motif, underdrawings of Mayer van den Bergh and Lons-le-Saunier versions superposed (infrared mosaics, corrected to conform to actual proportions in paint layer). a motif aligned on the hind of the ox; motif aligned on the head of the Virgin.
240	Lower right couple, KMSK and Caen tracings placed over original version by Bruegel the Elder. a KMSK over original, b Caen over original, c detail of b.
241	Virgin and ox, KMSK and Caen versions placed over original by Bruegel the Elder. a KMSK over original, b Caen over original.
242	Killing of boar, privately own
243	Waggon group, privately owned version over original.
<i>Battle between Carnival and Lent</i>	
244	Pieter Bruegel the Elder, <i>Battle between Carnival and Lent</i> , panel, 118 x 164.5 cm, signed and dated in lower left, 'BRVEGEL [V and E linked] 1559', Vienna, Kunsthistorisches Museum, inv. 1016 © 1998 Skira editore, Milan.
245	Pieter Brueghel the Younger, <i>Battle between Carnival and Lent</i> , panel, 121.1-121.4 x 171.3-171.9 cm, unsigned, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 12045. a recto, b verso.
246	Detail, dowel, centre left, x-radiograph.

247	Details showing <i>barbes</i> and unpainted laterals edges. a lower left corner, b upper right corner, c lower right corner.
248	Detail, reverse, showing right angled cut along a lateral edge, corresponding to the unpainted edges on the front side.
249	Detail, upper centre.
250	Details from x-radiograph. a figure behind cart containing corpse, centre right, b guitar player's face, c houses on horizon.
251	a detail from the figure of 'Lent', b detail from a window in the upper centre.
252	Annotated reproduction of the <i>Carnival and Lent</i> to show the extent of pouncing detected in infrared.
253	a Cesare Vecellio, <i>Corona della nobile et virtuose donne</i> , Venice, 1600, fol. 30 (Biblioteca Marciana, Venice) © BAMBACH 1999, p. 13, fig. 13, b Alesandro Paganino, <i>Libro Primo: De rechami (Il Burato)</i> , Venice, c. 1532, fol. 2 verso (New York, Metropolitan Museum of Art) © BAMBACH 1999, p. 11, fig. 11.
254	Lower left, infrared. This zone provides a particularly clear example of pouncing.
255	'Carnival', infrared.
256	Church, upper right, infrared.
257	Child playing with toupee, infrared.
258	Uppermost architecture, infrared.
259	Group of Adriaen Isenbrant, from one of the small scenes surrounding <i>The Madonna of the Seven Sorrows</i> , right wing of the Joris van de Velde Diptych, 1521, Bruges, Onze-Lieve-Vrouwekerk, detail, Christ, infrared. a infrared, b normal light detail of a showing liquid drawing medium.
260	Anonymous copy after Marinus van Reymerswaele's <i>St. Jerome</i> , undated, Belgium, private collection, detail, skull and hands, infrared.
261	Anonymous copy after a lost original by Bruegel the Elder, <i>Fall of Icarus</i> , canvas, Brussels, Musées Royaux des Beaux-Arts de Belgique, infrared details. a dog, infrared, b man.
262	Anonymous Antwerp master, central panel of <i>Triptych of Adoration of the Magi</i> , c. 1515-20, Diest, Sint-Sulpitiuskerk, details, infrared. a Virgin's robe, b angel, c architecture. Infrared details by Guido Van de Voorde © IRPA.
263	Copy after Hieronymus Bosch (c. 1450-1516), <i>The Temptation of Saint Anthony</i> , undated, Maastricht, Bonnefantenmuseum, on extended loan from Rijksmuseum, Amsterdam, details, infrared © CAT. MAASTRICHT-BRUSSELS 2001, p. 38, figs. 24-5.
264	Hans Holbein, <i>Erasmus</i> , undated, New York, The Metropolitan Museum of Art, detail, infrared © AINSWORTH 1990, p. 175, fig. 5.
265	Detail, Isenbrant group, stonework, from small scene surrounding <i>The Madonna of the Seven Sorrows</i> , on right wing of the Joris van de Velde Diptych, 1521, Bruges, Onze-Lieve-Vrouwekerk, infrared.
266	Lady on ladder, infrared, infrared.
267	Drowned man, lower right, infrared.
268	The 'Dirty Bride', infrared.
269	Monk pulling cart, infrared.
270	Figure with waffles on his hat, lower left corner, infrared.
271	Beggars, centre right, infrared.
272	House, upper centre right, infrared.
273	Reserve in the sky paint for the buildings. a normal light detail, taken with binocular microscope, magnification factor x 25, b x-radiograph, larger zone comprising detail in 273a.
274	Reserve in the dark paint of the interior of a house for drinking figure. a normal light detail, b infrared.
275	Reserve in the background paint for figure.
276	Tools leaning against bread shop.
277	Inn sign.
278	Blue draperies. a figure in doorway, b figure with cooking pot, c figure at table in front of church, d child with stool, e woman in centre left. The woman's well preserved blue dress is probably painted in a different pigment to that used in a-d.
279	Husband of 'Dirty Bride', centre left.
280	Rough texture in a rooftop has been created by roughly incising a blunt point into soft green glaze paint.
281	The pleats in the green skirt of a dancing woman are incised into the wet paint of the skirt rather than painted.
282	Bird in cage.
283	Figures, upper centre.
284	Disguised figure, lower left.
285	Lower left corner.
286	Masked face.
287	Faces. a bearded man, b man with cooking pot, c beggars, d 'Dirty bride', e leper.
288	'Carnival'.
289	'Lent'.
290	Leaves on trees.
291	Embroidered cloak. a original version by Bruegel the Elder © 1998 Skira editore, Milan, b MRBAB copy.
292	House facade. a original version by Bruegel the Elder © 1998 Skira editore, Milan, b MRBAB copy.

293	Faces. Brueghel the Younger copies with reasonable accuracy the wide eyes with large pupils in the faces in his father's original version. a original version by Bruegel the Elder © 1998 Skira editore, Milan, b MRBAB copy.
294	Face. As in 42. a original version by Bruegel the Elder © 1996 Electa, Milan, ©, b MRBAB copy
295	Face. As in 42. a original version by Bruegel the Elder © 1996 Electa, Milan, b MRBAB copy.
296	Green woolly hat. a original version by Bruegel the Elder © 1996 Electa, Milan, b MRBAB copy.
297	Boy playing with toupee. a original version by Bruegel the Elder © 1998 Skira editore, Milan, b MRBAB copy.
298	Woman pulling cart, infrared.
299	Child, lower left, infrared.
300	Figure playing dice, lower left, infrared.
301	Guitar player.
302	<i>Battle between Carnival and Lent</i> , 117.50 x 165 cm, panel, unsigned, private collection (sold at Christie's New York, 31 May 1989, lot 88) © Christie's Images Ltd. 1989.
303	<i>Battle between Carnival and Lent</i> , 1559, original version by Pieter Bruegel the Elder © 1998 Skira editore, Milan.
304	<i>Battle between Carnival and Lent</i> , Musées Royaux des Beaux-Arts de Belgique.
305	<i>Battle between Carnival and Lent</i> , panel, 116 x 162 cm, signed on inn sign, 'P. Bruegel', Cracow, Muzeum Narodowe w Krakowie (lost during World War Two) © Vienna, Kunsthistorisches Museum.
306	<i>Battle between Carnival and Lent</i> , canvas, 119.5 x 169 cm, unsigned, private collection (exhibited by Johnny Van Haeften Ltd. at the Grosvenor House Art & Antiques Fair, London, 13-22 June 1996) © ERTZ 2000.
307	Woman pulling cart. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
308	Child, lower left. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
309	Figure playing dice, lower left. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
310	Guitar player. As in 56-8. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
311	Hooded figures in procession, upper right. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
312	Figure with basket. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
313	Broken egg. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
314	Caged bird. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
315	Kneeling praying figures, upper right. a Brussels version, infrared, b Christie's version, paint layer, c Brussels version, paint layer, d original version by Bruegel the Elder.
316	Pieter Bruegel the Elder, <i>Battle between Carnival and Lent</i> , detail, fish, black and white photograph © Kunsthistorisches Museum.
317	Pieter Bruegel the Elder, <i>Battle between Carnival and Lent</i> , detail, upper centre left © 1996 Electa, Milan.
318	Pieter Bruegel the Elder, <i>Battle between Carnival and Lent</i> , table, lower centre © 1996 Electa, Milan.
319	Pieter Bruegel the Elder, <i>Battle between Carnival and Lent</i> , fish platter held by 'Lent'. a normal light © 1998 Skira editore, Milan, b x-radiograph.
320	Pieter Bruegel the Elder, <i>Battle between Carnival and Lent</i> , rooftops. a normal light © b x-radiograph.
321	Pieter Bruegel the Elder, <i>Battle between Carnival and Lent</i> , guitar player © 1996 Electa, Milan.
<i>Sermon of Saint John the Baptist</i>	
322	Pieter Bruegel the Elder, <i>Sermon of Saint John the Baptist</i> , 95 x 160.5 cm, signed and dated 1566, Budapest, Szépművészeti Múzeum, inv. 51.2829 © MARJNISSEN 1998, p. 304.
323	Pieter Brueghel the Younger, <i>Sermon of Saint John the Baptist</i> , 104.5-104.9 x 169.3-169.6 cm, signed and dated, 'P. BREVGHHEL 1624', Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 44. recto © IRPA, b verso © IRPA, c inscription.
324	Pieter Brueghel the Younger, <i>Sermon of Saint John the Baptist</i> , 108.2 x 170.7-170.8 cm, signed and dated, 'P. BREVGHHEL', plus the remains of a date '156.'. Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 777. a recto, b verso, c inscription. © IRPA for all three images.
325	Pieter Brueghel the Younger, <i>Sermon of Saint John the Baptist</i> , 118.1-118.7 x 167.9-168 cm, unsigned, Bruges, Groeningemuseum, inv. 0.1561. a recto, b verso (right-angled cuts on both sides but in shadow on right) © IRPA for both images.
326	Pieter Brueghel the Younger, <i>Sermon of Saint John the Baptist</i> , 119 x 167 cm, signed 'P. BREVGHHEL', private collection, sold at Sotheby's, London, 16 December 1999, lot. no. 8 (former coll. Grazia). a recto (ungrounded and unpainted edges do not show as painting photographed in its frame) © IRPA, b verso © IRPA, c inscription.
327	Lier version, defects in the uppermost plank. a <i>Saint John the Baptist</i> , normal light detail, b x-radiograph, detail of a, c knot in wood, near top edge, x-radiograph, d upper right drapery, e further defect in same join, to left of <i>Saint John</i> , f, x-radiograph of defect seen in e.

328	Lier version, reverse side, detail of bevel.
329	Lier version, split in bottom wood plank.
330	Bruges version, detail, knot in wood panel.
331	Bruges version, detail reverse, branding of Antwerp Guild of Saint Luke.
332	Antwerp version. a detail, left edge, b detail, right edge, c detail, upper edge.
333	Privately owned version (former coll. Grazia). a detail, left and top edges, b detail, right edge.
334	Bruges version. a left edge, detail © IRPA, b detail of a, c left edge, close-up detail showing paint layer overlapping slightly onto the unpainted margin, d right edge, detail.
335	Lier version. a recto, b right edge, detail.
336	<i>Imprimatura</i> . a Antwerp, b Bruges, c private collection, d Lier.
337	Cross-sections. a Antwerp version, sky, b Antwerp version, grassy foreground, c Lier version, sky, d Lier version, green shadow, e Lier version, red shadow.
338	<i>Imprimatura</i> . a Antwerp, b Bruges, c private collection, d Lier
339	Features not underdrawn, infrared. a distant landscape (Bruges), b ferns (Antwerp), c toadstools (Lier), d drapery (private collection). Notice the red painted 'T' motif is not indicated in the underdrawing.
340	Figure having his fortune read (the 'Spaniard'). a Lier, normal light, b Lier, normal light, detail, c Lier, detail, infrared, d Antwerp, normal light © IRPA, e Antwerp, infrared, f Bruges, normal light © IRPA, g Bruges, infrared, h private collection, normal light, i private collection, infrared.
341	Underdrawing, group of figures in upper right, infrared. a Antwerp, b Bruges, c private collection, d Lier.
342	Underdrawing, face of gypsy boy in profile, lower centre, infrared. a Antwerp, b Bruges, c private collection, d Lier.
343	Underdrawing, two standing figures in lower right, infrared, scale reduced by 20% to fit page. a Antwerp, b Bruges, c private collection, d Lier.
344	Underdrawing, woman, lower left, infrared. a Antwerp, b Bruges, c private collection, d Lier.
345	Underdrawing, buildings, upper right, infrared. a Antwerp, b Bruges, c private collection, d Lier.
346	Underdrawing, male face, lower left (man leaning against tree), infrared. a Antwerp, b Bruges, c private collection, d Lier.
347	Reserves for trees and buildings in lead-white based sky paint, x-radiograph. a Antwerp, b Lier.
348	Reserve, tree root, infrared. a Antwerp, b Bruges, c private collection, d Lier.
349	Reserve, red hat. a Antwerp, b Antwerp, infrared, c Bruges, d Bruges, infrared, e Private collection, f private collection, infrared, g Lier, h Lier, infrared.
350	Reserve, figure watching Saint John. a Antwerp, b Antwerp, infrared, c Bruges, d Bruges, infrared, e private collection, f private collection, infrared, g Lier, h Lier, infrared.
351	Red hat. a Antwerp, b Lier, c Lier.
352	Brushwork, faces. a Antwerp, b Bruges, c private collection, d Lier.
353	Wet-in-wet brushwork, slashed yellow coat. a Antwerp, b Bruges, c private collection, d Lier.
354	Embroidered details on a dry underlayer, puffed sleeve. a Antwerp, b Bruges, c private collection, d Lier.
355	Patternwork on gypsy wife's sleeve. a Antwerp, b Bruges, c private collection, d Lier.
356	Neckline of gypsy fortune teller's cloak. a Antwerp, b Bruges, c private collection, d Lier.
357	Incised patternwork, private collection version.
358	Folds in drapery, lower left. a Antwerp, b Bruges, c private collection, d Lier.
359	Full skirt, woman far left. a Antwerp, b Bruges, c private collection, d Lier.
360	Dark sleeve, figure far left. a Antwerp, b Bruges, c private collection, d Lier.
361	Textured blues. a Antwerp, b Bruges, c private collection, d Lier.
362	Grassy ground in the lower right, privately owned version. a detail, grassy ground, lower right, b close-up of a).
363	Trees. a Antwerp, b Bruges, c private collection, d Lier.
364	Leaves. a Antwerp, b Bruges, c private collection, d Lier.
365	Tree trunks. a Antwerp, b Bruges, c Lier.
366	Ferns, lower left. a Antwerp, b Bruges, c private collection, d Lier.
367	Figures listening to sermon. a Antwerp, b Bruges, c private collection, d Lier.
368	Man yawning. a Antwerp, b Bruges, c private collection, d Lier.
369	Man listening to sermon. a Antwerp, b Bruges, c private collection, d Lier.
370	Small tree, upper right. a Antwerp, b Bruges, c private collection, d Lier.
371	Budapest version. a full front © Marijnissen 1998, p. 304, b detail, heads © Szépművészeti Múzeum, c detail, Pieter Bruegel the Elder, <i>Christ Carrying the Cross</i> , 1564, Vienna, Kunsthistorisches Museum © Kunsthistorisches Museum.
372	Infrared details from Budapest version. a Saint John the Baptist, infrared, b woman with full skirt, infrared, c man having fortune read, infrared, d Christ, infrared. All details: © URBACH 1999 (figs. 9-12).
373	Embroidered pattern on gypsy boy's wrap. a Pieter Bruegel the Elder, Budapest © ROBERTS-JONES 1999, fig. 284, p. 253, b Pieter Brueghel the Younger, Bruges version, c Jan Brueghel the Elder, 41 x 59 cm, signed and dated 1598, Munich, Alte Pinakothek, Bayerische, Staatsgemäldesammlungen © BURMESTER <i>et al.</i> 1996, p. 34.

374	Jan Brueghel the Elder, <i>Sermon of Saint John the Baptist</i> . a small format version, 41 x 59 cm, signed and dated in lower right, 'BRVEGHEL 1598', Munich, Bayerische Staatsgemäldesammlungen, inv. 834, © BURMESTER <i>et al.</i> 1996, p. 34, b large format version, 115 x 164 cm, unsigned, unsigned, Basel, Öffentliche Kunstsammlung, Kunstmuseum, inv. 139 © Basel, Öffentliche Kunstsammlung, Kunstmuseum.
375	Pieter Brueghel the Younger, canvas, 117 x 169 cm, signed [spelling unspecified in Marlier and Ertz], Paris, coll. R. de Balkany © MARLIER-FOLIE 1969, p. 53.
376	Pieter Brueghel the Younger, 91.50 x 140.6 cm, unsigned, priv. coll. (Paris, Gal. De Jonckheere, 1989, no. 7) © De Jonckheere.
377	Pieter Brueghel the Younger, 109.5 x 162.5 cm, inscribed, 'P. BRVEGEL 1565', priv. coll. (Sotheby's, London, 9 April 1986, no. 12) © Sotheby's.
378	Jan Brueghel the Elder, 115 x 164 cm, unsigned, Basel, Öffentliche Kunstsammlung, Kunstmuseum, inv. 139 (black and white photograph) © Basel, Öffentliche Kunstsammlung, Kunstmuseum.
379	Pieter Brueghel the Younger. Two examples of paintings forming part of Group 1. a Private collection (Drouot, Piasa, 8 December 1996, no. 17), 117 x 173 cm, signed, lower right (strengthened), 'P. BRVEGHEL' © Drouot, Piasa, b private collection (Christies, London, 8 July 1994, no. 55), 106 x 165.5 cm, unsigned © Finck.
380	Pieter Brueghel the Younger. Two examples of paintings forming part of Group 2. a Bonn, Rheinisches Landesmuseum, inv. G.K. 34, 111 x 175 cm, signed and dated, 'P. BRVEGHEL 1601' © ERTZ 2000, fig. 253, b private collection, Johnny van Haefton 2002, no. 10, 113 x 163 cm © Johnny van Haefton.
381	Superposition of author's tracings of Bruges and Antwerp versions. a whole image, b detail, centre, c detail, centre left.
382	Superposition of author's tracings of Lier and Antwerp versions. a whole image, b detail, centre, c detail, centre left.
383	Superposition of author's tracings of Lier and Bruges versions. a whole image, b detail, centre, c detail, centre left.
384	Superposition of underdrawings of figure having fortune read (Lier and Antwerp versions). a Lier version, underdrawing, traced in black, b Antwerp version, underdrawing, traced in red, c superposition of Lier and Antwerp underdrawings, d Antwerp underdrawing placed over Lier underdrawing.
Winter Landscape with Bird Trap	
385	Pieter Bruegel the Elder, <i>Winter Landscape with Bird Trap</i> , 36.9-37 cm x 55.35-55.4 cm signed and dated 1565, Brussels, Musées Royaux des Beaux-Arts de Belgique © IRPA.
386	Painted inscription. a normal light, b black and white, detail © IRPA, c infrared, d x-radiograph.
387	Signatures from other works by Bruegel the Elder (all oil paintings on panel unless indicated otherwise).
387a	<i>Sermon of Saint John the Baptist</i> , lower right corner, 1566, Budapest, Svépmlvészeti Múzeum © Svépmlvészeti Múzeum.
387	<i>Fall of the Rebel Angels</i> , lower left corner, 1562, Brussels, Musées Royaux des Beaux-Arts de Belgique © IRPA.
387c	<i>Adoration of the Magi</i> , lower left corner, 1563, Winterthur, Oskar Reinhart collection.
387d	<i>Suicide of Saul</i> , lower left corner on two rocks, 1562, Vienna, Kunsthistorisches Museum © Kunsthistorisches Museum.
387e	<i>Two Monkeys</i> , lower left corner, 1562, Berlin, Staatliche Museen, Gemäldegalerie © ROBERTS-JONES 1997, fig. 213, p. 193.
387f	<i>Beggars</i> , lower left corner, 1568, Paris, Louvre © ROBERTS-JONES 1997, fig. 258, p. 231.
387g	<i>Adoration of the Magi</i> , lower right corner, 1564, London, National Gallery © ROBERTS-JONES 1997, fig 146, p. 130.
387h	<i>Christ and the Adulterous Woman</i> , lower left corner, 1565, Courtauld Institute of Art, Count Antoine Seilern Collection © ROBERTS-JONES 1997, fig. 155, p. 139.
387i	<i>Tower of Babel</i> , lower left, on stone block, 1563, Vienna, Kunsthistorisches Museum © SEIPEL 1998, p. 61.
387j	<i>Conversion of Paul</i> , lower right on rock, 1567, Vienna, Kunsthistorisches Museum © SEIPEL 1998, back cover.
387	<i>Census at Bethlehem</i> , lower right corner, 1566, Brussels, Musées Royaux des Beaux-Arts de Belgique © IRPA.
387l	<i>Faith</i> , from the series of <i>Virtues</i> , 1559, pen and brown ink, Amsterdam, Rijksmuseum, Rijksprentenkabinet © ROBERTS-JONES 1997, figs 215, pp. 195.
387m	<i>The Painter and the Connoisseur</i> , lower left, around 1565, pen and brown ink (Vienna, Graphische Sammlung Albertina) © ROBERTS-JONES 1997, fig. 265, p. 235.
387n	<i>The Calumny of Apelles</i> , three details, 1565, brown wash and white highlights on tinted paper, London, British Museum © ROBERTS-JONES 1997, fig. 153, pp. 136-7.
388	Hole in ice, lower edge.
389	Fingerprints in other paintings by Bruegel the Elder. a <i>Flemish Proverbs</i> © IRPA, b <i>Flemish Proverbs</i> , detail of a, c <i>Triumph of Death</i> © IRPA, d <i>Census at Bethlehem</i> , e <i>Battle between Carnival and Lent</i> © SEIPEL 1998, p. 21.
390	Reverse of panel. a whole reverse © IRPA, b detail, wax seal © IRPA.
391	Loss, upper left edge. a upper left corner of panel, d detail of damage, photographed with binocular microscope at a magnification of x 25.
392	Infrared reflectogram.

