Gunnar Heydenreich

Lucas Cranach the Elder

Painting materials, techniques and workshop practice
Lucas Cranach the Elder and workshop,

LUCAS CRANACH
THE ELDER

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and workshop practice

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Preface

‘Each new art form is, in effect, a new technique’
Jede neue Kunst ist letzten Endes eine neue Technik
Max Liebermann

Interest in the manual and artistic practices of Lucas Cranach the Elder goes hand in hand with the historic reception of his painted works. The desire to partake in the creative processes, long since completed, is reflected in numerous investigations. Individual aspects of the creation of a painting are explored from varying perspectives and by different methods. However, despite a flow of publications, including scientific results, knowledge of the working procedures adopted by the Wittenberg court painter still remains fragmentary.

This study is the first coherent description of the techniques, studio practices and materials used by Lucas Cranach the Elder. The purpose and aim is to increase the understanding of the complex practical crafting skills and artistic activities within his painting workshop. Not only will this reveal a wide spectrum of design elements, but it will also explore the interrelationship between materials, techniques and the artistic forms of expression. In addition to the choice of materials and skilled craftsmanship, combined with artistic working methods, attention is also focused on artistic exchange. The education and early places of residence of the Kronach-born artist remain unclear. Interest thus concentrates on the question: Where did he find stimuli for his choice of materials and techniques, and in what way were these modified by the workshop processes? Also: How did the techniques used by the artist – who was celebrated during his lifetime for his speed – vary from those of his contemporaries? It is known that his Wittenberg workshop was marked by an enormous efficiency, but to what extent does Cranach’s speed result from the application of new techniques? This investigation of his materials and design elements aims to provide answers to further questions, for example: Did Cranach rely on a consistent set of techniques which remained essentially unchanged during his lifetime, or did he alter his painting process over...
the years? Did he create new forms of expression by experimenting with variations in individual techniques? To what extent does his choice of materials and techniques vary according to the commission? And if so, does this mean that stylistic analyses to date should be evaluated anew?

Particular attention is given to the collaboration between different craftsmen and the cooperative production of series of paintings. Wooden panels as supports for the ground and paint layers were produced by carpenters and also the preparation was usually carried out by a professional *zubereiter*. Analysis of the working principles and organisational structures not only provides a more precise picture of effective workshop production, it also describes the influence exerted by non-artistic factors on the outcome of the paintings.

The continuing debate about the master's individual role and contribution within the workshop organisation is inevitably touched upon in this research, but it is not its central subject. Since the workshop principle is based on the adoption of the master's painting methods by his pupils, it is rare that a technical analysis is able to distinguish different hands. Only in individual cases can the attempt be made to obtain conclusions regarding a division of labour in the actual painting process by examining the patterns of procedure.

The essential aim of this work is to evaluate the results of the technical examinations and to compare them with the numerous written documents. Relevant texts reproduced in appendix II have been transcribed more accurately or for the first time. The results not only give insights into techniques and workshop practices, they also make it possible to comment on authenticity, dating, display and function. Furthermore, in determining the materials and the manner of their use, we can improve our understanding of the original appearance and, in addition, the present-day condition of the paintings. Therefore, this work not only supplies valuable indicators to either support or revise research on style and source materials, it is also primarily intended as a contribution towards the history of Renaissance painting in Germany with regard to materials and technique.

Central to these investigations are the paintings on wooden panels by Lucas Cranach the Elder and his workshop. Painting on textiles and other supports, which have been largely neglected by research, are also analysed, using archival documents and the few remaining works. With this examination, attention is drawn to questions of workshop organisation and co-operation, as well as artistic exchange. Due to the existence of more than one thousand panel paintings, this investigation is limited to a selection of works dating mainly from the years before 1525. The technical criteria could only be developed...
by close assessment of the actual paintings in museums, collections and churches. Included are technical characteristics of approximately 300 paintings. For about half of these, various instrumental methods of analysis (see Appendix 1) were used to determine materials and layer structure. Depending upon the purpose, the degree of analytical precision varies. The primary concern was that the investigations should not endanger the paintings themselves, and that non-destructive methods should be used. In a few cases, the minutest amount of material was taken for analysis. Over time, it was possible to shape the vast number of details into an overall picture, rather like a mosaic of which only a few tesserae have survived. One of the most severe limitations for this project was the need to avoid the repetition of investigations for reasons of conservation and economy. Thus the validity of the resulting statements is influenced, to some degree, by external circumstances and chance. Nevertheless, the material gathered provides a representative and comprehensive overview.