393	Normal light details showing underdrawing. a roofline, b bridge, c house, d river bank, e detail of d.
394	Changes during underdrawing. a Gabled windows, upper right © IRPA b lower edge of church spire.
395	Bird trap. a normal light, b x-radiograph.
396	Centre right of painting, x-radiograph.
397	Abandoned motif to right of bird trap. a lower right © IRPA, b detail of a) showing unidentified underdrawn and underpainted form, c x-ray detail.
398	Pieter Bruegel the Elder, <i>Adoration of the Magi</i> . Details in normal light showing underdrawing. a upper edge. Notice branch in underdrawing, not carried through to final paint layer, b lower edge.
399	Pieter Bruegel the Elder, <i>Haymaking</i> , private collection, Hungary (formerly Prague, Národní Galerie v Praze) © Prague, Národní Galerie v Praze.
400	Pieter Bruegel the Elder, <i>Tower of Babel</i> , Vienna, Kunsthistorisches Museum. a normal light detail © MARJNISSEN 1988, p. 218, b infrared detail (photograph of unpublished poster in 1969 Bruegel exhibition).
401	Underdrawn logs in the <i>Winter Landscape with Bird Trap</i> and Bruegel the Elder's <i>Census at Bethlehem</i> . a <i>Winter Landscape with Bird Trap</i> , b <i>Census at Bethlehem</i> © IRPA.
402	Pieter Bruegel the Elder, <i>Wooded Landscape with a Distant View toward the Sea</i> , 1554, infrared. Black chalk underdrawing © ROTTERDAM-NEW YORK 2001, fig. 80, p. 107.
403	Frozen river.
404	Town on horizon. a detail, town, b microscopic detail, photographed with binocular microscope at x 16.
405	Wet-in-wet brushwork. a Snowy rooftops, branches of trees painted into soft snow paint, b Church spire, icicles deftly painted into wet paint.
406	Background figure, painted on top of hardened snow paint.
407	Blue icicles.
408	Birds, painted amongst the final details. a black bird on lower right river bank, b birds in bushes, lower right © IRPA for both images.
409	Figure on river bank.
410	House, centre left. a normal light detail, b x-radiograph.
411	The two details shown have a close compositional structure. a <i>Winter Landscape with Bird Trap</i> , shown in reverse of its normal orientation © IRPA, b lower left of <i>Hunters in the Snow</i> © SEIPEL 1998, p. 107.
412	Bruegel the Elder, <i>Hunters in the Snow</i> , detail, bird trap © SEIPEL 1998, p. 112.
413	Bruegel the Elder, <i>Gloomy Day</i> , detail, pollarded tree © SEIPEL 1998, p. 91.
414	Bruegel the Elder, holes in ice in different winter scenes. a <i>Winter Landscape with Bird Trap</i> , b <i>Census at Bethlehem</i> , c <i>Adoration of the Magi</i> , d <i>Hunters in the Snow</i> © SEIPEL 1998, frontispiece.
415	Corresponding figure motifs in different winter scenes by Bruegel the Elder. a <i>Winter Landscape with Bird Trap</i> , b <i>Hunters in the Snow</i> , © SEIPEL 1998, p. 113, c <i>Adoration of the Magi</i> .
416	Children on ox jaw bone sleds in different winter scenes by Bruegel the Elder. a <i>Winter Landscape with Bird Trap</i> , b <i>Hunters in the Snow</i> , © SEIPEL 1998, p. 113, c <i>Census at Bethlehem</i> , d <i>Ice Skating before the Gate of St. George</i> , 1558, private collection © CAT. ROTTERDAM-NEW YORK 2001, p. 174, e <i>Adoration of the Magi</i> , 1563.
417	Children playing with toupees (spinning tops) in different winter scenes by Bruegel the Elder. a <i>Winter Landscape with Bird Trap</i> , b <i>Hunters in the Snow</i> (plus game of curling) © SEIPEL 1998, p. 110-11, c <i>Census at Bethlehem</i> © IRPA.
418	Game of curling in <i>Winter Landscape with Bird Trap</i> .
419	Man with stick in different winter scenes by Bruegel the Elder. a <i>Winter Landscape with Bird Trap</i> , b <i>Census at Bethlehem</i> .
420	Corresponding figures in <i>Hunters in the Snow</i> and <i>Winter Landscape with Bird Trap</i> , those in the latter a direct inversion of those in the former. a <i>Winter Landscape with Bird Trap</i> , b <i>Hunters in the Snow</i> © SEIPEL 1998, p. 113.
421	<i>Winter Landscape with Bird Trap</i> , detail. The meaning of the gesture of the man raising his arm is totally incomprehensible.
422	Two figures at edge of ice. a <i>Winter Landscape with Bird Trap</i> , b <i>Hunters in the Snow</i> © SEIPEL 1998, p. 113.
423	<i>Census at Bethlehem</i> , child scaring birds © ROBERTS-JONES 1997, p. 186.
424	Background details from <i>Census at Bethlehem</i> . a bank of frozen pond, upper left, b building site, upper right.
425	Magpies, painted similarly in <i>Winter Landscape with Bird Trap</i> , <i>Census at Bethlehem</i> and <i>Magpie on the Gallows</i> . a <i>Winter Landscape with Bird Trap</i> , b <i>Census at Bethlehem</i> © ROBERTS-JONES 1997, p. 186), c <i>Magpie on the Gallows</i> , signed and dated 1568, Darmstadt, Hessisches Landesmuseum © ROBERTS-JONES 1997, p. 179.
426	Thickly applied dabs of white paint for fallen snow are comparable in the <i>Winter Landscape with Bird Trap</i> and Bruegel's <i>Census at Bethlehem</i> . a <i>Winter Landscape with Bird Trap</i> , b <i>Census at Bethlehem</i> .
427	<i>Winter Landscape with Bird Trap</i> , figure details. a background figure on pond, b pair of background figures on pond, c red hat of foreground figure on pond, d foreground figure on pond.
428	Comparison between painting style in women's draperies in <i>Census at Bethlehem</i> and <i>Winter Landscape with Bird Trap</i> ? a <i>Winter Landscape with Bird Trap</i> , b detail of a), c <i>Census at Bethlehem</i> .

429	<i>Winter Landscape with Bird Trap</i> . Examples of versions attributed to Pieter Brueghel the Younger. a Museo del Prado, cat. no 2045, not signed © Museo del Prado, b Rome, Galleria Doria Pamphilj, inv. 316/418, not signed © Galleria Doria, c private collection, signed, 'P. BRVEGHEL' © ERTZ 1998, no. 132, d private collection, signed and dated, 'P. BRVEGHEL 1604' © ERTZ 1998, no. 130, e Vienna, Kunsthistorisches Museum, inv. 625, signed and dated 1601 © Kunsthistorisches Museum, f private collection, sold at Christie's, London, 12 December 2001 signed, 'P. BREVGH[-]' © Christie's.
430	Copies and pastiches of the <i>Winter Landscape with Bird Trap</i> by other artists. a Abel Grimmer, MRBAB, inv. 4666 © MRBAB, b Abel Grimmer, private collection © CAT. DE JONCKHEERE 1999-2000, cat. no. 25, c Gillis Mostaert, private collection © CAT. DE JONCKHEERE 1999-2000, d Hendrick Avercamp, Kunsthistorisches Museum, inv. 140, e Pieter Gysels, copper panel, Prague, Narodni Galerie v Praze, inv. O.10143 © CAT. MAASTRICHT-BRUSSELS 2001-2, p. 166, f Matthew Molanus, Paris, Gal. D'Art St. Honoré © ERTZ 2000, fig. 494, p. 585, g 'Rosenborg master', Copenhagen, Schloss Rosenborg © ERTZ 2000, fig. 496, p. 587, h Jan Brueghel the Elder, Milan, Ambrosiana, actual size © ERTZ 2000, fig 493, p. 584, i follower of Jan Brueghel the Elder [?], unknown location © ERTZ 2000, fig. 444, p. 584; j Jacob Grimmer or unknown master, private collection © MARLIER-FOLIE 1969, fig. 293, p. 452, k private collection, signed and dated G[?] VAN HOE[T] F 160[4] © CAT. MAASTRICHT-BRUSSELS 2001-2, p. 167.
431	<i>Winter Landscape with Bird Trap</i> , 38.4 x 56.5 cm, signed and dated 16[-]2, Mayer van den Bergh museum, inv. 55, cat. 145. a recto © IRPA, b recto, raking light. The horizontal wood grain of this single plank is clearly visible.
432	<i>Winter Landscape with Bird Trap</i> , Mayer van den Bergh museum a verso, b detail, verso. guild marks, d detail, verso, 'A' brand.
433	The streaky brushwork of the <i>imprimatura</i> is visible in through the thin paint. a upper right corner, vertical and adjoining diagonal brushstrokes come from the underlying <i>imprimatura</i> layer, b notice the horizontal strokes of the <i>imprimatura</i> through the tree and houses, c magnified detail of lower left showing exposed streaky <i>imprimatura</i> layer in centre of image, probably in an unpainted reserve in the snow paint, d detail from a privately owned version, signed 'P. BREVGHEL'. This detail reveals a similar streaky <i>imprimatura</i> underneath the thinly applied sky paint.
434	Cross-sections. a Mayer van den Bergh, water, bottom edge, x 400, b Mayer van den Bergh, sky, x 200, c Mayer van den Bergh, sky, x 400, d sky, as in b, stained for protein, e Private collection, sky, x 400, f private collection, as in e, stained for protein, g, Mayer van den Bergh, snow on building, x 400.
435	<i>Winter Landscape with Bird Trap</i> , Mayer van den Bergh museum, infrared reflectogram. a whole IRR mosaic, b detail mosaic, central part, reassembled with less contrast, c detail mosaic, trap, reassembled with less contrast.
436	Small adjustments in outline between the drawing and painting stages. a seated figure in boat, b figure to left of mother and child motif.
437	Holy Family and figures on bridge. a Holy Family, b figures on bridge.
438	X-radiograph, details. a Original version, detail, x-radiograph, b Mayer van den Bergh, detail, x-radiograph.
439	Church spire. a original version, normal light detail, b original version, detail, x-radiograph, c Mayer van den Bergh, normal light detail, d Mayer van den Bergh, detail, x-radiograph.
440	Figure on river bank. a original version, normal light detail, b original version, detail, x-radiograph, c Mayer van den Bergh, normal light detail, d Mayer van den Bergh, detail, x-radiograph.
441	Lower right corner of paintings, x-radiograph. a original version, b Mayer van den Bergh.
442	The figures are painted directly on the ice paint with no reserves.
443	Fine tree branches painted wet-in-wet into sky paint.
444	Town on horizon, painted wet-in-wet into sky paint.
445	Impasted dabs of white paint for snow, painted on dry underlayer.
446	Superposition of author's tracings of two copies over original version a Author's tracing of painted composition of Mayer van den Bergh version placed over scaled photograph of original version, b author's tracing of outlines of scaled infrared photograph of privately owned copy placed over scaled photograph of original version, c author's tracing of painted composition of Mayer van den Bergh version placed directly over original painting, d tracing of painted composition of Mayer van den Bergh version and tracing of outlines of scaled infrared photograph of privately owned copy superposed, using Adobe Photoshop (Mayer version in blue)..
447	Houses, original and copies. a original version, b Mayer van den Bergh, c privately owned copy, signed, 'P. BREVGHEL' (ERTZ 1998, no. 132).
448	House, original and copies. a Original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130).
449	Figures, original and copies. a original version, b Mayer van den Bergh, c privately owned copy, signed, 'P. BREVGHEL' (ERTZ 1998, no. 132).
450	Church, with magpie in tree, original and copies. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130).
451	Birds in lower right, original and copies. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130).
452	Tree branches. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130), d privately owned copy, signed, 'P. BREVGHEL' (ERTZ 1998, no. 132).

453	Bird trap. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130), d privately owned copy, signed, 'P. BREVGHEL' (ERTZ 1998, no. 132).
454	Snow-covered bushes. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130), d privately owned copy, signed, 'P. BREVGHEL' (ERTZ 1998, no. 132).
455	River bank. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130), d privately owned copy, signed, 'P. BREVGHEL' (ERTZ 1998, no. 132).
456	River bank. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130), d privately owned copy, signed, 'P. BREVGHEL' (ERTZ 1998, no. 132).
457	Bend of river. a original version, detail, bend of river b detail of a), c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130).
458	Distant landscape. a original version, b Mayer van den Bergh, c privately owned copy, signed and dated, 'P. BRVEGHEL 1604' (ERTZ 1998, no. 130).
459	<i>Winter Landscape with Bird Trap</i> , Hassid version © Apollo magazine, 1954, p. 1.
460	Possible reference marks for centring a design or tracing paper. a original version, centre of composition, b Mayer van den Bergh, centre of composition.
<i>Adoration of the Magi</i>	
461	Pieter Bruegel the Elder, <i>Adoration of the Magi</i> , 34.5-35 x 54.9-55.2 cm, signed and dated 1563, Winterthur, Dr. Oskar Reinhart Collection 'Am Römerholz' © ROBERTS-JONES 1998, fig. 195, p. 177.
462	Signature, lower left. The last three Roman numerals clearly read 'III', rather than 'VII' as was previously assumed.
463	Reverse of panel. a verso, b detail, scratched-out stamp.
464	Side branches to logs, either part of underdrawing or applied early during painting, dropped during painting.
465	Details from x-radiograph of original version. a reserve for kneeling king in snow paint, b reserve for figure on steps, c reserve for tree trunk in snowy roof.
466	Detail from <i>Adoration of the Magi</i> by Bruegel the Elder © ROBERTS-JONES 1998, p. 178.
467	Comparison of motifs of <i>Adoration of the Magi</i> with other paintings by Bruegel the Elder. a <i>Adoration of the Magi</i> , detail, figures under tent, b <i>Census at Bethlehem</i> , detail, figures under shelter, c <i>Census at Bethlehem</i> , detail, figures around <i>The Swan</i> inn, d <i>Adoration of the Magi</i> , detail, Virgin and Child and kings, e <i>Adoration of the Magi</i> , London, National Gallery, detail, figures behind Virgin, infrared photograph © National Gallery, London.
468	Pieter Brueghel the Younger, <i>Adoration of the Magi</i> , 36.4 x 56.8 cm, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 9132, signed in lower left, 'P. BREVGHEL'. a recto © CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 15, p. 153, b verso
469	Pieter Brueghel the Younger, <i>Adoration of the Magi</i> , 36.1 x 56.6 cm, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 797, signed, 'P. BREVGHEL'. a recto, b verso © IRPA for both images.
470	Brussels version. Four corners of painting, including signature in lower left.
471	Antwerp version. Four corners of painting, including signature in lower left.
472	Antwerp guild marks burned into the reverse of the Brussels version. a Brussels version, detail, Antwerp brand and clover stamp, b Antwerp version, detail, clover stamp.
473	Cross-section of blue sky, before and after staining with acid fuchsine to test for the presence of protein in the <i>imprimatura</i> layer. a Cross-section of sky, before staining, b Cross-section of sky, after staining with acid fuchsine.
474	Infrared reflectograms of the Brussels and Antwerp versions of the <i>Adoration of the Magi</i> , a Brussels version, b Antwerp version.
475	Antwerp version. Reserves in the snow and sky paint can be observed for most of the figures, animals and architecture. a figure carrying sack on back, b dog, c chimney.
476	Trouser hose. a Brussels version, b Antwerp version.
477	Wet-in-wet brushwork. a Brussels version, b Antwerp version.
478	Wet-in-wet brushwork. a Brussels version, b Antwerp version.
479	Most other fine detail is applied on a dry underlayer, such as Brueghel's trademark blue icicles, snow settled on tree branches and sparkling white highlights on soldiers' armour. a Brussels version, b Antwerp version.
480	Kneeling kings, lower left. a Brussels version, b Antwerp version.
481	Faces. a Brussels version, b Antwerp version.
482	Faces. a Brussels version, b Antwerp version.
483	Faces. As in fig. 18.
484	Small girl sledding on the ice. a Brussels version, b Antwerp version.
485	Figure on steps carrying a bucket of water. a Brussels version, b Antwerp version.
486	Annotated photocopy of <i>Adoration of the Magi</i> showing lengths measured for comparison from original and Brussels and Antwerp copies.
487	Correlation between the proportions of the composition of the original version and the Brussels and Antwerp copies. a original version versus copies, b Antwerp versus Brussels copy.

488	Author's tracings of the compositions of the copies laid over a scaled reproduction of the original version. a Brussels version laid over original, b Antwerp version laid over original.
489	The author's tracings of the painted compositions of the copies superposed. a tracings superposed, b tracings superposed, using Adobe Photoshop (Antwerp version in blue).
490	Two copies showing an unusually high fidelity of colour and motif to Bruegel the Elder's original version. a original version by Bruegel the Elder © ROBERTS-JONES 1998, fig. 195, p. 177, b private collection (former Dimier collection) © CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 20, p. 158, c private collection (former Lainé collection) © Giroux sale catalogue, 2 April 1954, no. 567.
491	Four like copies: these are the same variant of the composition. a Brussels version © CAT MAASTRICHT-BRUSSELS 2001-2, cat 15, p. 153, b Antwerp version, c Gal. Robert Finck 1987 © Robert Finck, d De Jonckheere 1991, no. 9, signed, 'BREVGHEL' © De Jonckheere.
492	Set of two like copies. a London, Richard Green Gallery 1999, earliest dated version, 1606 © CAT. MAASTRICHT-BRUSSELS 2001-2, cat. 16, p. 154, b privately owned version (Vienna, St. Lucas Gal. before 1930) © ERTZ 2000, fig. 214, p. 301.
493	A further pair of two extremely similar copies. a privately owned version, Portugal © CAT. MAASTRICHT-BRUSSELS 2001-2, cat 21, p. 159, b privately owned version (Xaver Scheidwimmer, Munich 1998) © Xaver Scheidwimmer.
494	Pair of copies showing an entirely different arrangement in the sky. a Abel Grimmer (?), Národní Galerie in Prague © ERTZ 2002, fig. 222, p. 305, b Brueghel the Younger, signed and dated 'P. BREVGEL I. 1620', Belgian private collection (exhibited Gal. d'Art St. Honoré, Paris 1990) © Gal. d'Art St. Honoré.
495	Group around Virgin, lower left, infrared. a Brussels version, b Antwerp version, c Bonnefantenmuseum version © Bonnefantenmuseum, d superposition of the Antwerp version's underdrawing over the Brussels version's drawing (Antwerp in red), e as in d, tracings of paint layer
496	Infrared photographic details from Bruegel the Elder's version of <i>Adoration of the Magi</i> , National Gallery, London. a Virgin, b kneeling king, c gold covered cup © London, National Gallery for all three images.
497	<i>Adoration of the Magi</i> , larger, vertical format, by Bruegel the Elder and a copy by his elder son. a Pieter Bruegel the Elder, <i>Adoration of the Magi</i> , 111.1 x 83.5 cm, signed and dated 1564, London, National Gallery (DAVIS 1968, cat. 3556) © ROBERTS-JONES, fig. 146, p. 130, b Pieter Brueghel the Younger, <i>Adoration of the Magi</i> , 108 x 86.5 cm, signed 'P. BREVGHEL', private collection (sold Sotheby's London, 19 April 1989, lot. 24) © Sotheby's.
<i>Peasant Lawyer</i>	
498	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 76.4-76.6 cm x 123.5-123.7 cm, signed and dated in lower left, 'P. BREVGHEL. 1621', Museum voor Schone Kunsten, Ghent, inv. 1952-G, on deposit from the Flemish Community. a recto © IRPA, b signature, c verso © IRPA.
499	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 54.5-54.7 cm x 87.1-87.6 cm, signed and dated in lower left, 'P. BRE[-]HEL. 1620', Groeningemuseum, Bruges, inv. 0.1606. a recto, b signature, c verso © IRPA all three images.
500	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 75.2 x 122 cm, unsigned, France, private collection (Gal. d'Art St. Honoré after 1998).
501	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 55.9 x 90.2 cm, signed and dated, 'BREVGHEL 1618', private collection, Uruguay. a recto, b signature.
502	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 73 x 105 cm, signed and dated 'P. BREVGHEL.1618.', Maastricht, Bonnefantenmuseum, inv. 3816. a recto, b signature.
503	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 54 x 84.9 cm, signed and dated 'P. BREVGHEL. 1618', Norwich, Castle Museum, inv. NWHCM: 1975.272: F. a recto, b detail including part of signature.
504	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 77.2 x 124.7 cm (sight size), unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 646. a recto © IRPA, b verso.
505	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 55.2 x 87.6 cm, signed, 'P. BREVGHEL', France, private collection (Gal. St. Honoré 1994) © IRPA.
506	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 71 x 103.6 cm, unsigned, private collection, Munich-Milwaukee.
507	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 73.3 x 104.5 cm, unsigned Bonn, Rheinisches Landesmuseum, inv. 59.378.
508	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , copper panel, 28.9 x 35.6 cm, unsigned, Berlin, Deutsches Historisches Museum, inv. ICN44 D211. a recto, b verso.
509	Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , 76.2-3 x 141.6-142.8 cm, unsigned, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 2978.
510	Detail of dowel, x-radiograph, Ghent version.
511	Four corners of Bruges panel, incised markings.
512	Branding, Bruges version, reverse. a detail of reverse, b detail of castle, c detail of hands.
513	False branding, Brussels version © IRPA.
514	Branding, Bonn panel, reverse. a verso, b detail, hands and castle of Antwerp, c monogram, d unidentified marking in upper right.
515	Diagonal strokes of <i>imprimatura</i> visible through light paint, upper right window panes, Bruges version. a normal light, b x-radiograph.
516	Ghent version. a white document, b wood door, c red/grey paint of woman bending, d grey floor.

517	Underdrawing, Bruges version, detail, infrared.
518	Adjustment during drawing, nose of bending woman, infrared. a Ghent version, b Norwich version.
519	Adjustment during drawing, scribe's shirt opening and position of drawing tablet, France, private collection, infrared.
520	Adjustment during drawing, bag of papers, upper left, Ghent version, infrared.
521	Adjustment during painting, direction of hooks, Ghent version, infrared.
522	Underdrawing, infrared. a Ghent, b Maastricht.
523	Lawyer, detail, infrared. a Ghent, b Privately owned, France (Paris, Gal. St. Honoré, after 1998), c Maastricht, d Bruges, e Uruguay, f Norwich.
524	Face of figure in far left, infrared. a Ghent, b Privately owned, France (Paris, Gal. St. Honoré, after 1998), c Maastricht, d Bruges, e Uruguay, f Norwich.
525	Scribe, infrared. a Ghent, b Privately owned, France (Paris, Gal. St. Honoré, after 1998), c Maastricht, d Bruges, e Uruguay, f Norwich.
526	Face of figure waiting to be heard, infrared. a Ghent, b Privately owned, France (Paris, Gal. St. Honoré, after 1998), c Maastricht, d Bruges, e Uruguay, f Norwich.
527	Figure far right, infrared. a Ghent, b Privately owned, France (Paris, Gal. St. Honoré, after 1998), c Maastricht, d Bruges, e Uruguay, f Norwich.
528	Hands, infrared. a Ghent, b Privately owned, France (Paris, Gal. St. Honoré, after 1998), c Maastricht, d Bruges, e Uruguay, f Norwich.
529	Antwerp version, infrared. a lawyer, b legs of central figure and arm and face of woman bending, c documents on floor.
530	Berlin version, underdrawing, infrared.
531	Bonn version, underdrawing, detail of lawyer, infrared
532	Munich version, underdrawing, detail of lawyer, infrared.
533	Reserve in the purple socks for the cane, Bruges version.
534	Reserve in the dark wall paint for ropes, infrared. a privately owned version, France (Paris, Gal. St. Honoré, after 1998), b Antwerp version.
535	Bright turquoise blues in Maastricht version.
536	Reds. a Ghent © IRPA, b Ghent © IRPA, c Maastricht, d Bruges.
537	Head covering of bending woman. a Ghent, b Maastricht, c Bruges, d Norwich, e France, private collection (Gal. St. Honoré 1994).
538	Wet-in-wet seams. a Maastricht, b Norwich.
539	Window leads. a Bruges, b Ghent.
540	Diamond-shaped green glass insert in central window. a Ghent, b Maastricht, c Bruges.
541	Socks. a Ghent, b Maastricht, c private collection, France (Paris, Gal. St. Honoré, after 1998), d Bruges, e Norwich, f private collection (Paris, Gal. St. Honoré 1994).
542	Socks and sleeves. a Ghent, b Maastricht, c Bruges, d, Norwich e France, private collection (Gal. St. Honoré 1994), f Ghent, g Maastricht, h Bruges.
543	Basket of eggs. a Ghent, b Maastricht, c Bruges, d France, private collection (Gal. St. Honoré 1994).
544	Bowl of sand. a Ghent, b Maastricht, c Bruges.
545	Face of figure, far right. a Ghent, b Maastricht, c France, private collection (Paris, Gal. St. Honoré, after 1998), d Bruges, e Uruguay, f Norwich, g France, private collection (Paris, Gal. St. Honoré 1994).
546	Face of figure, far right, paintings from outside Brueghel's studio. a Antwerp, b Antwerp, detail, c Bonn, d Brussels, e Munich, f Berlin.
547	Drapery, lawyer. a Ghent, b Maastricht, c France, private collection (Paris, Gal. St. Honoré, after 1998), d Bruges, e Uruguay, f Norwich.
548	Drapery, lawyer, paintings from outside Brueghel's studio. As in 52, 54, 56 and 58. a Antwerp, b Bonn, c Brussels, d Munich, e Berlin.
549	Hand of lawyer. a Ghent, b Maastricht, c France, private collection (Paris, Gal. St. Honoré, after 1998), d Bruges, e Uruguay, f Norwich.
550	Hand of lawyer, paintings from outside Brueghel's studio. As in 52, 54, 56, 58 and 60. a Antwerp, b Bonn, c Brussels, d Munich.
551	Pamphlet of 1618. Nuremberg, Germanisches Nationalmuseum © Germanisches Nationalmuseum. a whole pamphlet, b detail, engraving.
552	Plaited straw variant. a 74 x 124 cm, unsigned, Christie's, London 11 July 2001 © Christie's London 2001, p. 28, b 55.2 x 87.6 cm, signed 'P. BREVGHEL', France, private collection (Paris, Gal. St. Honoré 1994) © ERTZ 2000, fig. 371, c 75 x 124 cm, signed, 'P.BREVGHEL.', Christie's, London, 8 December 1995 © Christie's London 1995, p. 18.
553	Dark cloth variant. a 57 x 86.5 cm, signed and dated 1619, Paris, Gal. Gismondi, Biennale Paris, after 1985 © Christie's New York 1984, p. 126, b 76 x 124 cm, signed and dated, 'P. BRVEGHEL, 1616', private collection, Spain, 1998 © ERTZ 2000, fig. 370, c 58 x 89 cm, signed and dated 1618, private collection, Courtrai 1969 © Finck 1969, no. 15.
554	Superpositions of author's tracings of three medium format versions. a Maastricht/Ghent, b Maastricht/France, private collection (Paris, Gal. St. Honoré, after 1998), c Ghent/France, private collection (Paris, Gal. St. Honoré, after 1998), d Ghent/France, private collection (Paris, Gal. St. Honoré, after 1998), aligned on left figures.

555	Superpositions of three small format versions. a Bruges/Uruguay, b Bruges/Norwich, c Norwich/Uruguay, central alignment, d Norwich/Uruguay, left alignment.
556	Scan of tracing of Bruges version reduced to fit scan of paint layer of Ghent version. a overall view, aligned in centre, b overall view, centred on architectural elements, upper left.
557	Superposition of author's tracings of Antwerp and Maastricht versions.
558	Antwerp version, infrared.
559	Various superpositions of author's tracings of Bonn and Munich versions with copies from Brueghel's studio. a Bonn/Ghent, b Bonn/Bruges, c Munich/Ghent, d Munich/Bruges, e Bonn/Munich.
Wedding Dance	
560	<i>Wedding Dance in the Open Air</i> , 40.05-40.3 cm x 55.5-55.7 cm, Ghent, Museum voor Schone Kunsten, inv. 1914 C-J. a whole front, b reverse © IRPA for both images.
561	<i>Wedding Dance in the Open Air</i> , 38.5 x 51.5 cm, Brussels, Musées Royaux des Beaux-Arts de Belgique, Delporte Bequest, inv. 8725. a whole front, b reverse, c signature.
562	Brussels version, seals on reverse of painting.
563	Branding. a after Pieter Brueghel the Younger, <i>Peasant Lawyer</i> , Bonn version, recto, detail, brand marks of Antwerp Guild of Saint Luke and unidentified maker's marks, b <i>Good Shepherd</i> , signed and dated, 'P. BREVGHEL.1616.', recto, detail, Antwerp brand and Michiel Claessens' clover stamp, c <i>Wedding Dance</i> , Ghent version, detail, Antwerp brand and Michiel Claessens' clover stamp, d rubbings of brand marks from aforementioned paintings.
564	Brussels version, infrared reflectogram.
565	Ghent version, infrared reflectogram.
566	Detail of female face showing thin, grey, streaky <i>imprimatura</i> layer underneath paint. a Brussels version, b Ghent version.
567	Cross-sections from the Ghent version. a pink drapery, showing drawing layer above <i>imprimatura</i> , b discoloured red drapery, c light green stalk of grass on earth, d grass, e sky, f sample site for 567a.
568	Ghent version, loss in white headdress exposing particles of black underdrawing, photographed with the binocular microscope at x 25 magnification.
569	Cross-section from <i>Massacre of the Innocents</i> , 73.3-74.25 x 105-105.1 cm, signed, 'P. BREVGHEL', Antwerp, Museum voor Schone Kunsten, inv. 832. a normal light, b polarised light.
570	Ghent version, three figures in upper right, added during painting. a two figures, upper right (the proper right foot of the male figure is a retouching on a loss), b detail, revealing green paint through abraded raised crack in red skirt, c woman urinating, upper right, d detail of c, showing how fine black paint is used to outline the bodice.
571	Enlarged detail, infrared reflectogram. a Brussels version, b Ghent version.
572	Rough, hand drawn, zigzag markings near the bottom edge of the painting. a unexplained markings, b detail of markings, binocular microscope, magnification factor x 16, c detail of markings, binocular microscope, magnification factor x 25.
573	Brussels version, drying cracks in original paint.
574	Reserves for tree trunks and important side branches in the sky paint, details from x-radiographs. a Brussels version, b Ghent version.
575	Adjacent zones of colour, detail from female dancer. a Brussels version, b Ghent version.
576	Apron of female dancer. a Brussels version, b detail of a, c Ghent version, d detail of c.
577	Woolly blue hat. As in 576. a Brussels version, b Ghent version.
578	Blue paint from a skirt inadvertently overlaps the nose of a dancer in the Ghent version. a Ghent version, detail, blue skirt partially covering nose, b detail of a, c Brussels version, same detail.
579	Final detail. Green transparent strokes denote laces of bodice. a Brussels version, b Ghent version.
580	Final details. Red paint indicates ribbon on tree and fine black outlines reinforce the tree branch (in both cases the tree branch is painted on a reserve in the sky paint). a Brussels version, b Ghent version.
581	Dark glazes and light scumbles in the grass. a Ghent version, detail, foot, green highlight, b Ghent version, light green vertical strokes near a foot, c Brussels version, as in b, d Brussels version, dark green strokes in between male dancer's legs, e Ghent version, as in d.
582	Ghent version, discolouration of vermilion reds. a Shirt of male dancer © IRPA, b detail of a, c male dancer on left, discoloured trouser hose and cap, d detail of c.
583	SEM/EDX spectrum for crushed fragment of discoloured vermilion.
584	Sample sites for x-ray fluorescence.
585	Faces. a-c Ghent version, d-f Brussels version.
586	Background faces. a-b Ghent version, c-d Brussels version.
587	Hands. a Brussels version, b Ghent version.
588	Wet-in-wet seam in Ghent version. a Brussels version, b Ghent version.
589	'Reserved' seams in both versions. a Brussels version, b Ghent version.
590	Background foliage. a Brussels version, b Ghent version.
591	Leaves. a-c Brussels version, d-f Ghent version.
592	Ghent version. a Upside-down 'v' notations, b detail of a, taken with the binocular microscope at x 25 magnification, c Fan-like brushmarks, taken with binocular microscope at x 10 magnification.

593	Grass along the right side is suggested by vertical paint strokes of white, light green and dark green. a Brussels version, b Ghent version.
594	Grass, foreground. a Brussels version, b Ghent version.
595	Tree trunks. a Brussels version, b Ghent version.
596	Ferns. a Brussels version, Ghent version.
597	Bride. a Brussels version, b Ghent version.
598	Face of male dancer in foreground. a Brussels version, b Ghent version.
599	Face of dancer with red cap in foreground. a Brussels version, b Ghent version.
600	Male figures, centre left. a Brussels version, b Ghent version.
601	Two figures dancing, midground. a Brussels version, b Ghent version.
602	Two figures embracing, upper left. a Brussels version, b Ghent version.
603	Background figures. a Brussels version, b Ghent version.
604	Two male figures, centre background. a Brussels version, b Ghent version.
605	Male face, centre background. As in 604. a Brussels version, b Ghent version
606	<i>Adoration of the Magi</i> , signed, Antwerp, Koninklijk Museum voor Schone Kunsten, detail, faces.
607	Hatching for tone in paint layer. a-c Brussels version, d-f Ghent version.
608	Ghent and Brussels compositions superposed. a Author's tracings superposed, b Illustration made by scanning the author's tracings of the painted compositions of the two works and superposing them using Adobe PhotoShop software.
609	Pieter Brueghel the Younger, <i>Wedding Dance in the Open Air</i> , 41 x 61.5 cm, unsigned, private Belgian collection (former Coppée collection) © CAT. TOBU 1985, no. B25.
610	Pieter Bruegel the Elder, <i>Peasant Wedding Dance</i> , 119 x 157 cm, dated 'M.D. LXVI', Detroit, Institute of Arts, inv. 30.371 © MARIJNISSEN 1988, p. 293.
611	Pieter Brueghel the Younger, <i>Peasant Wedding Dance</i> , fragment, 18 x 64 cm, oil on wood, Brussels, private collection © MARLIER-FOLIE 1969, p. 185, fig. 105.
612	After Pieter Brueghel the Elder, <i>Peasant Wedding Dance</i> , 115 x 166 cm, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 973. a recto, b detail, normal light, c detail, infrared, d detail, normal light, e detail, infrared.
613	Pieter van der Heyden, <i>Wedding Dance in the Open Air</i> , engraving, after 1570, engraving, first state or four, 37.5 x 42.3 cm, inscribed at lower left, 'P. BRVEGEL. INVENT', at lower centre, 'Aux quatre Vents', at lower right, 'PAME [monogram]', in lower margin, verses (cited in CAT. ROTTERDAM-NEW YORK 2001, p. 248), The Metropolitan Museum of Art, New York, Harris Brisbane Dick Fund, 1933, inv. 33.52.29 © CAT. ROTTERDAM-NEW YORK 2001, p. 249.
614	Pieter van der Borcht, engravings. a <i>Peasant Wedding</i> , 1560, engraving, The Metropolitan Museum of Art, New York, inv. 56.597.9 © CAT. ROTTERDAM-NEW YORK 2001, p. 250, fig. 105, b <i>Peasant Wedding Dance</i> © MORI 2001, p. 40, fig. 42.
615	The author's tracing of the painted composition of Pieter Brueghel the Younger's <i>Wedding Dance in the Open Air</i> (Ghent version) laid over Pieter van der Heyden's engraving using Adobe PhotoShop software.
616	Jan Brueghel the Elder, attributed, <i>Wedding Dance in the Open Air</i> , gouache on vellum, 16 x 20 cm, Galerie des Offices, Florence © MARLIER-FOLIE 1969, fig. 123, p. 204.
617	Jan Brueghel the Elder, <i>Wedding Dance in the Open Air</i> , oil on copper panel, 40 x 50 cm, Bordeaux, Musée des Beaux-Arts. a black and white image, showing quality of brushwork, b colour image © Musée des Beaux-Arts de Bordeaux/photographer Lysiane Gauthier for both images.
618	Tracing of Pieter Brueghel the Younger's Brussels version of <i>Wedding Dance in the Open Air</i> placed over a scaled reproduction of Jan Brueghel the Elder's Bordeaux version.
619	Martin van Cleve (?), <i>Wedding Dance in the Open Air</i> , 77 x 106 cm, unsigned, Brussels, Finck, December 1969, no. 22 © Finck 1969.
620	After Martin van Cleve, <i>Wedding Dance in the Open Air</i> , 73 x 105.5 cm, unsigned, London, Sotheby's, 3 July 1985, no. 38 © Sotheby's 1985.
621	After Martin van Cleve, <i>Wedding Dance in the Open Air</i> , 44.5 x 140.5 cm (fragment), Drouot, Paris, 4 December 2000 © Drouot 2000.
622	<i>Massacre of the Innocents</i> . a Pieter Brueghel the Elder, <i>Massacre of the Innocents</i> , 109.2 x 158.1 cm, London, Hampton Court, Royal Gallery, inv. 1270 © ROBERTS-JONES 1997, fig. 145, p. 129, b Martin van Cleve, <i>Massacre of the Innocents</i> , pen and ink drawing, 22 x 35.7 cm, signed in lower left 'van Cleef', Göttingen, Cabinet des Estampes of the University © MARLIER-FOLIE 1969, fig. 200, p. 334, c Pieter Brueghel the Younger, <i>Massacre of the Innocents</i> , signed, 'P. BREVGHEL', Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 8726.
623	Martin van Cleve or after, <i>Wedding Dance in the Open Air</i> , 39.5 x 50, Amsterdam, Bringenberg sale at Muller's, 17 June 1925, no. 196 (ERTZ 2000, cat. F945) © IRPA.
624	Pieter Brueghel the Younger [?], <i>Wedding Dance in the Open Air</i> , 40 x 47.5 cm, Quimper, Musée des Beaux-Arts, inv. 873-1-10 a Black and white reproduction © ERTZ 2000, fig. 574, p. 694, b colour reproduction © Jan De Maer.
625	Pieter Brueghel the Younger [?], <i>Wedding Dance in the Open Air</i> , 47 x 37 cm, Brussels, Giroux 1928 (ERTZ 2000, cat. F953) © ERTZ 2000, fig. 571, p. 692.
626	Pieter Brueghel the Younger [?], <i>Wedding Dance in the Open Air</i> , London, Sotheby's, 6 July 1988, no. 74 (ERTZ 2000, cat. F964) © Sotheby's 1988.