Every effort has been made to present the individual stages of the production process in sequence, while at the same time taking into account the chronological order of the existing works. Here it was important to describe the rich spectrum of materials and techniques without neglecting to point out characteristic features. Where an attempt is made to show developments, this refers to known – and thus – limited details. An exhaustive presentation is not possible here; however, it is hoped that this work will encourage readers from different disciplines such as art history, restoration and conservation sciences to embark on further studies, investigating the written source materials and the preserved paintings to further enlarge and improve our knowledge of the artistic practices of Lucas Cranach the Elder.
Biography of Lucas Cranach the Elder

Born at Kronach in Franconia, the son of a painter

Worked in Vienna

Appointed to Wittenberg as court painter by the Elector of Saxony, Friedrich III the Wise (died 1525)

Awarded the Heraldic Letter in Nuremberg (the symbol of which is a serpent with wings)

Stayed at the court of Margarete of Austria, Governor of the Low Countries, in Mechelen

Acquired two adjacent houses on Wittenberger Markt (today Nos 3/4)

Married Barbara Brengebier (died 1541) and the birth of son Hans (died 1537)

Birth of son Lucas the Younger (died 1586)

Birth of daughters Ursula (date of death not available), Barbara (died 1601) and Anna (died 1577)

Acquired the ‘Cranachhof’, at No. 1 Schloßstraße

Served as Councillor in Wittenberg (intermittent)

Awarded the Electoral Privilege of Apothecary

Received King Christian II of Denmark as a guest in his home

Operated a book printing shop with Christian Döring

Accompanied the Elector Friedrich III the Wise to the Reichstag at Nuremberg

Was witness at the wedding ceremony between Martin Luther and Katharina von Bora

Worked for the new Elector of Saxony Johann the Steadfast (died 1532)

Worked for the new Elector of Saxony Johann Friedrich I the Magnanimous

Served as Mayor of Wittenberg (intermittent)

Temporarily lost his position as court painter

Stayed in Augsburg and Innsbruck as court painter with the imprisoned Johann Friedrich I

Worked in Weimar

Lucas Cranach the Elder died on 16 October in Weimar
Lucas Cranach the Elder, letter to Elector Johann the Steadfast, 1525. ThHStAW, Ernestinisches Gesamtarxiv, Reg. D 211, fol. 12r.
Cranach’s practice of painting in the judgement of history

Compamed to the extensive writings from Albrecht Dürer’s estate, few autographed documents from Lucas Cranach the Elder remain. Individual letters, invoices, reminders, and roughly two dozen receipts provide some insight into the artistic practices of the Wittenberg court painter (fig. 3). The documents are complemented by a considerable number of payment orders contained in the account books of the Saxon Electorate Court, which were drawn up by different persons and are mostly based on Cranach’s written instructions (‘inhalts seiner zeteln’, ‘laut Lucas Malers aigen handschrift’; app. II, 180, 245). Although it is feasible that respective clerks misinterpreted instructions, closer investigation of the artistic practices in the Cranach workshop points to their special significance. The account books and associated documents provide information about materials used, their quality, sources and prices. There is repeated documentation referring to various tasks and the conditions of commission, as well as on the execution of and invoicing for orders. In addition to this, payment slips give information about skilled crafts and artistic techniques, organisational structures and the division of labour within the workshop. For this reason, this body of documents will be evaluated in the following chapters, together with other sources such as written orders or contracts, which will then be compared with the results of technical investigations.