627	Pieter Brueghel the Younger, <i>Wedding Dance in the Open Air</i> , signed, 'P. BREVGHEL', Paris, De Jonckheere, 1990 (ERTZ 2000, cat. E941) © De Jonckheere 1990.
628	After Pieter Brueghel the Younger, <i>Wedding Dance in the Open Air</i> , London, Philips, 1 July 1997, no. 162 (ERTZ 2000, cat. A999a) © Philips 1997.
Part Two: Comparative Works	
629	<i>Christ Carrying the Cross</i> , 117-117.1 x 164.1 x 164.3 cm, signed and dated, 'P. BRVEGHEL./1603.', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 5006. a recto, b verso, c signature, lower left.
630	<i>Christ Carrying the Cross</i> , 109.35-109.6 x 164.1 x 164.4 cm, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 31. a recto, b verso.
631	<i>Christ Carrying the Cross</i> , lower right figures, infrared. a signed version, b unsigned version.
632	Pieter Bruegel the Elder, <i>Mule Caravan on Hillside</i> , c. 1552, 21.8 x 30.1 cm, pen and black-brown ink, signed and dated at bottom left of centre, barely readable and hatched over in red-brown ink, 'b...hel15...[52?]', Rotterdam, Museum Boijmans Van Beuningen, inv. 146 © CAT. ROTTERDAM-NEW YORK 2001, cat. 6, p. 94.
633	Pieter Brueghel the Younger or Jan Brueghel the Elder, <i>Mule Caravan on Hillside</i> , 21.7 x 30.2 cm, pen and brown ink, with green and blue wash, signed on rock in centre, 'BRVEGHEL 1603' [VE and HE joined] and in bottom left of centre, 'brueghel', Munich, Staatliche Graphische Sammlung, inv. 1097 © CAT. ROTTERDAM-NEW YORK 2001, cat. 7, p. 94.
634	Pieter Brueghel the Younger, <i>Christ Carrying the Cross</i> , signed version, infrared detail, upper left.
635	<i>Christ Carrying the Cross</i> , figures to left of Christ, infrared. a signed version, b unsigned version.
636	<i>Christ Carrying the Cross</i> , trees, infrared. a signed version, b unsigned version.
637	<i>Christ Carrying the Cross</i> , townscape background, infrared. a signed version, b unsigned version.
638	<i>Christ Carrying the Cross</i> , infrared. a Signed version, lower right detail, b Unsigned version, corresponding detail.
639	<i>Christ Carrying the Cross</i> , signed version, figure in lower right, infrared.
640	<i>Christ Carrying the Cross</i> , superposition of author's tracings of painted forms, whole composition. a aligned on figures in the centre, b aligned on figures to the left.
641	<i>Christ Carrying the Cross</i> , superposition of author's tracings of painted forms. a left figures, b figures around and including Christ, c the weeping woman, the figures standing to their left, and possibly the group of soldiers marching up the hill may have been part of the same cartoon fragment, d the small-scale figures in the upper right may have been partially indicated on a common cartoon, e the main buildings may possibly have been indicated on a common transfer document, but not the smaller ones, the latter probably present on a separate drawing, f as in e, overlay with Adobe Photoshop of scanned photographs of author's tracings.
642	<i>Christ Carrying the Cross</i> , diagram showing approximate location of cartoons.
643	<i>Christ Carrying the Cross</i> . a Pieter Bruegel the Elder, <i>Tower of Babel</i> , detail, background, 114 x 155 cm, dated 1563, Vienna, Kunsthistorisches Museum © ROBERTS-JONES 1997, p. 277, b Pieter Brueghel the Younger, <i>Christ Carrying the Cross</i> (signed and dated 1603), detail, townscape, c as in b.
644	<i>Crucifixion</i> , 100 x 149.4 cm (sight size), unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 962. a recto, b verso.
645	<i>Crucifixion</i> , detail, figures.
646	<i>Crucifixion</i> , detail, right side, infrared.
647	<i>Crucifixion</i> , townscape background.
648	<i>Flemish Proverbs</i> , 116.9-117.3 x 171.65-171.9 cm, signed and dated, 'P. BRVEGHEL 1607.', Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 46. a recto, b verso, c signature, lower left.
649	<i>Flemish Proverbs</i> , 125 x 170 cm, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 5111.
650	<i>Flemish Proverbs</i> , Lier and Antwerp versions, infrared details. a dogs and pig, Antwerp version, b dogs and pig, Lier version, c tarts on roof (notice also that these are reserved in the dark paint of the roof), Antwerp version, d tarts on roof, Lier version, e foreground figural group, Antwerp version, f foreground figural group, Lier version.
651	<i>Flemish Proverbs</i> , Lier version, detail, figure in centre of composition, infrared.
652	<i>Flemish Proverbs</i> , superposition of author's tracings of painted forms in Lier and Antwerp versions.
653	<i>Kermis with Theatre and Procession</i> , 110.35-110.6 x 164.1 x 164.4 cm, undated, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 6870. a recto, b verso.
654	<i>Kermis with Theatre and Procession</i> , fragment, 26.2-26.6 x 36.0-36.4 cm, undated, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 671. a recto, b verso © IRPA.
655	<i>Kermis with Theatre and Procession</i> , complete copy, details of edges. a detail, lower right edge, showing grey <i>imprimatura</i> , b detail, lower centre right edge showing paint layer of face stopping abruptly, about a centimetre in from the edge, c detail, face, showing grey <i>imprimatura</i> layer through losses.
656	<i>Kermis with Theatre and Procession</i> , complete copy, details of paint layer. a two faces, modelled quite thickly and in a relatively painterly manner, b detail, female face, showing vertical strokes of white paint under eye sockets, c face with eye painted in upside down 'v' notation, d leaves painted in blobs of green glaze.
657	<i>Kermis with Theatre and Procession</i> , underdrawings. a fragment, b complete copy, detail.
658	<i>Kermis with Theatre and Procession</i> , superposition of author's tracings of painted compositions.

659	<i>Massacre of the Innocents</i> , 120.5 x 167.5-168 cm, signed and dated, 'P. BRVEGHEL 16[-]4', Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 361. a recto, framed, b, front, black and white showing unpainted edges © IRPA, c verso © IRPA, d signature, lower right © IRPA.
660	<i>Massacre of the Innocents</i> , details, infrared. a upper centre: church and houses, b gabled rooftops and trees, c dog, d barrel, e left foreground, f right foreground.
661	<i>Bridal Procession</i> , 70.4 – 70.9 x 117.6-117.7 cm, signed, 'P. BREVGHEL', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 807. a recto, b verso, c signature.
662	<i>Bridal Procession</i> , details, infrared. a Bride's face, b male figures, c earth patterns, d church.
663	<i>Massacre of the Innocents</i> , 73.3-74.25 x 105-105.1 cm, signed, 'P. BREVGHEL.', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 832. a recto, b verso, c signature.
664	<i>Massacre of the Innocents</i> , 73.65-73.8 cm, signed and dated, 'P. BREVGHEL 16[-]4', Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 8726, Delporte Bequest 1973. a recto, b signature, c detail, date, binocular microscope, magnification factor: x 25.
665	<i>Massacre of the Innocents</i> , Antwerp and Brussels versions, details, infrared. a group including sleeve of soldier, Brussels, b group including sleeve of soldier, Antwerp, c face of woman, Brussels, d face of woman, Antwerp.
666	<i>Massacre of the Innocents</i> , Brussels version, infrared.
667	<i>Massacre of the Innocents</i> , Brussels version. a detail, centre, showing unusual areas of relief in the sky, b detail of a showing vertical underlying brushwork, c detail, vertical brushstrokes and drying cracks, d curved form in relief unrelated to building or soldier, e scoop-like form in lower left corner.
668	<i>Massacre of the Innocents</i> , Brussels version. a red paint appearing in cracks around dead child, b red paint in drying cracks in face of man, c dark brown paint underneath blue sky.
669	<i>Massacre of the Innocents</i> , Brussels version. a baby, upper left, b losses near join, snowy background. Here the greyish isolation layer may have been left exposed as snow paint.
670	<i>Massacre of the Innocents</i> , Brussels version, details to show that the grey isolation layer covers the entire composition. a baby's face, lower right, b woman's face, lower right, c soldier's sleeve, lower left, d detail of c, e chimney, upper left, f woman's face, lower left.
671	<i>Massacre of the Innocents</i> , Brussels version, x-radiograph, detail showing well-to-do market customers in covered-over image (<i>Massacre</i> composition upside-down). a image treated with Adobe Photoshop to attenuate the effect of the wooden cradle on the reverse of the panel, b original x-radiographic image.
672	<i>Massacre of the Innocents</i> , Brussels version, infrared detail showing hanging fish in underlying image (<i>Massacre</i> composition upside-down).
673	<i>Massacre of the Innocents</i> , Brussels version, x-radiograph, detail, female server in hidden painting (<i>Massacre</i> composition upside-down). a image treated with Adobe Photoshop to attenuate the effect of the wooden cradle on the reverse of the panel, b original x-radiographic image.
674	<i>Massacre of the Innocents</i> , Brussels version. Diagram of underlying composition made with Adobe Photoshop, based on scanned tracings from the x-radiographs and tracings made directly from the digitised infrared images © IRPA.
675	Follower of Lucas van Valckenborch, <i>Fish Market</i> , 112 x 155 cm, canvas, undated © Alexander Wied.
676	<i>Return from the Kermis</i> , 48.4-48.5 x 78.4-78.5 cm, signed, 'P. BREVGHEL.' in lower left, Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 10831. a recto, b verso, c signature.
677	<i>Return from the Kermis</i> , infrared details. a foreground figures, b background landscape and church.
678	<i>Wedding Feast</i> , 69.55-70.1 cm x 105.15 cm, signed in lower right, 'P. B[-]EVGHEL', Ghent, Museum voor Schone Kunsten, inv. S. 46. a recto, b verso.
679	<i>Wedding Feast</i> , infrared details. a left side of Bridal table, b right side of Bridal table.
680	<i>Good Shepherd</i> , 41.2-42.3 x 78.4-78.5 cm, signed, 'P. BREVGHEL.1616.', Brussels, Musées Royaux des Beaux-Arts de Belgique, inv. 10830. a recto, b signature, c verso, d detail, branding and panel-maker's mark (Michiel Claessens).
681	<i>Good Shepherd</i> , infrared.
682	<i>Flemish Proverbs</i> , roundels, Antwerp, Koninklijk Museum voor Schone Kunsten. a <i>If a blind person leads another blind person, they will both fall (Als de ene blinde de andere leidt vallen beiden in de sloot)</i> , 19 cm diameter, signed, 'P. BRVEGHEL.', KMSK, inv. 872/1, b, detail, signature, c <i>The world is so unworthy of confidence, I am going into mourning (Om dat de werelt is soe ongetru/Daer om gha ic in den ru)</i> , 17 cm diameter, signed and dated, 'P. BRVEGHEL 15.94.', KMSK, inv. 872/2, d detail, signature, infrared, e reverse of c, f <i>It is too late to block the well after the calf is drowned ('t Is te laet den put gevult, als 't kalf verdroncken is)</i> , 17 cm diameter, KMSK, inv. 872/3, g <i>Unidentified Proverb</i> , KMSK, inv. 872/4, h <i>Who knows why geese have naked feet? (Wie weet waer omme de ganze bervoets gaen?)</i> , 17 cm diameter, KMSK, inv. 872/5.
683	<i>Flemish Proverbs</i> , roundels, infrared. a <i>If a blind person leads another blind person, they will both fall</i> , b <i>The world is so unworthy of confidence, I am going into mourning</i> , c <i>It is too late to block the well after the calf is drowned</i> , d <i>Unidentified proverb</i> , e <i>Who knows why geese have naked feet?</i> .
684	Pieter Brueghel the Younger, <i>Visit to the Farm</i> , sight size: 42 x 58 cm; approx. measurements from reverse: 43 x 58.5 cm (accurate measurements from reverse impossible due to presence of cradle), signed in lower right, 'P. BREVGHEL', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 5100. a recto, b verso.
685	Jan Brueghel the Elder, <i>Visit to the Farm</i> , 30.5 x 46.5, unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 645. Measurements from ERTZ 1998, p. 80. a recto, b verso.

686	Jan Brueghel the Elder, <i>Visit to the Farm</i> , normal light details revealing the underdrawing as faint grey lines underneath the paint. a visiting lady, b child looking up, c feet of child drinking, d shoe.
687	Jan Brueghel the Elder, <i>Visit to the Farm</i> , infrared image.
688	Pieter Brueghel the Younger, <i>Visit to the Farm</i> , details, infrared. a couple churning butter, b nursing mother and dog in cradle.
689	Comparative details from Pieter and Jan Brueghel's versions of <i>Visit to the Farm</i> a Pieter Brueghel, nursing mother, b Jan Brueghel, nursing mother.
690	Comparative details from Pieter and Jan Brueghel's versions of <i>Visit to the Farm</i> a Pieter Brueghel, child looking up, b Jan Brueghel, child looking up.
691	<i>Works of Charity</i> , 43 x 58.7 cm, signed, 'P. BREV [...]', Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 969. a recto, b verso, c signature.
692	<i>Works of Charity</i> , infrared details. a figures in centre of composition, b figures near left edge.
Discussion	
693	<i>Christ Carrying the Cross</i> , signed and dated 1603, Antwerp, Koninklijk Museum voor Schone Kunsten, details, infrared. a standing figure, lower right, b standing figure to right of a.
694	<i>Sermon of Saint John the Baptist</i> , signed and dated 1624, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, details, infrared. a gypsy boy, centre, b standing figures, lower right.
695	<i>Flemish Proverbs</i> , signed and dated 1607, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, detail, Christ, infrared.
696	<i>Massacre of the Innocents</i> , large format, signed and dated 16[-]4, Brussels, Musées Royaux des Beaux-Arts de Belgique, detail, anguished women, infrared.
697	<i>Massacre of the Innocents</i> , large format, signed and dated 16[-]4, Brussels, Musées Royaux des Beaux-Arts de Belgique, detail, man with pole, infrared.
698	<i>Christ Carrying the Cross</i> , signed and dated 1603, Antwerp, Koninklijk Museum voor Schone Kunsten, detail, soldier and child, infrared.
699	<i>Peasant Lawyer</i> , signed and dated 1621, Ghent, Museum voor Schone Kunsten, lower left corner, infrared.
700	<i>Wedding Dance in the Open Air</i> , signed and dated 1607, Brussels, Musées Royaux des Beaux-Arts de Belgique detail, centre left foreground, infrared.
701	<i>Battle between Carnival and Lent</i> , unsigned, Brussels, Musées Royaux des Beaux-Arts de Belgique, detail, figures pulling cart, infrared.
702	<i>Massacre of the Innocents</i> , large format, signed and dated 16[-]4, Brussels, Musées Royaux des Beaux-Arts de Belgique, detail, child, infrared. a small child, b man and horses.
703	<i>Census at Bethlehem</i> , Brussels, Musées Royaux des Beaux-Arts de Belgique, details, infrared. a Virgin and beggar child, b Man turning head.
704	<i>Sermon of Saint John the Baptist</i> , signed and dated 1624, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, detail, figures around Saint John, infrared.
705	<i>Census at Bethlehem</i> , Brussels, Musées Royaux des Beaux-Arts de Belgique, detail, group of heads around inn.
706	<i>Sermon of Saint John the Baptist</i> , signed and dated 1624, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, buildings, infrared.
707	<i>Christ Carrying the Cross</i> , signed and dated 1603, Antwerp, Koninklijk Museum voor Schone Kunsten, buildings, infrared.
708	<i>Peasant Lawyer</i> , signed and dated 1620, Bruges, Groeningemuseum, detail, face of leftmost figure, infrared.
709	<i>Peasant Lawyer</i> , signed and dated 1618, Maastricht, Bonnefantennmuseum, detail, face of leftmost figure, infrared.
710	<i>Peasant Lawyer</i> , signed and dated 1621, Ghent, Museum voor Schone Kunsten, detail, face of leftmost figure, infrared.
711	<i>Sermon of Saint John the Baptist</i> , signed and dated 1624, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, detail, face in centre left, infrared.
712	<i>Christ Carrying the Cross</i> , signed and dated 1603, Antwerp, Koninklijk Museum voor Schone Kunsten, detail, figure with axe, infrared.
713	<i>Massacre of the Innocents</i> , large format, signed and dated 16[-]4, Brussels, Musées Royaux des Beaux-Arts de Belgique, infrared details. a female face, b male face.
714	<i>Wedding Dance in the Open Air</i> , signed and dated 1607, Brussels, Musées Royaux des Beaux-Arts de Belgique, detail, heads, infrared.
715	<i>Bridal Procession</i> , signed, Antwerp, Koninklijk Museum voor Schone Kunsten, infrared details. a detail, groom, b detail, bride.
716	<i>Christ Carrying the Cross</i> , signed and dated 1603, Antwerp, Koninklijk Museum voor Schone Kunsten, detail, figures to upper left of Christ, infrared.
717	<i>Sermon of Saint John the Baptist</i> , signed and dated 1624, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, detail, upper left heads, infrared.
718	<i>Battle between Carnival and Lent</i> , unsigned, Brussels, Musées Royaux des Beaux-Arts de Belgique, infrared details, infrared. a head of woman pulling cart, b masked figure, c blind people.
719	<i>Good Shepherd</i> , signed and dated 1616, Brussels, Musées Royaux des Beaux-Arts de Belgique, detail, face, infrared.

720	<i>Flemish Proverbs</i> , signed and dated 1607, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, detail, male head, infrared.
721	<i>Massacre of the Innocents</i> , large format, signed and dated 16[-]4, Brussels, Musées Royaux des Beaux-Arts de Belgique, infrared details. a head of man with pole, b head of man looking up.
722	<i>Christ Carrying the Cross</i> , signed and dated 1603, Antwerp, Koninklijk Museum voor Schone Kunsten, infrared details. a detail, male head, b detail, woman with folded arms in lower right.
723	<i>Sermon of Saint John the Baptist</i> , signed and dated 1624, Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, detail, woman to left of <i>Saint John</i> , infrared.
724	<i>Wedding Feast</i> , Ghent, Museum voor Schone Kunsten, detail, infrared.
725	<i>Flemish Proverbs</i> , Antwerp, Koninklijk Museum voor Schone Kunsten, detail, infrared.
726	<i>Sermon of Saint John the Baptist</i> , Antwerp, Koninklijk Museum voor Schone Kunsten, detail, infrared.
727	<i>Census at Bethlehem</i> , Lons-le-Saunier, Musée des Beaux-Arts, detail, infrared.
728	<i>Census at Bethlehem</i> , Sardinia, private collection, detail, infrared.
729	<i>Adoration of the Magi</i> , 30.5 x 41 cm, pen drawing, unsigned, but dated '1595' at foot of post supporting table, Lyon, coll. Damiron (in 1969) © MARLIER-FOLIE 1969, fig. 190, p. 321.
730	<i>Pilgrimage of the Epileptics to Molenbeek-Saint John</i> , 28.6 x 41.4 cm, pen and brown ink, strengthened with white, inscribed with a description of the subject and the name 'Bruegel 1564' in lower right, Vienna, Albertina, Graphische Sammlung, inv. 7868 © MARIJNISSEN 1998, p. 387.
731	<i>Dulle Griet (Mad Meg)</i> , 39 x 53.4 cm, brush and watercolour, pen and brown [ink?], Düsseldorf, Kunstmuseum, Graphische Sammlung, inv. FP 4838 © BÜTTNER 2002, fig. 1, p. 463.
732	<i>Raising of Cross of One of the Criminals</i> , 37.6-37.8 x 30.6-31.0 cm, signed in lower right, 'BREVGEL', Cologne, Wallraf-Richardz Museums, Alter Bestand, inv. Z1335 © ROBELS 1983, cat. 116, p. 86.
733	<i>Fool sitting on an Empty Egg</i> , London, British Museum © ERTZ 2000, p. 93, fig. 42.
734	<i>The Misanthropist</i> . a Coll. Masson, b London, Sotheby's © ERTZ 2000, figs. 18-19, p. 79.
735	<i>Chateau of Hoerzuylens, Utrecht</i> , 15.4 x 20 cm, pen and wash, signed and dated in lower right, 'P. BREVGHEL 1625', Paris, Musée du Louvre, Cabinet des Dessins, inv. 19735 © Service de documentation photographique de la réunion des musées nationaux (coll. J. Folie).
736	Study sheet with motifs from <i>Crucifixion</i> , 17.2 x 10.1 cm, Paris, private collection compared with motifs in Brueghel's underdrawings. a Study sheet with motifs from <i>Crucifixion</i> © ERTZ 2000, fig. 314, p. 431, b detail of corresponding horse and figure in <i>Crucifixion</i> , unsigned, Antwerp, Koninklijk Museum voor Schone Kunsten, c detail of horse from <i>Massacre of the Innocents</i> , signed and dated 16[-]4, Brussels, Musées Royaux des Beaux-Arts de Belgique (Core group), d detail of figures from <i>Crucifixion</i> .
737	Drawing for Flemish proverb, <i>Block up the Well after the Calf is Drowned</i> compared with Brueghel's more sketchy underdrawings from the Core group. a <i>Block up the Well after the Calf is Drowned</i> , 14.3 x 9.5 cm, pen and brown ink, Paris, Musée du Louvre, Cabinet des Dessins, inv. 19722 © ERTZ 2000, fig. 81, p. 123, b <i>Massacre of the Innocents</i> , signed and dated 16[-]4, Brussels, Musées Royaux des Beaux-Arts de Belgique, c <i>Census at Bethlehem</i> , signed and dated 1610, Brussels, Musées Royaux des Beaux-Arts de Belgique.
738	<i>Adoring Shepherd</i> , 29.2 x 19.5 cm, pen and brown ink, inscribed in lower left, 'BRVEGHEL' [H and E joined], Budapest, Szépművészeti Múzeum, inv. 1309 © Budapest, Szépművészeti Múzeum (coll. J. Folie).
739	<i>Man Forging Iron</i> . a drawing, 16.2 cm diameter, Brussels, private collection © Brussels, private owner, b Brueghel the Younger, dimensions, <i>Man Forging Iron</i> , 16.5 cm diameter, Gundelfingen, Kunsthaus Trost 1998 © ERTZ 2000, fig. 140, p. 165.
740	Details from <i>Man Forging Iron</i> compared with Bruegel the Elder's <i>Alchemist</i> , the latter a drawing for an engraving. a <i>Man Forging Iron</i> , detail, b <i>The Alchemist</i> , detail © CAT. ROTTERDAM-NEW YORK 2001, cat. 60, p. 173, c <i>Man Forging Iron</i> , detail, d <i>The Last Judgement</i> , detail © CAT. ROTTERDAM-NEW YORK 2001, cat. 56, p. 163.
741	<i>Five Standing Men</i> , 14.6 x 19.6 cm, pen drawing, Musée des Beaux-Arts et d'Archéologie, Besançon © MARLIER-FOLIE 1969, fig. 120, p. 201.
742	<i>Man and Woman with Baby</i> , former Delacre collection in Ghent, present whereabouts unknown, dimensions unknown © IRPA.
743	<i>Every Merchant Vaunts his Merchandise</i> , 16.3 cm diameter, pen drawing, Ghent, private collection 1969; <i>Fire an Arrow after Another One</i> , 16.3 cm diameter, pen drawing, Ghent private collection 1969 © IRPA.
744	<i>Drunken Man Being Led Home by his Wife</i> , 17.7 x 13.2 cm, pen drawing, Frankfurt, Städtisches Kunstinstitut und Städtische Galerie, Kupferstichkabinett, compared with an underdrawing by Brueghel the Younger (Core group). a <i>Drunken Man Being Led Home by his Wife</i> © ERTZ 2000, fig. 649, p. 804, b detail from <i>Wedding Dance in the Open Air</i> (1607), Brussels, Musée Royaux des Beaux-Arts de Belgique.
Appendix 1	
745	Drawing materials used in practical tests, from left to right: black Indian ink, black chalk, red chalk, graphite, willow charcoal, silver and black graphite powders.
746	Drawing tools used in practical tests, from left to right: pigeon wing (for cleaning excess pouncing dust), copper-tipped stylus, 'lead' holder for black chalk, pin feather of woodcock (mounted on paint brush handle).
747	Pieter Bruegel the Elder, detail from <i>Winter Landscape with Bird Trap</i> (Brussels, Musées royaux des Beaux-Arts de Belgique, inv. 8724), actual size. Model for practical tests.
748	Pieter Brueghel the Younger, infrared detail from <i>Census at Bethlehem</i> (Mayer van den Bergh museum, inv. 54), 75% of actual size. Model for practical tests.

749	<i>Squaring.</i> a Charcoal grid, black chalk drawing on more textured <i>imprimatura</i> . Black chalk drawing lines skip dips of <i>imprimatura</i> and remain on ridges.
749b	Charcoal grid, black chalk drawing on more textured <i>imprimatura</i> . Draughtsman: Robert Ghys. Drawing style differs from other two tests, latter carried out by author. Black chalk smears slightly during painting.
749c	Red chalk grid, black chalk drawing on more textured <i>imprimatura</i> .
749d	Infrared image of 749a.
749e	Infrared image of 749b.
749f	Infrared image of 749c.
750	<i>Squaring.</i> a Charcoal grid, black chalk drawing on smoother <i>imprimatura</i> , before painting.
750b	As in 750a, right side of test brushed with paint. Charcoal grid completely disappears during painting.
750c	Infrared image of 750b. Black chalk smears during painting.
751	<i>Squaring.</i> a Natural red chalk grid, graphite drawing on smoother <i>imprimatura</i> , before painting.
751b	As in 751a, right side of test brushed with paint. Red chalk lines are slightly visible in places through light paint layer.
751c	Infrared image of 751b. Red chalk grid is completely invisible before and after painting.
752	Tracing, modern graphite pencil on oiled paper (linseed oil), detail from <i>Winter Landscape with Bird Trap</i> by Pieter Bruegel the Elder.
753	<i>Tracing.</i> a Black chalk 'carbon paper' on more textured <i>imprimatura</i> .
753b	Black chalk 'carbon paper' on more textured <i>imprimatura</i> with layer of animal glue between ground and <i>imprimatura</i> .
753c	Graphite powder (black) 'carbon paper' on more textured <i>imprimatura</i> .
753d	Graphite powder (silver) 'carbon paper' on more textured <i>imprimatura</i> .
753e	Infrared image of 753a.
753f	Infrared image of 753b.
753g	Infrared image of 753c.
753h	Infrared image of 753d. Notice that underdrawing remains clearly visible after painting in all tests and does not smear significantly.
754	<i>Tracing.</i> a Charcoal 'carbon paper' on smoother <i>imprimatura</i> . A sloping roof line was forgotten during tracing progress, a result of drawing 'blind'. b Infrared image of 754a. c Black chalk (top), graphite (middle), charcoal (bottom) on smoother <i>imprimatura</i> . d 754c after painting right side. e Infrared image of 754d.
755	Pricked cartoons used in pouncing tests.
756	<i>Pouncing.</i> a Black chalk pouncing dust, pigment applied to cloth and rubbed onto cartoon, more textured <i>imprimatura</i> . Less excess pigment from this method of application.
756b	756a, right half painted, pouncing swept off lower half with pigeon wing prior to painting.
756c	Infrared image of 756b. No pouncing dots detected, neither after sweeping with pigeon wing nor after painting. In upper right quadrant, where pouncing not removed prior to painting, ugly smearing of pouncing dust into paint layer
756d	Ivory black pouncing dust, pigment rubbed through pricked cartoon directly with fingers, more textured <i>imprimatura</i> .
756e	756d after drawing with black chalk and painting right part, pouncing dust swept off lower half with pigeon wing prior to painting. Pouncing dust smears into paint in upper section. Black chalk drawing lines skip dips of <i>imprimatura</i> layer and remain on ridges. No significant smearing of drawing lines during painting.
756f	Infrared image of 756e.
756g	Charcoal pouncing dust, pigment rubbed through pricked cartoon directly with fingers, more textured <i>imprimatura</i> .
756h	756g after drawing with graphite and painting right half, pouncing swept off lower half of test with pigeon wing. Excess pouncing dust from upper part smears into paint during application. As with black chalk (756e), graphite drawing lines skip dips of <i>imprimatura</i> layer and remain on ridges. No smearing of drawing lines during painting.
756i	Infrared image of 756h.
756j	Black chalk (top); charcoal (centre); natural graphite (bottom), pigment applied to cloth and rubbed onto cartoon, smoother <i>imprimatura</i> . As with 756a, this method of pouncing gives neater dots and less excess pouncing dust.
756k	756j after drawing and painting right section, pouncing dust swept off right half of painted section with pigeon wing.
756l	Infrared image of 756k. Only black chalk pouncing dots remain significantly visible after sweeping with pigeon wing and painting.
757	<i>Pouncing.</i> a Charcoal pouncing dust, pigment rubbed through pricked cartoon directly with fingers, drawing with black chalk, smoother <i>imprimatura</i> .
757b	757a after painting lower half, pouncing swept off lower half with pigeon wing prior to painting.
757c	Charcoal pouncing dust, pigment rubbed through pricked cartoon directly with fingers, drawing with graphite, smoother <i>imprimatura</i> .
757d	757c after painting lower half, pouncing swept off lower half with pigeon wing prior to painting.

757e	Red chalk, on left side pigment rubbed through pricked cartoon directly with fingers, on right side pigment applied to cloth and rubbed onto cartoon, smoother <i>imprimatura</i> , drawing with black chalk. The pouncing dust only adheres on side where applied by rubbing with pigment-impregnated cloth.
757f	757e after painting, pouncing swept off lower half of test with pigeon wing prior to painting.
757g	Infrared image of 757b.
757h	Infrared image of 757d.
757i	Infrared image of 757f. The red chalk pouncing marks are undetectable in infrared.
758	<i>Pouncing</i> a Charcoal pouncing dust, pigment rubbed through pricked cartoon directly with fingers, smoother <i>imprimatura</i> , pouncing carried out whilst <i>imprimatura</i> still tacky.
758b	758a, after drawing with graphite and painting right side.
758c	Infrared image of 758b.
758d	Black chalk pouncing dust, pigment rubbed through pricked cartoon directly with fingers, smoother <i>imprimatura</i> , pouncing carried out whilst <i>imprimatura</i> still tacky.
758e	758e after drawing with black chalk and painting right side, lower part of test swept with pigeon wing prior to painting
758f	Infrared image of 758h. Excess pouncing dust streaked into paint layer where not removed prior to painting.
758g	Graphite, pigment rubbed through pricked cartoon directly with fingers, smoother <i>imprimatura</i> , pouncing done whilst <i>imprimatura</i> was still tacky.
758h	758c after drawing with graphite and painting right side, lower part of test swept with pigeon wing prior to painting. Smearing of excess pouncing dust into paint layer and onto paint brush for next stroke resulted in dark streaking of entire painted area.
758i	Infrared image of 758e.
759	<i>Pouncing</i> . a Charcoal pouncing dust, pigment rubbed through pricked cartoon directly with fingers, more textured <i>imprimatura</i> , pouncing carried out on tacky oiling-out layer applied on top of <i>imprimatura</i> .
759b	759a, after painting right side.
759c	Infrared image of 759b.
759d	Black chalk pouncing dust (top), charcoal pouncing dust (middle), natural graphite pouncing dust (bottom), pigment applied to cloth and rubbed onto cartoon, smoother <i>imprimatura</i> , pouncing carried out on tacky oiling-out layer applied on top of <i>imprimatura</i> . This method of applying pouncing dust results in neater dots and less excess pigment than direct rubbing of pigment through cartoon with fingers.
759e	759d, after painting right side.
759f	Infrared image of 759e.
760	<i>Contact pouncing</i> . a 'Carbon papers' used: black chalk (top), charcoal (centre), natural graphite (bottom), smoother <i>imprimatura</i> , after painting right sides. Stylus used to lightly tap outlines of tracing, latter laid over sheet of blackened paper placed face down against panel. Only charcoal appears suitable for this method. During this particular test, short lines produced rather than rounded points, probably because cartoon was not perfectly flush with surface of panel.
760b	760a, after painting.
760c	Infrared image of 760b.
760d	Charcoal. A repeat of 761a with charcoal interleaf, taking more care to ensure sheets were flush to surface during transfer of image, smoother <i>imprimatura</i> .
760e	760b, after painting.
760f	Infrared image of 760e.
761	<i>Pouncing</i> . a Ivory black pouncing dust applied directly on ground layer, pounce marks fixed with steam, <i>imprimatura</i> then applied over whole test. b Infrared image of 761a.
762	Christophorus Scheiner, <i>Pantographice seu ars delineandi res quaslibet per parallelogrammum lineare</i> , Rome, 1631, extracts from manuscript held in British library (Sloan 631 ff. 238-244).
763	Modern aluminium pantograph used in tests.
764	<i>Pantograph</i> . a Model for tests. Infrared detail, figure in lower right, <i>Census at Bethlehem</i> (private collection), actual size.
764b	Pantograph in 1:1 position. During drawing, plotting pin and drawing point raised where necessary to move from one area to another.
764c	Pantograph in 1:1 position. During drawing, plotting pin and drawing point not lifted.
764d	Author's pantograph in 1.5 enlargement position. Same model as 764a, 67% of actual size. During drawing, plotting pin and drawing point raised where necessary to move from one area to another. Transferred lines stiffer, less flowing and more jerky than in 764b owing to enlargement factor.
765	<i>Pantograph</i> a Model for test. Infrared detail, <i>Winter Landscape with Bird Trap</i> (Mayer van den Bergh), actual size. b Pantograph in 1:1 position.
766	<i>Pantograph</i> a Model for test. Infrared detail, leper's house, <i>Census at Bethlehem</i> (Mayer van den Bergh), 67% of actual size.
766b	766c and 766d superposed. The correspondence between two images extremely close, greater than squaring and akin to tracing.
766c	Pantograph in 1.5 enlargement position. Motif same size as in painting.
766d	Pantograph in 1.5 enlargement position, identical conditions to 766c.
767	<i>Pantograph</i> . a Model for test. Infrared detail, central house, <i>Census at Bethlehem</i> (KMSK), 67% of actual size. b Pantograph in 1.5 enlargement position. Motif same size as in painting.

768	<i>Tracing.</i> a Red chalk 'carbon paper', drawing in black chalk, lower half painted, more textured <i>imprimatura</i> . b Infrared image of 768a. Black chalk drawing lines slightly smeared during painting.
769	<i>Tracing.</i> a Red chalk 'carbon paper', drawing in Indian ink applied with pin feather of woodcock, lower half painted, more textured <i>imprimatura</i> . b Infrared image of 769a. Ink lines do not in any way resemble drawing lines in infrared reflectograms of paintings by Brueghel the Younger.

APPENDICES

APPENDIX 1

Practical experiments with copying techniques

Introduction

A series of practical experiments with a variety of known historical copying methods was devised to explore the possible process or processes used to transfer designs within the Brueghel workshop.¹¹²⁴ The techniques tested were tracing, pouncing, squaring and the pantograph. These tests were designed according to the general advice given to painters in source documents,¹¹²⁵ mostly Italian and refined in line with actual observations and analysis of Brueghel the Younger's paintings.

When the first tests were designed and carried out in 2000, none of Brueghel's paintings had yet revealed the slightest hint of a mechanical aid to the transfer process. The only obvious clue to the copy technique was the presence of a similar underdrawing in all the paintings examined: a carbon-based, detailed outline drawing of the composition in a non-crumbly, dry drawing material, clearly revealed in infrared reflectography and often discernible to the naked eye through light coloured paint.

In January 2002, clear signs of pouncing were detected by infrared reflectography for the first time in a large format painting from the Brueghel workshop, *Battle between Carnival and Lent*,¹¹²⁶ providing indisputable proof of the use of a cartoon or sections of cartoon for the transfer of the image. Traces of probable pouncing were subsequently identified in a signed version of the *Flemish Proverbs* and two versions of *Christ Carrying the Cross*.¹¹²⁷ Furthermore, the superposition of the author's tracings of painted compositions of copies of the same subject also points to the use of cartoons, in some cases for entire compositions and in others for important motifs only. This prompted more extensive testing with cartoons, using both pouncing and tracing techniques.

Aim of study

The study of Brueghel the Younger's underdrawings gives rise to a number of technical questions. First, are they the result of freehand drawing, tracing or some other mechanical means? If done freehand, could the drawing stage have been guided by now-invisible traced or pounced outlines or some form of grid system? Which drawing material or materials were used for the underdrawing we visualise in infrared? Which of the various copying methods might leave some traces of the author's personal style and draughtsmanship ability, as appears to be the case in so many underdrawings in works from Brueghel the Younger's studio?

Ultimately, it was hoped that experimentation and comparison of the test results with Brueghel's underdrawings might contribute towards the assessment of the most likely transfer method or methods used in the Brueghel workshop.

Test design

The test panels were prepared in accordance with the results of scientific analysis of selected samples of paintings from Brueghel's workshop. The ground layer, consisting of calcium carbonate in a glue medium,¹¹²⁸ is overlaid in most cross-sectional samples by a thin, medium-rich, ochre or grey tinted *imprimatura*. The medium of the *imprimatura* layer was positively identified in one sample with GC/MS as linseed oil¹¹²⁹.

Samples containing underdrawing from two paintings of different formats from the Brueghel workshop¹¹³⁰ reveal the drawing layer lying directly over the *imprimatura* rather than underneath it (figs. 567a and 569a-b). Inspection of the underdrawing with the binocular microscope and infrared reflectography of other paintings

¹¹²⁴ I would like to thank Bob Ghys, painting conservator specialised in wood panels at IRPA/KIK who collaborated in the design and execution of the test panels.

¹¹²⁵ For a discussion of these copying methods, and a history of their use in painting, see 'Historical copying techniques'. Few of these sources give more than general instructions; many techniques were easier demonstrated than explained in words and certain authors, for example Cennino and Vasari, even expressed their difficulties at putting practical methods into words (BAMBACH 1999, p. 33).

¹¹²⁶ See Chapter II.

¹¹²⁷ For *Flemish Proverbs*, see fig. 651 and for *Christ Carrying the Cross*, see fig. 638-9.

¹¹²⁸ Aged collagen was identified as the medium in several samples. HPLC analysis carried out by Karijn Lamens, see notes 458 and 790.

¹¹²⁹ A rare sample of *imprimatura* without overlying paint was taken from a version of the *Kermis with Theatre and Procession*; Musée Royaux des Beaux-Arts de Belgique, inv. 3592. The sample was therefore free of overlying paint. Analysis carried out by GC/MS by Steven Saverwiyns. This was the only painting in the study except for a version of the *Sermon of Saint John the Baptist* (Groningemuseum, Bruges, inv. 0.1561) where the *imprimatura* layer extended beyond the paint to the panel edges but this painting could not be sampled. A protein stain applied to cross-sections from other paintings did not cause a reaction in the *imprimatura* layer, suggesting by default that oil might also be the medium in these cases (see figs. 157, 434 and 473)

¹¹³⁰ A version of the *Wedding Dance in the Open Air*, Ghent, Museum of Fine Arts, inv. 1914-CJ and a *Massacre of the Innocents*, Antwerp, Koninklijk Museum voor Schone Kunsten, inv. 832 (see Section 13.1.4.a).

from the workshop would appear to confirm that this might be the case for all works.¹¹³¹ This guided the decision to carry out the majority of the drawing tests on top of the *imprimatura*.

SEM analysis of the two cross-sections cited above confirms that in both cases the drawing is carbon-based.¹¹³² In one of the samples this layer consists of pure carbon;¹¹³³ however, in the other, there is also a zone containing in addition silica, iron, calcium, aluminium and magnesium.¹¹³⁴ The latter suggests a clay component, as might typically be found in natural black chalk. Based on these analyses, silverpoint and lead-point were eliminated from the range of materials tested.

Preparation of test panels and drawing materials

Panel

Various planks of MDF were cut and sanded.

Ground

A chalk glue ground mixture was prepared by hand in a ratio of 450g calcium carbonate to 50g rabbit skin glue (dried weight).

Five layers of ground were applied to the test panels with a hog hair brush, allowing each to dry before applying the next. Light sanding was carried out between layers. The final layer was thoroughly smoothed down with sandpaper.

One of the test panels was also given a thin isolation layer of rabbit skin glue between the ground and *imprimatura* layers. This had the effect of reducing the absorbency of the ground somewhat, leading to a fuller saturation of colour in the overlying *imprimatura*.¹¹³⁵

Imprimatura

A light grey *imprimatura* consisting of lead white and vine black in linseed oil and a few drops of ‘Talens’ drier¹¹³⁶ was prepared and diluted with turpentine.¹¹³⁷ The exact amounts of each constituent were not measured.

The *imprimatura* was applied to the panels with a hog hair brush and left to dry for several weeks.

Extra panels were prepared at a later date. In these cases the *imprimatura* resulted in a smoother surface less marked by brushmarks, probably due to a lower ratio of oil to diluent.