During his lifetime and in the following centuries, the painting technique and workshop practices of Lucas Cranach the Elder have received varying degrees of attention and assessments. In the following section, the intention is to examine the record of his artistic activities provided by patrons or contemporary commentators. Due to the limited written material it is difficult to know to what extent general conclusions may be drawn from such surviving documentation. In the literature on art in the seventeenth and early eighteenth centuries, Cranach occupied only a marginal position. During the periods that followed, attempts were made – guided by very different motives and achieved by various means – to gain an understanding of the court painter’s artistic practice. Towards the end of the nineteenth century the assessment of materials, techniques and workshop organisation was still based on written
sources and connoisseurship, whereas in the twentieth century we observe a shift towards the use of available analytical methods. This development, and the way in which the results of technical examination complement art historical research, will be discussed later and will lead to the starting point of my own investigations.  

Sixteenth-century commentators

The earliest reflections on Cranach’s artistic practice are preserved in a letter of dedication by Christoph Scheurl, printed in 1509. Scheurl, a professor at Wittenberg University, praises in great detail the court painter’s study of nature and his realistic style of painting by using various *topoi* from antiquity. A brief glimpse into the studio underlines his unquenchable need for bustle: ‘wherever one turns, in every nook and cranny there is a picture’. Scheurl eulogizes Cranach’s ability to paint with speed and in this respect considers him to be ahead of all his contemporaries. While the scholar points out that excessive care in the execution of a painting only does harm, the Elector Friedrich III the Wise emphasises in letters to Duke Georg of Saxony that he has commanded his court painter to ‘proceed with all diligence’ (*beffolhen fließ zcu hoben*, app. II, 73). In this, the patron requests care above all else, because here ‘diligence’ is synonymous with excellent quality. When sending the contract design and later the finished painting of the Virgin, Friedrich politely expresses his doubts as to whether Cranach’s work will please the Duke. The patrons were well aware that they could not expect works exclusively painted by the master himself; in a letter dated April 1521 Duke Johann the Steadfast asks the Elector Friedrich III the Wise to send him a panel by his painter (name unknown), at the time apprenticed to Cranach, which had been sent to Worms by mistake.

Johann Strigel’s poem of lament for the son Hans Cranach, who died in 1537, records the voluminous portrait production and so illuminates the extensive workshop activities. Philipp Melanchthon sketched ideas for paintings for Cranach and compared to Dürer and Grünewald he considered Cranach’s pictures to be ‘pure in their simplicity’ (*schlicht*). In a letter dated 1545 to Nikolaus von Amsdorf, Martin Luther remarks half ironically and half derogatorily: ‘that master Lucas is a rough painter’ and judging by the inscription on the headstone of Cranach’s grave ‘pictor cellerimus’, praise for speedy painting already appears to have been an ambiguous compliment seen from a present day perspective.
Three years after Cranach’s death, Johann Neudorffer from Nuremberg addressed for the first time the matter of the painter’s choice of materials: ‘Master Lucas, painter to the court at Wittenberg, had among others the praise of having painted the best velvet because he could paint black even blacker and even onto the very blackest he could paint...’ Following this we are given a recipe for ivory black. A year later, Mathias Gunderam used an anecdote about the meeting between Emperor Charles V and Lucas Cranach to address the difficulty in separating the hand of the father from that of the son. Perhaps Gunderam wanted to flatter Cranach the Younger when he described how the emperor asked who had painted the panel, because some people thought it was the work of the father and others that of the son.

From the graveside speech for Lucas Cranach the Younger by Georg Mylius in 1586 we are given an insight into the workshop practices when he speaks about ‘reproducing, tracing, painting copies, modelling versions, illuminating and using patterns’, i.e., the transfer of designs with the aid of technical means. Once again the interest in painting technique concentrated on speed. This ability, celebrated as a positive quality during Cranach’s lifetime, understandably slipped from critical attention for a time thereafter and was only taken up when these early documents were rediscovered.