Underdrawing

Materials tested for freehand drawing were natural black chalk,¹¹³⁸ raw natural graphite,¹¹³⁹ and Indian ink (fig. 745).¹¹⁴⁰ The black chalk was mounted in a hand-made *porte-mine* (pencil holder) (fig. 746)¹¹⁴¹ and sharpened with a scalpel and sandpaper. The raw graphite was hand-held in its block form.¹¹⁴² The Indian ink was applied with a woodcock feather mounted on a paint brush handle.

¹¹³¹ See for example, fig. 338a-b (KMSK version of *Sermon* of St. John), which shows that there is no underdrawing in the unpainted gaps between brushmarks of the *imprimatura*, meaning that the underdrawing was applied after the latter, settling on the highpoints, rather than being partially brushed away by it.

¹¹³² See Section 13.1.4.a.

¹¹³³ *Massacre of the Innocents* [see note 497].

¹¹³⁴ *Wedding Dance in the Open Air* [cited note 497].

¹¹³⁵ This test panel was prepared before the presence or absence of such a layer in Brueghel’s works was established. Staining tests, carried out with acid fuchsine on selected cross-sections from several works from the Brueghel workshop showed no evidence of an unpigmented proteinaceous layer between ground and *imprimatura* (see Chapters IV, V and figs. 157, 434 and 473).

¹¹³⁶ It is likely that the oil medium used by Brueghel would have been treated in some way to help its drying properties. De Mayerne (T. Turquet de Mayerne, *Pictoria, Sculptoria, Tinctoria et quae subalternarum artium spectantia...*, 1620-46, British Library MS Sloane 2052) discusses how the drying properties of oil could be improved by heating with litharge, minium or other drier (cited by Jo Kirby in relation to the painter’s trade in seventeenth century Flanders, in BILLINGE *et al.* 1998, p. 31).

¹¹³⁷ Blockx lead white, vine black made at IRPA by Bob Ghys, bleached pharmacy grade linseed oil, Talens series 3 pale Courtrai siccativ, (made in Apeldoorn, Holland), Windsor and Newton English distilled turpentine.

¹¹³⁸ The black chalk used in all the tests came from Kremer-pigmente (Fa.Dr. Georg Kremer, Farbmühle, D-88317 Aichstetten) cat. no° 12450-2. Kremer describe it as a natural black slate with a high carbon content comparable to the black chalk described by Cennino Cennini. Their source is somewhere in France. I would like to thank Cécile Ogée who drew my attention to this supplier for black chalk.

¹¹³⁹ A block of raw graphite from Ceylon was kindly supplied by Dr. Georg Kremer from his private collection of pigments. This graphite is crystalline vein graphite according to Kremer’s representative, Philip Low. This is an extremely pure form of graphite with a carbon content of between 80 and 99% (source for this information on carbon content is Ashbury Graphite Mills, Inc. website).

¹¹⁴⁰ Black Indian ink, ‘encre de Chine à la pagode’, Sennelier (Paris).

¹¹⁴¹ Bob Ghys kindly made this *porte-mine* for the tests.

¹¹⁴² See Section 7.2.5, fig. 102bis 1a-d for examples of historical methods of holding or mounting the graphite block for drawing.

Willow charcoal,¹¹⁴³ natural graphite, natural black chalk, silver and black graphite powders,¹¹⁴⁴ natural red chalk and Conté red chalk ‘sanguine’,¹¹⁴⁵ were used to make ‘carbon papers’ for the tracing tests (fig. 745).

Willow charcoal, Conté red chalk and natural red chalk¹¹⁴⁶ were used to draw the grid in the squaring experiments.

Willow charcoal, ivory black,¹¹⁴⁷ natural black chalk,¹¹⁴⁸ natural graphite and natural red chalk¹¹⁴⁹ were tested as pouncing dust. A pigeon wing was used to dust off unwanted pigment (fig. 746).

In the case of the pantograph,¹¹⁵⁰ modern graphite leads were used for drawing.

Paint

With the exception of the experiments with the pantograph, he completed drawing tests were half covered with a layer of light toned oil paint applied in long, firm strokes with a hog hair brush to simulate the effect and appearance of overlying paint. The paint was prepared with lead white, yellow ochre, linseed oil and a few drops of drier. Turpentine was used as the diluent.

The results were examined with the naked eye and infrared reflectography.

Choice of test motifs

Two representative zones were chosen for the experiments, a detail with houses from the *Winter Landscape with Bird Trap* (fig. 747) and a large-scale figure motif from the lower right corner of the *Census at Bethlehem* (fig. 748).

Squaring

Methodology

For the detail with houses, a scaled reproduction of Bruegel the Elder’s version of the composition was traced onto PVC film, marked with a grid and the corresponding squares indicated on the test panel. As there is no known ‘standard’ for the scale of the squares the author used the old Antwerp inch, equivalent to 2.61 cm. For the figure motif, a scaled infrared reflectogram clearly showing the underdrawing was used as model and squared-up similarly.

In separate tests the grid was marked with white chalk, willow charcoal and natural red chalk. The white chalk test was soon abandoned as the grid was impossible to visualise on the light grey *imprimatura*.

The designs were copied several times onto the panels using the grid for guidance (figs. 749a-f, 750a-c, 751a-c).¹¹⁵¹ This was done at a relatively ‘normal’ pace, without rushing or going too slowly. Natural black chalk and raw natural graphite were tested, and more than one draughtsman copied the detail with houses.¹¹⁵²

Practical experience and observations

Handling and appearance

In terms of handling, the black chalk proved alternately friable, scratchy and smooth, although far more controllable than charcoal. It was at times difficult to regulate the thickness and tonality of the line and the amount of drawing material deposited on the surface. Variations in line thickness depended greatly on the degree of sharpness of the drawing point, which was difficult to maintain. The point could not be pushed too hard for fear of blunting or crushing it; as a result, the drawing line skips over the depressions in the brushstrokes of the *imprimatura*, only marking the ridges. Nonetheless, black chalk was found suitable for producing a detailed outline drawing. The raw graphite block was difficult to sharpen to owing to its softness,

¹¹⁴³ 2-3 mm thin sticks, Coates (PH Coate & Son, Taunton, England).

¹¹⁴⁴ Kremer-pigmente: graphit-schwarzpuder, cat. no° 47710; graphit-silberpuder cat. no°47700.

¹¹⁴⁵ Red chalk in crayon form from ‘Conté à Paris’, France 610. When the first tracing tests were carried out, natural red chalk had not yet been sourced.

¹¹⁴⁶ Kremer-pigmente, cat. no° 40520, described in catalogue as ‘red clay pieces from Germany, soft sanguine’

¹¹⁴⁷ Calcined animal bones, Winsor & Newton, series 1 (Winsor & Newton, London HA3 5RH).

¹¹⁴⁸ Although most of the sources recommend charcoal powder as the pouncing dust, Armenini (1587) recommends black chalk as well (BAMBACH 1999, p. 76 and note 264).

¹¹⁴⁹ According to Carmen Bambach, red chalk is not mentioned in any primary sources, but she has found some Italian pricked designs where red chalk may have been used as the pouncing dust (*Ibidem*, p. 77 and note 271).

¹¹⁵⁰ The pantograph employed for the tests was a ‘Micron’ pantograph, 52 cm, purchased at Schleiper, Brussels (no information regarding the manufacturer on the packaging).

¹¹⁵¹ Some of the tests for the motif with houses were carried out on a test panel that had been prepared with a layer of animal glue between the ground and the *imprimatura* layer. This intermediary layer of glue had absolutely no effect on the drawing process and merely served to saturate the grey colour of the *imprimatura*.

¹¹⁵² Except where specifically mentioned, all drawings were done by the author.

the softness also making it difficult to retain a good point during drawing. Nonetheless, once securely held, copying with graphite produced controlled, even, silvery-grey, soft-edged lines, particularly on the less textured *imprimatura*. Little tapering of the line was possible.

The grid proved more a more useful aid for copying the architectural motif than the figure. The difficulty of copying complex rounded elements in the figural motif such as feet, the oil jar and the large hat was compounded by the need to copy parts of each element into the different squares to retain the correct proportions.

Influence of individual drawing style

As might be expected, the personal style of the draftsman reveals itself fairly clearly with this method, particularly in black chalk, despite the constraints to freedom of expression imposed by following a grid. This is shown in figures 749a-b, which are executed in black chalk by different hands.

Fidelity to model

Although care was taken to copy the motifs as faithfully as possible whilst working at a 'normal' pace, when the outlines of the detail with buildings tests' were traced and superposed, they were found not to correspond to the model or to one another as closely as copies of the *Winter Landscape with Bird Trap* from Bruegel the Younger's studio. For the figural motif, the degree of correspondence of the author's tests is similar to that of the underdrawings of the same motif in the various copies of the *Census at Bethlehem*.

Effect of paint layer on drawing material and visibility of grid

In the tests with a charcoal grid, slight traces of the grid lines were visible to the naked eye after painting in the test panels with the more textured *imprimatura* (figs. 749a-b). These same lines were not detectable in infrared (figs. 749d-e). In the test panel with the smoother and less medium-rich *imprimatura*, all traces of the charcoal grid disappeared (figs. 750b-c). The red chalk grid lines remained slightly visible with the naked eye through the light paint layer but were invisible in infrared reflectography (figs. 749c, 749f, 751b-c).

In certain of the tests using black chalk for the underdrawing, a degree of streaking was noticed after painting, particularly on the panel with the smoother *imprimatura* (figs. 750b-c). In the test with graphite underdrawing, there was no smearing of the drawing material (figs. 751b-c).

Conclusions

Although it was fairly straightforward to copy the detail with buildings with the aid of a grid, the correspondence between model and copy and copy/copy was not great enough to retain squaring as a possibility for this motif in Brueghel's work. For the male figure, however, copying with the aid of squaring produced a similar degree of correlation between copy and model as that found amongst Brueghel's own copies of the same motif. Nonetheless, the practical experience showed that copying this motif with a small-scale grid was quite time-consuming; a competent artist is more likely to have worked using much larger squares.

As red squaring lines remain lightly visible with the naked eye on the test panels after painting, it is extremely unlikely that Brueghel the Younger ever used a red chalk grid as none have been observed in his work to date. He might have used a charcoal grid at times, as the tests show that under certain conditions, charcoal grid lines are totally erased during painting.¹¹⁵³ He could possibly have employed a squaring grid in the form of a set of strings stretched over a frame and laid over the painting, as in a device known as the *graticola*, described by authors including Paolo Lomazzo (*Trattato dell'arte della pittura*, Milan 1584) and Gian Battista Volpato (*Modo da tener nel dipinger*, manuscript written either in the late seventeenth or early eighteenth century).¹¹⁵⁴ However, the *graticola* was meant to be laid over the model, to avoid marking it, rather than the surface onto which the design was to be transferred. If such a squaring grid were positioned over the actual panel surface as a guide to drawing, the threads would have to have been set at a considerable distance from one another to avoid getting in the way of the drawing process and would have only provided a rough aid to the basic positioning of the motifs.¹¹⁵⁵

In terms of materials used for outlining the forms, it seems that both black chalk and graphite can be retained as possibilities. Graphite generally produces softer lines with a more even texture and width than black chalk. The black chalk lines also sometimes smear a little during painting, particularly on the less textured *imprimatura*, unlike the graphite lines. This might be explained by the fact that the black chalk used in the tests is a natural material and might possess slightly different properties to that used by Brueghel.

¹¹⁵³ No grid lines of any kind have ever been detected by the author in Brueghel the Younger's paintings.

¹¹⁵⁴ See discussion of this, note 596.

¹¹⁵⁵ This is a possibility for the *Census at Bethlehem* series, where the author's tracings of the painted compositions show that many motifs are positioned in the same approximate places in each version, but do not necessarily correspond exactly in terms of size or proportion, see Section 7.2.8.g.ii.

Tracing

Methodology

Tracing paper was prepared by brushing linseed oil with a few drops of dryer onto thin paper and hanging it up for two weeks, as recommended by Cennino Cennini in *The Craftsman's Handbook*.¹¹⁵⁶ As the thinnest handmade paper available to the author proved too thick to see through, even after impregnation with oil, the paper finally chosen for the tests was a thin, inexpensive industrially made paper.¹¹⁵⁷

The outlines of the composition of a scaled reproduction of Bruegel the Elder's version of the *Winter Landscape with Bird Trap* were traced onto the oiled paper using an modern graphite pencil (fig. 752).¹¹⁵⁸

In order to be able to re-use the tracing, or cartoon for the various tests, four types of intermediary 'carbon paper' were prepared, again using the thin industrial paper cited above.¹¹⁵⁹ One was prepared with natural black chalk, a second with silver graphite powder, a third with black graphite powder and a fourth with willow charcoal. In each case, excess pigment was rubbed off the 'carbon paper' with cotton wool to prevent dirtying the panel surface.

The cartoon of the detail with houses was laid over a 'carbon paper' interleaf and the latter placed pigment side down on the prepared panels. The test was repeated with four different types of 'carbon paper' prepared by the author: black chalk, silver graphite powder, black graphite powder and charcoal (figs. 753a-h, 754a-b). The image was transferred by going over the outlines on the cartoon with a copper stylus. The tests with black chalk and graphite were carried out twice, first on a panel having a layer of glue between *imprimatura* and ground and second, on a panel where the *imprimatura* lay directly over the ground (figs. 753a-f); in both cases the *imprimatura* was the more textured type. An infrared reflectogram of the figural motif was traced onto the smoother *imprimatura* using black chalk, graphite and charcoal interleaves (fig. 754c-e).¹¹⁶⁰

Practical experience and observations

Handling and appearance

The stylus produced fine, even, crisp lines in all cases except in the charcoal section of the figural motif where the lines were slightly wider in places. All materials gave lines of a grey tonality although the black chalk and charcoal markings were slightly darker than those of graphite and the silver graphite produced the palest lines of all.

No difference was noted in handling or appearance between the tests applied on the panel prepared with *imprimatura* directly on the ground layer and those applied on the panel prepared with a glue layer between ground and *imprimatura*. The traced lines for the figural motif turned out lighter in tonality than those of the detail with houses, mostly probably because a thicker paper was used for the cartoon.

Similarly, no difference was noted between the appearance of the traced lines on the textured *imprimatura* and those on the smoother type.

Influence of individual drawing style

Following the outlines of the model with a stylus proved quick and easy, even for an amateur. However, as the draughtsmen cannot see his drawing in progress, a slight risk with a detailed motif such as this is that certain outlines are forgotten and others are gone over twice. This means that a certain amount of lifting of the tracing and carbon papers is inevitable during the transfer process to check the traced image on the panel. However, as long as the sheets are firmly attached on one side, shifts in position can be avoided. Another consequence of this 'blind' method of drawing is that the outlines of the forms are not actively and intelligently drawn and therefore do not always join up in a natural way. Complex forms such as stepped roof gables give the appearance of having been drawn with no understanding of their real structure.

Most stylistic traits associated with the draughtsman are eliminated using this method; nonetheless, as the method still involves the hand of the artist manipulating the drawing instrument, certain particularities of style might be discerned. Variations in thickness and tapering of the lines due to particularities of handling are eliminated.

¹¹⁵⁶ Cited note 297.

¹¹⁵⁷ As well as not being transparent enough, the thicker paper also absorbed too much oil making it difficult to mark with graphite and proved too bumpy for the even transferral of the image.

¹¹⁵⁸ At this point in the experiments, the raw graphite block was still on order from Kremer.

¹¹⁵⁹ The use of an intermediary sheet of carbon paper rather than smearing the back of the original model with black pigment was recommended by various Renaissance writers [cited note 355].

¹¹⁶⁰ The paper on which the infrared reflectogram was printed is slightly thicker than the oiled paper used in the other tracing tests.

Fidelity of copy to model

The author's experience shows that an extremely close correspondence of forms is obtained by tracing, although speed of execution determines precision.

Effect of paint layer on drawing material.

As with the squaring tests, the images traced with a graphite interleaf remain unaffected by the application of paint; the same result was obtained from using charcoal. A very small amount of material was removed during painting from the black chalk traced lines but not enough to cause smearing or to affect the integrity of the drawn image.¹¹⁶¹

Conclusions

The correspondence between the cartoon model and traced images is very close. However, the fact that the new image is not visible during tracing would make it an impractical method for copying a large format composition in one piece as so much lifting of the sheets and checking would be required to avoid forgotten outlines and motifs. For a smaller composition, the method would be relatively straightforward, undemanding in terms of draughtsmanship and not overly time-consuming.

For the tracing tests with the houses motif, crisp traced lines of a similar character were obtained using all three carbon papers, differing only in their degree of greyness. Clearly, the shape of the stylus is the main factor determining the texture and width of the transferred line although the thickness of the paper is also important. The stylistic expression of the artist is therefore minimal using this method, the main influence of the draughtsman lying in the care given to accurately following all the outlines.¹¹⁶²

Pouncing

Methodology

To make perforated cartoons for pouncing, both the detail with houses and figural motifs were printed and their outlines pricked with a needle using a cushion for support (fig. 755).¹¹⁶³ The reverse sides were sanded slightly with sandpaper to remove the ridges.

The pricked cartoons were laid on the prepared panels, held or adhered in place at the edges and black or red pouncing dust carefully rubbed through the holes with either the fingers or a blackened cloth.¹¹⁶⁴ Tests were carried out both on the more textured, oil rich *imprimatura* and the smoother, leaner type. Pigments used as pouncing dust were charcoal, ivory black, black chalk, graphite and red chalk. The cartoons were carefully lifted after pouncing and excess pouncing dust removed from the surface of the panel with light blowing (figs. 756a-l, 757a-i).¹¹⁶⁵

The pounce marks were then joined up by hand using either graphite or black chalk.

A section of the pounced motif was swept clean with a pigeon wing before covering half of the test with a layer of ochre-tinted oil paint.

Further pouncing tests were carried out on tacky underlayers to try to figure out the possible conditions leading to such clear pouncing marks in parts of Brueghel's copy of *The Battle between Carnival and Lent*¹¹⁶⁶ (figs.

¹¹⁶¹ As a further experiment to test the different properties of black chalk and graphite, black chalk and graphite carbon papers were used for tracing the motif directly on the ground layer of a test panel. Half of each tracing was fixed by passing the panel over steam to reactivate the glue in the ground, the other half masked off. When an oil *imprimatura* was brushed over the tracings, in the case of the graphite image the unfixed drawing was partially but not completely removed whereas in the case of the black chalk image, the unfixed outlines were almost completely erased. The fixed zones of both tracings did not smear or disappear at all.

¹¹⁶² The degree of softness and evenness of the line is probably also influenced by the thickness and evenness of the tracing and carbon papers although comparative experiments were not done with papers of different kinds.

¹¹⁶³ In both cases, the paper used for the cartoon was ordinary photocopy paper.

¹¹⁶⁴ Although a cloth pouncing bag is generally suggested in Italian and French treatises as the means by which to rub pouncing dust through the holes in a cartoon, other methods may have been used. Carmen Bambach relates: 'Treatise writers are generally silent about alternatives to using a pouncing bag in pouncing designs for transfer. But according to Saint-Aubin, [De Saint-Aubin, Charles Germain, *L'Art du Brodeur*, Paris, 1770] embroiderers could also carefully daub small pricked patterns with a rag of rolled felt that had previously been dipped into a shallow dish filled with pounce. Although this procedure of smudging was cleaner, it was considered less effective. Artists may have similarly rubbed loose pounce with a blunt miniver brush if the design was small, or with the fingers, cotton, wool, or crushed soft paper if the drawing was large – Armenini's *De' veri precetti* [Armenini, Giovanni Battista, *De' veri precetti della pittura: Libri tre* (1st ed. Ravenna, 1586), Ravenna, 1587] recommends such shortcuts in other types of drawing. A further alternative, whereby the pricked outlines were brushed with liquid ink, is found in a Flemish drawing from 1580 to 1600, an *Adoration of the Magi* (CBC 348), of fairly crude execution' (BAMBACH 1999, p. 77 and notes 273-5).

¹¹⁶⁵ Light blowing to remove excess dust is recommended in source documents. To cite Carmen Bambach again: 'According to Paganino, 'after [pouncing], you will lift the pricked design, and with your mouth you will blow very gently, until the superfluous pounce has been removed.' (*Ibidem*, p. 79 and note 294).

¹¹⁶⁶ The question of why pounce marks remain clearly visible on certain paintings has already been addressed by Jeffrey Jennings in an article entitled, 'Infrared Visibility of Underdrawing Techniques and Media' (JENNINGS 1993, pp. 243-4, pl. 98-102). He suggests the possibility that the

758a-i, 759a-f). Tests were carried out using different pouncing dusts and the two different modes of application (fingers and blackened cloth): tests with black chalk, charcoal and natural graphite pouncing dusts on a tacky *imprimatura* using the fingers to apply the pigment; a test with charcoal pouncing dust on a tacky linseed oil layer on top of the *imprimatura*, using the fingers to apply the pigment; and tests with black chalk, charcoal and graphite pouncing dusts on a tacky linseed oil layer using a blackened cloth to apply the pigment.

‘Contact pouncing’ was also attempted on the smoother *imprimatura* (fig. 760a-f). This is more like a form of tracing as it involves literally tapping a cartoon with a stylus over a ‘carbon paper’ interleaf.¹¹⁶⁷ Three types of ‘carbon paper’ were tried for this: charcoal, natural graphite and black chalk, the blackened interleaf placed face down on the panel under a tracing of the motif on oiled paper.

A final pouncing test was executed directly onto the ground layer, the pouncing marks fixed with steam prior to application of an *imprimatura* layer over the whole surface (figs. 761a-b).

Practical experience and observations

Handling

The application of the pouncing dust through the cartoon was quick and straightforward although care had to be taken in the manipulation of the cartoon to avoid smudging the pouncing dots. There was less excess pigment deposited using the cloth method of application, the round outlines of the pouncing holes often accentuated whilst the centre of each mark is less densely pigmented. The pouncing marks are also neater and less powdery with the cloth method. Where the fingers were used to rub through the dust, the pigment had a tendency to form small piles.

The joining up of the pounce marks with graphite or black chalk is straightforward, the speed of drawing depending entirely on the experience of the particular draughtsman. Following a design over pounced outlines proved a lot quicker than either tracing, where the new drawing lines are hidden under the cartoon and have to be checked by lifting of the sheet, or squaring, where the design to be copied is on a separate surface and the eye has constantly to dart back and forth from the model drawing to the panel. Both the graphite and black chalk drawing lines skip the dips in the more textured *imprimatura*, only marking the ridges (figs. 756e-f, 756h-l).

Contact pouncing was laborious in the same way as tracing.

Where the pounce marks were neither fixed by a tacky underlayer nor wiped with the pigeon wing prior to painting, they ran into the paint leaving ugly smears.

Appearance of the pouncing dots before and after painting

On the textured *imprimatura*, the charcoal pouncing dust, applied with the fingers, left a clear and defined pattern of dots after light blowing; however, wiping with a pigeon wing completely removed all traces of pouncing (fig. 756g-i). In contrast, ivory black pouncing dust, also applied with the fingers adhered less well after blowing but small traces were still slightly visible after wiping with a pigeon wing and painting (fig. 756d-f). Pouncing with black chalk on the textured *imprimatura* using the blackened cloth method resulted in neat pouncing that was totally erased after wiping with a pigeon wing (fig. 756a-c).

On the smoother *imprimatura* layer, the black chalk pounce marks, applied using the blackened cloth method remained clearly visible after wiping and painting; however, the charcoal and graphite pouncing, applied in a similar manner was erased completely (fig. 756j-l).

In the tests with a tacky *imprimatura* layer, pouncing with black chalk and graphite dust, using the fingers to apply the pigment onto the cartoon was partially, but not wholly removed, either during wiping or during painting (figs. 758d-f, 758g-i). In the charcoal test, executed using the same conditions but on a separate panel on a different day, all the pouncing marks remained clearly visible after wiping and painting (fig. 758a-c). In all three cases, small amounts of unwanted pigment dust also remained adhered to the surface.

In the test with charcoal pouncing dust applied with the fingers onto the tacky linseed oil layer, the pouncing dots remained in place after painting; however, some excess pigment dust also adhered to the surface (fig. 759a-c). In tests with charcoal, black chalk and graphite pouncing dusts on a tacky linseed oil layer using the blackened cloth method of application, the pounce marks remained fixed after painting and there was no excess pigment dust adhered to the surface (fig. 759d-f).

transfer process could have been carried out on a slightly wet layer, such as oil, resin or glue noting that this is the principal behind ‘spolvero’ in fresco painting where the pouncing dust adheres to the wet plaster.

¹¹⁶⁷ The notion of ‘contact pouncing’ was first suggested by Jeffrey Jennings. Jennings says that when neat-looking pouncing marks are still visible they may be due to contact pouncing, the reason being to prevent damage to the cartoon from a stylus or pricking. He argues that in the case of a Schaffner portrait, contact pouncing was used to distinguish subsidiary contours whilst major forms were indicated by ordinary traced lines (*Ibidem*, p. 244).

In the tests with contact pouncing, only the charcoal interleaf gave a satisfactory result. The tiny dots, much smaller than those produced by traditional pouncing remained after painting (figs. 760a-f).

Influence of individual drawing style

As with squaring, the quality of the drawing line is determined by the artist's particular style as well as by the drawing material used; however, using pouncing it is easier for an amateur to arrive at a good result in terms of mastery of form as the outlines are already laid out in dot form on the panel itself.

Fidelity of copy to model

Faithfulness to the model, as with tracing, is a characteristic of this method. Obviously, the more elaborate the extent of the pounced outlines, the more accurate the result; however, for certain subtle details pouncing is not always possible and the artist would have to have referred to a separate, more detailed model sheet.

Conclusions

Transferring a complex design by pouncing, following by joining up of the dots freehand proved to be the fastest and most efficient way of all the methods tested to accurately reproduce a design. As pointed out by Carmen Bambach in her book, 'Drawing and Painting in the Italian Renaissance workshop', it does not take much skill to transfer a design by pouncing, and the technique therefore facilitates a division of labour within the studio.¹¹⁶⁸ She mentions that pouncers were at the bottom of the hierarchy in a workshop and that transferring patterns could be delegated to junior members of the workshop, even children sometimes.¹¹⁶⁹ The speed of the drawing stage depends entirely on the skill and experience of the artist, but even a less practised hand can arrive at a very satisfactory result unlike with squaring, which demands more draughtsmanship. The freehand nature of the drawing gives a more varied and animated outline than tracing and can reveal the stylistic traits of a particular artist.

For large format paintings, it would have been more straightforward to use sections of cartoon rather than a full scale sheet to avoid shifting of the cartoon and smudging of the pouncing dots during transfer.

The method of application of the pouncing dots, whether rubbing the cartoon with a blackened cloth or the fingers did not appear to affect the permanence of the pouncing dots. On the other hand, the type of *imprimatura* did seem to affect the permanence of the dots in one comparative test; when black chalk using a blackened cloth was applied through a cartoon onto the less-textured and less oily *imprimatura*, all the pouncing marks remained clearly visible after painting unlike the same test on the more textured *imprimatura* where all traces of pouncing completely disappeared.

Of the tests with a tacky surface to produce permanent pouncing, as seen in parts of the *Battle between Carnival and Lent*, both the *imprimatura* and linseed oil layers gave positive results, albeit more predictable in the case of the pure oil layer. The tests on the tacky *imprimatura* show that the pouncing adheres to a greater or lesser extent depending on the timing of the transfer, in the same way as oil gilding.¹¹⁷⁰

Pantograph

Methodology

A simple modern aluminium pantograph was used for the tests (fig. 763), as the basic principals and working of the pantograph have not changed much since its publication by Christophorus Scheiner in 1631 (fig. 764a-d).¹¹⁷¹ This consists of a parallelogram of levers with a fixed point, a plotting pin/drawing point and a guiding pin.

A series of tests were carried out to produce both 1:1 copies of the model and enlargements, the change in scale obtained by adjusting the locations of the fixed point, guiding pin and the drawing point on the levers. For the 1:1 copies, the fixed point must be in between the pointer and the drawing point. In practice, this implies that the fixed point must either be pinned to the panel in some way, or be attached by some sort of support, the support in turn fixed to the table.

As well as using the pantograph to copy the figural motif from the *Census at Bethlehem* (fig. 766a-d) and part of the *Winter Landscape with Bird Trap* composition (fig. 765a-b), two further architectural motifs from the latter composition were also tested as these were assumed to be the types of motifs most likely to have been transferred with the aid of the pantograph (figs. 767a-d).

¹¹⁶⁸ BAMBACH, p. 80.

¹¹⁶⁹ *Ibidem*, p. 30.

¹¹⁷⁰ If the cartoon is applied to the surface of the panel too soon after application of the *imprimatura*, it will stick to it; if it is applied at a certain critical 'tacky' period during the drying of the *imprimatura*, the pigment particles will impress lightly into it.

¹¹⁷¹ SCHEINER 1631.

The tests were carried out using a graphite drawing point on cartridge paper and never progressed to panel as the experience was already considered revealing enough to draw conclusions.

Practical experience and observations

Handling and appearance

The experience was not encouraging. Of all the transfer techniques, this method proved to be the least instinctive.

The pushing and pulling actions required to move the levers hampers the smooth tracing of complex outlines. Manipulating a vertically fixed metal pointer does not allow for any natural twists of the artist's wrist in the direction of the drawing line, unlike the other methods of copying. Sometimes the levers obscure the drawing being copied, slowing down the work. The resultant images are jerky and lacking in artistry. Straight lines are often wobbly due to the pushing action.

Moving from one motif to another necessitates lifting up and repositioning of the pointer (figs. 764b, 764d), extremely finicky for small shapes such as the windows in the detail with buildings (fig. 767b).¹¹⁷² After lifting, it is difficult to realign the pointer exactly leading to small gaps in the copied drawing. Obviously, details such as hatching are overly laborious with the pantograph as the pointer has to be lifted and repositioned between each single hatching stroke; these types of notation would probably have been added later were a pantograph used.

With the small pantograph used by the author, only single motifs or small areas can be done at a time, otherwise the model drawing obstructs the surface onto which the design is to be copied. However, this problem could have been overcome by making a pantograph with an extension to the arm holding the drawing point.

The 'drawing' process, like tracing is carried out almost blind as the eye has to follow the outlines to be copied with the pointer rather than checking the resultant copied image. This leads to inevitable omissions and repetitions of lines. It is doubly difficult to check work in progress when copying in a 1:1 ratio as one of the images is upside down. Since it is most efficient to continue along a line and around forms until forced to stop to lift the pointer, there are inevitable oversights of parts of forms.

The appearance of the copied lines is extremely mechanical; they are of uniform thickness and density, depending on the sharpness and hardness of the point and there is no tapering at all at the ends. Corners of forms such as buildings often end up a little rounded if the pointer is moved too quickly.

Influence of individual drawing style

The mechanical nature of the pantograph and the pushing/pulling actions required to move the pointer totally eliminate any signs of individual drawing style. Differences in the appearance of the same drawing copied by different artists are attributable to the speed and care taken by the draughtsman rather than to his artistic ability, to an even greater extent than tracing.

Faithfulness of copy to model

Although totally mechanical, it is extremely difficult to obtain a faithful copy without omissions, rounded edges in places or unwanted additional lines where lifting is forgotten. However, when the same motif is copied twice with the pantograph and the outlines overlaid, their correspondence is extremely close, akin to that obtained with tracing (figs. 766a-d). Any divergences are, as in tracing, due to the operator of the pantograph not following the lines closely enough with his pointer, rather than to any 'wobble' or other problems with the instrument itself.

Conclusions

The experience of using the pantograph showed that of all the methods tested, it was the most clumsy, laborious and impractical. The only real requirement of the artist is patience and the ability to follow a line. When employed to indicate quickly the main outlines of a motif without lifting, the pantograph results in a 'scribbled' drawing that is different in style from any underdrawing detected by the author in works from the Brueghel workshop (fig. 764c).¹¹⁷³ Even when great care is taken and the drawing point is lifted for every fresh outline, the pantograph-copied drawing is stiffer and more stilted than the underdrawing of the corresponding motif in Brueghel's copies, particularly in the case of the *Winter Landscape with Bird Trap* composition, the latter

¹¹⁷² An improved version of the pantograph by Claude Langlois, presented at the *Académie des Sciences* in 1743 attempted to address this problem. The entry on the pantograph in the 'Encyclopedie ou dictionnaire raisonné des sciences, des arts et des métiers' describes several of Langlois' modifications to the instrument, including one related to the lifting of the drawing point: 'à la tête du porte-crayon s'attache un fil, avec lequel on le soulève à volonté, pour quitter un trait & en commencer un autre, sans interrompre le mouvement des règles, & sans les déplacer' (DIDEROT and ALEMBERT 1765 (facsimile 1966, vol. 11, p. 827). However, my modern pantograph has no such modification, and follows more closely Christophorus Scheiner's original design (SCHEINER 1631).

¹¹⁷³ Hélène Verougstraete and Roger Van Schoute suggested the use of the pantograph for the underdrawing of the Bâle version of Brueghel the Younger's *Triumph of Death*, see note 373.

containing complex details not lending themselves to copying with a pantograph. Nonetheless, despite technical and stylistic difficulties, the pantograph gives an extremely close correspondence to the model, to the same degree as with tracing.

Alternative methods

Tracing in red chalk, followed by freehand drawing in a carbon-based medium

The detail with houses was traced using a 'carbon paper' of Conté red chalk onto the more textured *imprimatura*. The traced lines were joined up black chalk. The test was then half painted with light toned oil colour (fig. 768a-b). A later test with an interleaf prepared with natural red chalk and executed on a panel with the smoother *imprimatura* did not produce outlines dark enough to be copied.

The red chalk lines remained slightly visible through the paint where the overlying dark drawing lines did not completely conceal them. The black chalk lines smeared slightly during painting. The method is overly laborious for this type of subject detailed matter as the same effort required to trace the image in red chalk had to be repeated for the carbon black underdrawing stage.

Tracing in red chalk, followed by drawing in black ink using the pin feather of a woodcock

On top of a red chalk tracing, as above, the outlines were indicated using black ink applied with the pin feature of a woodcock. Half the test panel was then painted with light toned oil colour (fig. 769a-b).

Extremely fine and even lines were produced using the woodcock feather as a drawing tool but their intense black tonality, together with the smooth flowing quality of the line, does not resemble any underdrawing from Brueghel the Younger's workshop. Furthermore, as with the previous test, the red chalk traced lines remained slightly visible through the light coloured paint layer.

Overall conclusions

Of the four principal methods tested, only the pantograph can be thoroughly excluded from consideration in relation to the oeuvre of Brueghel the Younger. Squaring, pouncing and tracing can all be retained as possible transfer methods, although certain techniques are clearly more likely to have been used in particular types of compositions, squaring for instance being unlikely for the *Winter Landscape with Bird Trap composition* owing to the high degree of correspondence required. If squaring were used for certain compositions requiring less accuracy of correspondence, as for example in the *Census* series,¹¹⁷⁴ the grid would have been drawn with charcoal (subsequently rubbed away, as no squaring lines are detected in infrared) or a stringed frame employed. Tracing proved to be a relatively straightforward and undemanding means of accurately transferring the image for smaller compositions, although the traced image had to be checked for possible omissions by lifting the cartoon and interleaf during transfer. Pouncing was by far the easiest and most efficient method of copying, producing an accurate correspondence to the model with minimum effort. The tests show that under certain conditions, pouncing marks remain entirely visible in infrared after painting, in some instances they are only partially retained and in other conditions they are totally erased. Pouncing was probably the transfer technique best-suited to the needs of a busy and commercial enterprise such as Brueghel's. Once the basic technique was learned, the task could have been delegated to lowly members of the workshop.¹¹⁷⁵ As long as the surface was no longer tacky, any mistakes could have been erased and the cartoon transferred again.

In terms of drawing materials, both black chalk and graphite performed well in the tests. Black chalk sometimes adheres very well to the surface with no dragging of material, in other instances it smears slightly. The line quality varies considerably according to the sharpness of the point, the texture of the underlying layer and the pressure applied by the artist. The particular style of the artist comes out more with black chalk than with graphite as the line reacts more to pressure. Graphite hardly ever smeared after painting as it was more thinly and evenly deposited on the surface of the panel. The line quality of graphite varies slightly from soft to relatively crisp, depending on the sharpness of point and the texture of the underlying surface. Black chalk produces generally darker lines than graphite.

These test results can be used for direct comparison with underdrawings on a case-by-case basis and can serve to supplement other forms of investigation such as the superposition of tracings of the painted compositions.

¹¹⁷⁴ See Chapter I, Section 7.2.8.g.ii, where superpositions of tracings of this composition are discussed.

¹¹⁷⁵ BAMBACH 1999, p. 2 and note 10.

Appendix 2

APPENDIX 3a
Correlation between six copies and original version of
Census at Bethlehem

COPY	REFERENCE	SLOPE	INTERCEPT	CORRELATION COEFFICIENT	ERROR
Private. Coll.	Original	102.4%	-0.84	0.9997	1.04
Mayer	Original	101.5%	0.23	0.9999	0.60
Brussels	Original	102.6%	-0.36	0.9998	0.90
KMSK	Original	102.2%	-0.61	0.9999	0.58
Caen	Original	101.4%	-0.05	0.9996	1.14
Arras	Original	101.7%	-0.63	0.9997	0.95
KMSK	Private coll.	99.8%	0.27	0.9999	0.72
KMSK	Mayer	100.7%	-0.83	0.9999	0.58
Mayer	Private coll.	99.1%	1.11	0.9998	0.91
Brussels	Arras	100.8%	0.33	0.9995	1.38
Arras	Caen	100.2%	-0.53	0.9997	1.09
Brussels	Caen	101.0%	-0.22	0.9993	1.59

APPENDIX 3b

Raw measurements for correlation study in *Census at Bethlehem series*

Raw measurements made from Bruegel the Elder's original version (painting surface) and from tracings of six copies from Brueghel the Younger's workshop.