Seventeenth- to nineteenth-century commentators and biographers

At the turn of the seventeenth century, the works of Lucas Cranach the Elder were not completely forgotten but, compared to those of Dürer, there was much less interest in his painting. While Dürer’s panel paintings were frequently copied between 1600 and 1630, there is no indication that there was a similar interest in reproducing Cranach’s work. Karel van Mander mentions hardly more than his name in his *Schilder-Boeck* of 1617. Joachim von Sandrart considers the paintings by Cranach to be ‘nice and tidy’. It is not until 1726, in the first monographic study by Johann Friedrich Christ, that the technique and working methods of Lucas Cranach the Elder are considered: ‘Apart from the acquired bad use of local colours he has a rather thorough and strong way with his shading which is completely unknown in Gothic works, almost invented’. Christ praises the quality of the painting materials and the layer structure: ‘Else it cannot be concealed that he knew how to prepare his colours to an unusual durability so that on most
of his paintings everything appears extremely fresh.'20 For many years to come, Christ’s remarks formed the basis for all subsequent investigations and critical evaluation.

During the second half of the eighteenth century, general interest in the German old masters developed in parallel with interest in their technique.21 The exceptionally good condition of Cranach’s paintings attracted growing attention. The art lover and collector Carl Eberhard Reimer considered the luminosity and durability of Cranach’s work far superior to that of contemporary French paintings.22 Reimer’s emphasis on Cranach’s use of white grounds easily preceded the ‘rediscovery’ of white preparatory layers by the Nazarenes and Pre-Raphaelites. Cranach’s works supplied the model for contemporary technique, the quality of which is not primarily its artistic effect, but its durability: ‘The pure application of successfully mixed colours, the origin of dura-
tion which defies all time, has everything a reasonable imitation can ask for.23
With his publication of Theophilus Presbyter’s *Schedula diversarum Artium*
in 1774, Gotthold Ephraim Lessing shook the authority of the myth that the
Van Eycks invented oil painting.24 This was followed by an intensive examination
of old paintings with the aim to identify the binding medium.25 Due to
the rediscovery of Pompeii from 1748 onwards, an interest in wax as a durable
binding medium developed and was accompanied by research and experimen-
tation with the encaustic technique in an effort to replicate the effects of
the Roman painters. In 1780 the conjecture was even voiced, with reference to
an inscription, that a painting of Luther by Cranach was painted with wax.26
This supposition soon became widespread in literature on painting tech-
nique.27 But this is based on the misinterpretation of a distich, which is also
preserved below two copperplate engravings of Luther’s image: ‘*AETHERNA
IPSE SVAE MENTIS SIMVLACHRA LVTHERS // EXPRIMIT AT VVLTVS CERA LVCAE
OCCIDVOS*’ (fig. 6).28

In 1762, Christian Ludwig von Hagedorn noted that the prolific production
of portraits was the reason for the drop in quality of works from Cranach’s
shop. Shortly before 1800, the debate about distinguishing paintings by the
master from workshop productions began,29 gradually gaining ground during
the nineteenth century alongside the principal critical interest in Cranach’s
works.30 On the occasion of the restoration of the altarpiece in the Stadtkirche
Weimar, the painter and writer Heinrich Meyer drew attention to the change
in the condition of a Cranach painting.31

Early treatises on the restoration of paintings reflect contemporary restora-
tion practices, but they contain little information about painting technique.
However, with regard to the dangers of surface cleaning, the apothecary of
Halberstadt, Friedrich Lucanus, described the flesh painting of Cranach,
Dürer and Holbein32 as executed in thin layers of paint and glazes. Evidently
his warnings were ignored because these delicate glaze layers are frequently
damaged or missing, presumably as the result of overzealous restoration
treatments.

Johann Wolfgang Goethe, with the publication of a contribution to the *Leip-
rziger Bilderfund* of 1815 that was presumably written by Johann Gottlieb
Quandt, helped to achieve a high degree of publicity for several of Cranach’s
paintings.33 Here, for the first time, an attempt is made to distinguish
between the hand of Cranach the Elder and the Younger by looking in particu-
lar at the painting technique rather than solely at style: ‘In this there appears
to be modelling with paint underneath the glaze, whereas the older pictures
are more like drawings glazed with oil. And thus it would not be improbable that these latter paintings could be attributed to Cranach the son, the former to Cranach the father’.34

For very different reasons, copyists of the early nineteenth century, among them Franz Wolfgang Rohrich,35 showed a particular interest in Cranach’s painting technique. Some copies are close to the originals in terms of technique but seem rather remote in terms of style. Around 1825, the sculptor Johann Gottfried Schadow made tracings of heads in paintings by Cranach. He noticed their consistency and concluded that Cranach was using a mechanical means of transfer. Schadow held that a picture in good condition was not only the result of the painting technique: ‘...in no small measure did the fortunate choice of well-dried panels made of lime wood contribute to this and he [Cranach] knew well how to prime these, so that to this day they have escaped woodworm and the hand of the restorer’.36

The editing of source materials began with a few of Cranach’s letters in the first half of the nineteenth century.37 In 1851, Christian Schuchardt published the first two volumes of his research. The extensive source material reflects the broad spectrum of commissions for the Wittenberg court painter, as well as the large number of assistants. Schuchardt revealed the same uncertainty as his predecessors in assessing whether a painting was by Cranach’s own hand.38 He considered using painting technique to support his thoughts on distinguishing between the different artists, but because of some fundamental misconceptions he was bound to arrive at the wrong conclusions: ‘Cranach never painted onto a gold ground, in fact he never used gold on his pictures, with him rings, chains and similar metal jewellery is always expressed in colour. In contrast, the younger Cranach almost always used gold for such things.’39 From the difference in condition Schuchardt also concluded incorrectly: ‘Externally all the paintings mentioned by me also coincide in that the paint surface shows completely different cracks; namely, this has contracted more into small scars, whereas the paintings by the father always show sharp, straight cracks.’40 For the first time, the inferior quality of some of the Cranach paintings was attributed to the bad state of preservation. Schuchardt quite rightly noted with regret that many of the glazes have been lost during the unnecessary removal of varnish (unsinniges Putzen).

In the second half of the nineteenth century, the discussion about authenticity, workshop production, and the possibilities and limitations of distinguishing between the painters involved continued to dominate Cranach scholar-
ship. By criticising Schuchardt, it was hoped that special studies would be undertaken that would help to distinguish the master’s hand from the Collectivbegriff Cranach. Starting with the woodcuts, the dispute soon escalated into the ‘great battle over his own hand or not his own hand’. In 1871, Schuchardt questioned some of his earlier remarks about the master’s proportionate share and about techniques and working methods. With his publication of invoices from the Torgau castle, extensive sources were made available regarding pigments, metal leaf, binding media, working implements, painting supports and other items, all of which to this day have scarcely been considered.
Oskar Eisenmann concluded in 1877 – and thereby determined the direction research on Cranach would take during the twentieth century – that the master could not possibly have produced all the works himself and that, instead, copies were prepared from his originals by pupils and workshop assistants like a factory production line with an efficient division of labour. Martin B. Lindau added that assistants might have had an influence on the style and technique of the master as well. The small winged serpent is now generally seen as the studio mark.

The technical examination of works of art began in the late eighteenth century. Emphasis was repeatedly placed on the necessity for scientific research into painting materials and technique. However, it was not until the close of the nineteenth century that instrumental methods of investigation had their true commencement. Initially the German research was meant primarily to enable contemporary artists to improve the durability of their own painting technique so that it would not be inferior to that of the early German paintings.

Shortly before 1900, art-historical research increasingly began to focus on the condition of the paintings. In his essay on the Cranach exhibition of 1899 in Dresden, Max Friedländer discussed the changed appearance of nearly every work. Here praise for the durability of the paintings is set against the description of damage caused by ill-informed restoration. Since Friedländer, the relationship between the judgement of Cranach’s artistic qualities and the state of preservation of his works has barely been raised as a topic in its own right.