ORIGINAL VERSION BY BRUEGEL THE ELDER	PRIVATE COLLECTION	MAYER VAN DEN BERGH	BRUSSELS	KMS K	CAEN	ARRAS
117.7	120.7	119.9	121.4	119.5	118.0	118.8
53.6	55.0	55.1	55.9	55.1	53.7	54.7
137.2	139.8	139.8	142.2	139.9	137.3	137.7
157.0	159.9	159.1	161.5	159.4	156.9	157.5
83.0	83.4	84.3	85.5	84.1	83.9	83.3
107.0	108.5	108.0	109.9	109.0	106.8	106.4
104.1	104.1	105.0	105.9	105.3	103.8	103.3
80.3	80.3	81.9	82.4	80.9	80.0	79.1
56.5	54.1	56.4	55.1	56.1	56.4	56.3
85.0	84.6	86.7	87.0	85.6	85.9	84.3
80.1	79.8	81.7	80.9	80.7	80.5	80.8
28.8	28.0	28.8	28.6	28.3	29.0	29.2
90.3	90.1	91.9	92.7	90.8	91.0	91.4
81.1	81.3	83.1	82.8	82.0	82.0	82.0
57.2	58.5	58.5	58.0	57.9	57.8	58.4
103.0	104.3	104.3	104.5	104.8	104.5	104.1
78.0	80.0	79.4	78.7	79.9	79.3	78.6
124.2	125.7	126.0	125.3	126.2	125.3	126.1
146.8	148.5	149.0	149.0	149.0	149.8	149.4
98.2	99.6	99.5	99.7	99.8	99.4	99.5
160.0	163.0	163.2	163.0	162.9	163.9	162.7
163.4	166.9	166.8	166.2	166.5	167.0	166.3
140.3	143.3	142.5	143.6	142.7	143.3	142.6
108.8	110.1	110.2	110.6	110.5	111.5	110.0
104.1	105.4	105.5	106.0	105.7	106.2	105.3
152.7	156.7	156.2	157.3	155.7	156.0	156.5
141.2	144.5	143.8	145.0	145.0	142.3	143.7
152.7	156.2	155.7	156.9	157.0	154.0	155.3
50.6	51.5	51.0	51.9	51.1	53.0	50.0
122.4	125.4	123.5	125.7	124.1	125.0	122.6
68.8	70.7	69.5	70.5	69.8	71.2	68.9
108.0	110.4	109.9	110.6	109.8	111.3	109.2
62.3	63.8	63.9	63.8	63.4	65.2	63.5
64.6	66.4	66.8	65.7	66.0	65.7	66.3
27.5	29.1	29.5	29.1	28.7	27.9	28.4
52.7	53.2	54.4	53.9	53.3	53.0	52.5
14.0	14.3	14.4	14.3	13.9	13.9	14.1

APPENDIX 4

Variable motifs according to group in *Census at Bethlehem* series

VARIABLE MOTIFS	ORIGINAL VERSION BY BRUEGEL THE ELDER	GROUP 1: LONS-LE-SAUNIER, MAYER, ARRAS	GROUP 2: PRIVATE COLL. (1604), SOTHEY'S, FINCK	GROUP 3: VADUZ (1607), LILLE	GROUP 4: BRUSSELS (1610), CHRISTIE'S, CAEN	KMSK	BONNEFANTEN-MUSEUM
Figures in doorway of church	Two figures	Absent	Private coll.: absent in underdrawing and paint layer; Sothey's: One figure; Finck: absent	Two figures	Brussels: Two figures; Christie's: one figure; Caen: one figure	Two figures	Two figures
Figure(s) or horse/mule motif, upper left, below church	Mule	Two figures only. Horse motif in Mayer underdrawing (not in Lons-le-Saunier nor Arras underdrawing)	Horse	Horse	Brussels: horse only; Caen: single figure but what looks like man on horse in underdrawing; Christie's: single figure.	Two figures	Horse
Figure in doorway, upper left	Present	Absent	Private coll.: absent; Finck: absent; Sothey's: present	Present	Present	Absent	Absent
Small isolated girl on ice, in upper left between central house and tree	Present	Absent	Present	Present	Brussels: present; Caen: absent (but could be absent due to damage); Christie's: present	Present	Male figure in this spot
Half-sunken boat, upper left	Present	Present	Absent	Present	Present	Present	Present
Little girl moving towards half-sunken boat, upper left	Present	Mayer: present in underdrawing only; Lons-le-Saunier: present in underdrawing only; Arras: absent	Absent	Absent	Present	Absent	Present
Adult and child pair, river bank, upper left	Male figure and child	Absent	Mother and child	Mother and child	Mother and child	Absent	Absent
Pair of figures, upper left frozen pond, just above men transporting barrel across ice	Two men	Two men	Two men	Two men	One man, One woman	Two men	Two men

Dog, upper centre	Present	Mayer and Arras: present; Lons-le-Saunier: present in underdrawing only	Present	Present	Brussels: present in underdrawing only; Caen and Christie's: absent	Present	Present
Wheel leaning against central house, to far left	Wheel in paint layer	Absent	Absent	Present in underdrawing only	Brussels: present in underdrawing only; Caen and Christie's: absent	Present in underdrawing only	Present in underdrawing only
Figures huddling around fire against central house and small group of figures to right of large group (numbers of figures and drapery colours vary from group to group)	Arrangement of figures and colours unlike any of the copies	Same number, positions and drapery colours within group	Same number, position and drapery colours within group except that Sotheby's version lacks the second from left figure and another figure has a red hat unlike the other two versions.	Same number, positions and drapery colours within group	Same number, positions and drapery colours within group	Centre group almost identical to Group 1 but small group to right is different	Different arrangement to all groups.
Finishing materials used in building central house	Rendering and brickwork (individual bricks undefined).	Brick and wood (individual bricks defined)	Brick and wood (individual bricks defined)	Brick, rendering and wood (individual bricks defined)	Brick and wood (individual bricks defined)	Brick and wood (individual bricks defined)	Brick and wood (individual bricks defined)
Group of soldiers and civilians, centre right (number of figures and positions vary)	Arrangement of figures not identical to that in any of the copies	Identical number and positioning of figures within group	Similar arrangement of figures but one more soldier in private coll. version; also man with oriental hat has yellow cloak in Sotheby's version and dark cloak in Finck and priv. coll. versions	Identical number and positioning of figures within group	Appears similar but Brussels version is very damaged in this area	Similar but not identical to Group 1	Similar but not identical to Group 1 (but different from Antwerp)
Tree in front of rooftop of house to left of leftmost tower, upper right	Present	Absent	Private coll.: absent; Sotheby's: present; Finck: absent	Present	Brussels: present in underdrawing only; Christie's: present; Caen: present in underdrawing only	Absent	Absent
Diamond-shaped mound of snow, lower right frozen pond	Hole in ice	Present	Present	Absent	Present	Present	Present
Children on toboggans, lower right frozen pond	Two	Two	One	Two	Two	One	Two
Wooden stakes, bank of	Two	Two	Two	Two	One	Two	Two

Lower right frozen pond.							
Logs, supporting 'bridge' in lower right frozen pond	Probably three	Two	Three	Three	Three	Three	Three
Number of steps in gable of central house	Eight	Mayer: nine; Arras and Lons-le-Saunier: eight	Eight	Vaduz: seven; Lille: eight	Eight	Eight	Eight
'Variable' gable of house in upper right	Left gable shown; timbered frame not visible	Left gable shown; visible timbered frame	Right gable shown; no timbered frame	Left gable shown; no timbered frame	Right gable shown: no timbered frame	Left gable shown; timbered frame visible	Left gable shown; timbered frame visible
'basket' hanging sideways below roofline of inn on left	Present	Absent	Absent	Absent	Absent	Present	Absent
Bowed metal grill on window, lower left inn.	Present	Mayer and Lons: present; Arras: present in underdrawing only	Absent	Absent	Absent	Present in underdrawing only	Present
Letter held by man in doorway of inn, lower left	Absent	Present	Present	Present	Brussels and Caen: present; Christie's: absent	Absent	Present
Knife on belt of man slaughtering boar	Present	Mayer and Lons-le-Saunier: absent; Arras: in underdrawing only	Present	Present	Brussels and Christie's: present; Caen: in underdrawing only	Present	Absent
Joseph's tools and shape of basket	Rounded wicker basket; one tool visible in basket	Straight-sided, narrow bottomed wicker basket, tools differ from copy to copy	Straight-sided, wide-topped wicker basket; tools same in Sotheby's and Finck; additional square in private coll.	Straight-sided, wide-bottomed basket; identical tools within group	Straight-sided basket with similar tools but not identically positioned	Basket quite like that in Group three; tools similar but not identical to those in private coll.	Straight-sided narrow basket; individual arrangement of tools
Side turret on rightmost tower, upper right	Present	Present	Absent	Present	Present	Present	Present
Central house: shuttered/open windows, figure leans out of one window.	Distribution of shuttered windows not identical to any copy; figure leans out of window.	Same distribution of shuttered windows between Mayer and Lons-le-Saunier; slightly different distribution in Arras; no figure leaning out of window in any version	Same distribution of shuttered windows within group; no figure leaning out of window	Same distribution of shuttered windows within group; figure leans out of window	Same distribution of shuttered windows within group; figure leans out of window	Not identical to any group; no figure leaning out of window	Not identical to any group; no figure leaning out of window
Central house: two	Present	Absent	Present	Present in Vaduz.	Present	Present	Present

small windows at ground floor level				Present in Lille in underdrawing only.			
Shape of roof gable, just under right side branch of tree with 'Swan inn'	Rounded arch	Shallow arch	Completely flat	Completely flat	Rounded arch, as in original	Shallow arch, as group 1	Smaller arch within same space.
Reeds, lower left bank of lower right frozen pond	Absent	Absent	Private coll. and Finck: absent; Sotheby's: present	Some reeds present in both versions but not all along	Brussels and Christie's: present; Caen: present in underdrawing only	Absent	Absent
Town or church on horizon	Present	Absent	Private collection and Finck: absent; Sotheby's: present	Present	Brussels: present; Caen: present in underdrawing only; Christie's: not enough detail in photograph to judge	Absent. Sun on horizon in underdrawing and paint layer.	Absent.
Small set of trees on river bank, upper left landscape vista: these vary in number and position and appearance	Arrangement unlike any copy.	Same number and position within group	Same number and position within group	Same number and position within group	Same number and position within group	Appears to be same as Group one	Unique arrangement of trees.
Marks or symbols painted in black on axe, lower left foreground	Not distinguishable	Very similar symbol within group, not seen in other groups	Very similar symbol within group, not seen in other groups	Very similar symbol, not seen in other groups.	Brussels: absent; Caen: star; Christie's: cannot distinguish from photograph	Same symbol as Group 1	A star, as in Caen

APPENDIX 5 Variable motifs and colours in *Sermon of Saint John the Baptist* series

PAINTING	DATE	SUPPORT	FORMAT	SIG.	MAN HAVING PALM READ	FERNS	BOAT	PATTERN ON BOY'S WRAP	STRIPE ON GYPSY'S CLOAK	INTERMEDIARY TREES, U.R.	TOADSTOOLS	SECOND LINE OF HEADS, U.L.	DRAPERY COLOUR OF ORIENTAL FIGURE, LEFT
Bruegel the Elder, Budapest	1566	Panel	Large	Yes	Present	Long	Present	Present	Present	Present	Present	Present	Green?
Priv. Coll, ex-coll Grazia (Ertz E340)	No	Panel	Large	EV	Absent	Long	Present	Present	Absent	Present	Absent	Absent	Ochre
Lier, Stedelijk Museum Wuyts-Van Campen en Baron Caroly, inv. 44 (Ertz E334)	1624	Panel	Large	EV	Present in drawing	Long	Absent	Present	Absent	Present	Present	Absent	Ochre
London, Christie's 1994 (Ertz E341)	No	Panel	Large	No	Absent	Long	Present	Present	Present	Present	Present	Present	Ochre
Jan Brueghel the Elder?, Dresden, Gemaldegalerie, inv. 819a (Ertz E356a)	No	Panel	Large	No	Absent	Long	Present	Present	Absent	Present	?	Present	?
Jan Brueghel the Elder, Munich, Alte Pinakothek, inv. 834 (Ertz 1979, cat. 51)	1598	Panel	Small	Yes	Present	Long	Present	Present	Absent	Present	Present	Present	Green/ochre?
Jan Brueghel the Elder, Öffentliche Kunstsammlung Basel, Kunstmuseum, inv. 139 (Ertz 1979, cat. 52)	No	Panel	Large	No	Present	Long	Present	Present	Absent	Present	Present	Present	Ochre
Munich, Alte Pinakothek, inv. 1885 (Ertz F350)	No	Panel	Large	No	Present	Long	Present	Present	Absent	Present	Present	Present	?
Paris, coll. Balkany 1969 (Ertz F351)	No	Canvas	Large	Yes	No, but hands of gypsy are	Long	Present	Present	Absent	Present	Present	Present	Ochre
Bern, coll. Ludwig, 1969 (Ertz E333)	1620	Panel	Large	EV	Absent	Long	Present	Present	Absent	Present	Absent	Present	?
Lille, Musée des Beaux-arts, inv. 765 (Ertz A358)	No	Canvas	Large	No	Absent	Long	Present	Present	Present	Present	Present	Present	Light
Belgium, priv. Coll., 1991 (Ertz F345)	No	Panel	Large	No	Present	Short	Present	Absent	Absent	Present	Absent	Present	Dark
Bruges, Groeningemuseum, inv. 0.1561 (Ertz E338)	1620+	Panel	Large	No	Absent	Long	Present	Present	Present	Present	Present	Present	Ochre
Antwerp, Koninklijk museum voor Schone kunsten, inv. 777 (Ertz E336)	No	Panel	Large	No	Present	Short	Absent	Absent	Absent	Absent	Absent	Absent	Green
Paris, Gal. De Jonckheere, 1989, no. 7 (Ertz E343)	No	Panel	Large	No	Present	?	Absent	Absent	Absent	Absent	Absent	Absent	?
London, Johnny Van Haefton, 2002, no. 10 (Ertz F353)	No	Panel	Large	No	Present	Short	Absent	Absent	Absent	Absent	Absent	Absent	Green
Belgium, priv. coll. 1995 (Ertz E337)	No	Panel	Large	No	Present	Short	Absent	Absent	Absent	Absent	Absent	Absent	Green
Krakow, Muzeum Narodowe w Krakowie, in. MNK XII-A-619 (Ertz E339)	No	Panel	Large	No	Present	Short	Absent	Absent	Absent	Absent	Absent	Absent	Dark
Valenciennes, Musée des Beaux-arts, inv. P.46.1.203 (Ertz F355)	No	Canvas	Large	No	Present	?	Absent	Absent	Absent	One present	Absent	Absent	?
Bonn, Rheinisches Landesmuseum, inv. G.K.34 (Ertz E331)	1601	Panel	Large	VE	Present	Short	Absent	Absent	Absent	One present	Absent	Absent	Green
Esslingen, priv. coll (Ertz E335)	1636	Panel	Large	Yes	Present	Short	Absent	Absent	Absent	One present	Absent	Absent	?
Piasa, Drouot, 8 December 1996 (not in Ertz)	No	Panel	Large	VE	Present	Long	Present	Present	Absent	Present	Present	Present	Ochre
London, Sotheby's, 9 April 1986, no. 12 (Ertz E342)	1565?	Panel	Large	BRV EGEL	Present	Long	Present	Present	Present	One present	Present	Present	Green

APPENDIX 6a
Correlation between two copies and original version of
Adoration of the Magi

COPY	REFERENCE		INTERCEPT	CORRELATION COEFFICIENT	ERROR
Antwerp	Original	97.5%	-0.02	0.9997	0.31
Brussels	Original	97.3%	-0.03	0.9998	0.26
Brussels	Antwerp	99.8%	-0.06	0.9998	0.25

APPENDIX 6b

Raw measurements for correlation study in *Adoration of the Magi* series

Raw measurements made directly from x-radiograph of original version and from tracings of two copies.

ZONE	ORIGINAL VERSION BY BRUEGEL THE ELDER (WINTERHUR)	COPY BY BRUEGHEL THE YOUNGER (ANTWERP KMSK)	COPY BY BRUEGHEL THE YOUNGER (BRUSSELS MRBAB)
Lower left			
A	26.0	24.9	24.9
B	29.1	28.2	28.1
C	37.5	36.2	36.4
D	54.4	53.3	53.4
E	15.7	15.6	15.4
F	46.3	45.1	44.8
G	45.1	44.1	44.0
H	25.6	25.4	25.3
I	18.5	18.2	17.6
J	33.8	33.7	33.0
Upper left			
A	21.1	20.1	20.3
B	44.1	43.1	42.9
C	26.4	25.7	25.7
D	36.2	35.0	34.9
E	45.8	44.4	44.3
F	39.6	38.2	38.3
G	29.0	28.0	27.9
H	29.9	28.7	29.0
I	25.6	24.4	24.4
J	8.6	8.3	8.4
Lower right			
A	21.2	20.4	20.8
B	9.2	9.0	9.0
C	20.6	20.0	20.3
D	30.1	29.2	29.5
E	30.1	29.2	29.5
F	44.9	43.5	43.9
G	29.8	29.2	29.4
H	44.1	43.1	43.3
I	20.5	20.1	20.4
J	4.2	4.1	4.3
Upper right			
A	35.7	35.2	35.0
B	27.9	27.7	27.5
C	44.0	43.2	43.2
D	25.7	25.4	25.3
E	28.5	27.8	27.6
F	35.1	34.3	34.3
G	11.1	11.0	10.8
H	25.2	24.3	24.5
I	11.7	11.5	11.4
J	12.4	12.2	12.4

APPENDIX 7 Variable motifs and colours in Peasant Lawyer series

PAINTING	DATE	SIG.	FORMAT	SLEEVE MAN FAR LEFT	RIGHTMOST SOCK	LEFTMOST BOOT	CENTRE LEFT BOOT	LAWYER'S COAT	PLAITED STRAW/CLOTH	STRAW MATTING	DIRECTION OF HOOKS
Priv. coll., Neuilly, 1979 (Ertz E489)	1615	VE	Medium	?	?	?	?	?	Plaited straw	Absent	Right
Priv. coll., Spain, 1998 (Ertz E490)	1616	VE	Medium	Red	Blue	Brown	Brown	Red	Cloth	Absent	Left
Marseilles, Gal. Goyet, 1996 (Ertz E491)	1616	VE	Small	?	?	?	?	?	Plaited straw	Present	Left
Paris, Leegenhoek, 1986 (Ertz E493)	1616	EV	Small	?	?	?	?	?	Plaited straw	Absent	Right
London, Sotheby's, 27.03.74, no. 44 (Ertz E492)	1616		Small	?	?	?	?	?	Plaited straw	Absent	Left
Milan, Surati coll., 1937 (Ertz E494)	1617	EV	Large	?	?	?	?	?	Plaited straw	Absent	Right
Paris, Musee du Louvre, inv. R.F. 1973-37 (Ertz F541)	1617	VE	Small	Red	Blue	Brown	Brown	Ochre	Cloth	Absent	?
Priv. coll., Courtrai, 1969 (Ertz E495)	1618	EV	Small	Red	Blue	Brown	Brown	Red	Cloth	Absent	Left
Maastricht, Bonnefantenmuseum, inv. 3816 (Ertz E496)	1618	EV	Medium	Light blue-grey	Blue	Red/brown	Red/brown	Purple	Cloth	Absent	Left
Priv. coll., Uruguay (Ertz E497)	1618	EV	Small	Red	Blue	Red/brown	Red/brown	Red	Cloth	Absent	Left
Norwich, Castle Museum, inv. 272.975 (Ertz E498)	1618	EV	Small	Red	Blue	Purple	Purple	Purple	Cloth	Absent	Left
Paris, Gal. Carsen, 1986 (Ertz E499)	1618	EV	Small	Red	Red	Dark	Dark	Red	Cloth	Absent	Left
Paris, Gal. Gismondi, Biennale Paris, after 1985 (Ertz E502)	1619	EV	Small	Red	Blue	Grey/blue	Grey/blue	Purple	Cloth	Absent	Left
Paris, Gal. Leegenhoek, after 1981 (Ertz E503)	1619	EV	Small	?	?	?	?	?	Cloth	Absent	Left
Priv. coll., New York after 1940 (Ertz E501)	1619	?	Very small	?	?	?	?	?	Cloth	Absent	Left
Bruges, Groeningemuseum, inv. 0.1606 (Ertz E504)	1620	EV	Small	Red	Blue	Purple	Purple	Purple	Cloth	Absent	Left
Dieren, Gal. Katz, after 1937 (Ertz E505)	1621	VE?	Medium	?	?	?	?	?	Cloth	Absent	?
Ghent, Museum voor Schone Kunsten, inv. 1952-G (Ertz E506)	1621	EV	Medium	Red	Red	Dark grey	Dark	Purple	Cloth	Absent	Left – right in underdrawing
Paris, Leegenhoek, 1991 (Ertz E507)	1622	EV	Medium	?	?	?	?	?	Cloth	Absent	Left
London, Brod Gallery, before 1993 (Ertz E510)	161.	EV	Small	?	?	?	?	?	Plaited straw	?	Left
Paris, Musee des Arts Decoratifs, inv. Pe160 (Ertz F540)	No	No	Medium	?	?	?	?	?	Cloth	Absent	Left
London, Phillips, 01.07.97, no. 23 (Ertz F539)	No	No	Small	Red	Blue	Purple	Purple	Purple	Cloth	Absent	Left
London, Christie's, 26.11.71.no. 3 (Ertz F531)	No	No	Small	?	?	?	?	?	Cloth	Absent	Left
Amsterdam, Sotheby's, 22.11.89, no. 56 (Ertz A547)	No	No	Medium	Red	Red	Dark grey	Purple	Purple	Cloth	Absent	Left
London, Bonhams, 13.12.98 (Ertz E508a)	No	No	Small	?	?	?	?	?	Cloth	Absent	Left?

London, Sotheby's, 20.04.88, no. 50 (Ertz F536)	No	No	Medium	Red	Blue	Purple	Red/brown	Purple	Cloth	Absent	Left
Jerusalem, Israel Museum, inv. 504/189 (Ertz E508)	No	VE	Small	?	?	?	?	?	Plaited straw	Present	Right
London, Christie's, 11.07.2001 (Ertz F538)	No	No	Medium	Light blue-grey	Blue	Blue/grey	Purple	Purple	Plaited straw	Absent	Left
Squerryes Court, Kent, 1992 (Ertz F544)	No	No	Small	Light blue-grey	Dark	?	Dark	Purple	Plaited straw	Absent	?
Priv. coll., Paris, Gal. d'Art St. Honore, after 1998 (Ertz 511a)	No	No	Medium	Light blue-grey	Blue	Red/brown	Red/brown	Red	Plaited straw	Present	Right
London, Christie's, 08.12.95, no. 7 (Ertz E509)	No	EV	Medium	Light blue-grey	Blue	Red/brown	Red/brown	Red	Plaited straw	Present	Right
Priv. coll., France (Gal. d'Art St. Honore 12.01.94, no.71) (Ertz E511)	No	EV	Small	Light blue-grey	Blue	Dark grey	Dark	Purple	Plaited straw	Absent	Left
Priv. coll., Madrid, 2002 (Ertz F532)	No	EV	Small	Cream	Blue	Red/brown	Red/brown	Red	Plaited straw	Absent	Left