Twentieth-century research and analysis

The Cranach exhibition in Dresden in 1899 was followed by a veritable flood of publications. Karl Woermann summarized that the task of separating the hand or hands of certain sons, pupils or assistants had become an insoluble one for posterity. Obviously, as far as he was concerned, one picture was painted by several hands: ‘We shall still have to content ourselves with declaring only the best works as having been carried out by his own hand or essentially by his own hand and to openly describe the uncertain and with today’s means unknowable as such.’ Apart from a few portraits, Eduard Flechsig no longer recognised works by Lucas Cranach the Elder from the years after 1520. Having studied the various serpent signatures, he concluded that all panels marked in that way stem from the master or his two sons, and attributed a
correspondingly large number to Hans Cranach. However, investigation of the archival material confirmed that in his later years, Cranach the Elder had shown prolific artistic productivity.\(^{53}\) Not even Friedländer’s sharp words could put an end to the controversy: ‘It is of little importance to know whether the master produced this or that painting entirely or partly with his own hand, or whether one of his workshop assistants had participated in it. The essential thing is the spirit which prevailed in the workshop and the kind of establishment it was.’\(^{54}\) Friedländer condemned paintings that had previously been much valued as ‘works of the worst manner’ (Arbeiten der schlimmsten Manier)\(^{55}\) and started to sing the praise of the early Cranach. Consequently, more consideration was given to the working sequence and the division of labour. The observation that ‘variations’ on a theme, rather than copies, were common to this workshop\(^{56}\) led to the assumption that Cranach used his memory rather than preparatory cartoons.\(^{57}\) With justification, the influence of the patron on the workshop participation was queried,\(^{58}\) and audacious distinctions were made within individual works between the proportionate contributions by the master, his sons and assistants.\(^{59}\) Comments on methods of painting were rather rare in art-historical publications during the first decades of the twentieth century, as were speculations about the structure of the paint layers.\(^{60}\) At first, technical investigation concentrated on the wooden support. In his publication on panel paintings by Lucas Cranach the Elder, Flechsig gives details on the kinds of wood used.\(^{61}\) He notes that during the early years (c.1500–1520), lime and coniferous wood prevailed, and in the 1520s it was beech. Thus it was concluded that paintings on oak were made during Cranach’s journey to the Netherlands.\(^{62}\) Subsequently, some of the identifications of wood species have proved to be wrong.\(^{63}\) Nevertheless, identification of the wood may still be regarded as the earliest example of a systematic application of methodology of the natural sciences employed in art-historical research of Lucas Cranach’s painting production.

In keeping with the remark by Friedländer that, strictly speaking, we know nothing about the technique of the old masters,\(^ {64}\) Raehlmann in 1910 demanded more extensive microscopic and chemical investigations.\(^ {65}\) Alongside the scientific examination of the originals and the evaluation of written sources, there was also a practical approach: making copies of the original by attempting to use historical methods and materials, and then drawing conclusions from the results. The materials and techniques that produced copies closest to the originals were assumed to be the ones with which the original paintings were created.\(^ {66}\) In fact, many of Max Doerner’s and Kurt Wehlte’s attempts to reproduce the technique of early German painters are based on
speculation and the experience of the copyist. Both authors describe the tech-
nique of alternating oil glazes and tempera highlights on red, green or ochre-
yellow primings as a likely method for efficient imitation.67 Subsequently,
these attempts formed a common view expressed in 1972 by Hans Joachim
Gronau: ‘By now the ochre imprimatura is for us an important criterion for
Cranach’s authorship and that of his workshop.’68 This opinion continues to
be considered as fact even as recently as the 1990s, although so far it has not
been possible by microscopic cross-section examination to confirm this ochre
imprimatura in any Cranach painting.69

With the attempts to reconstruct the techniques used by the old masters,
interest in the first half of the twentieth century focused increasingly on bind-
ning media. Compared with the traditional layer structure of medieval painting,
Cranach’s painting appeared to make use of shortcuts that almost achieve
pure alla prima painting.70 Lack of analytical data left much scope for supposi-
tion. There is much speculation concerning Cranach’s painting media. These
have been described variously as: tempera,71 resin tempera,72 oil tempera,73
tempera with oil-resin glazes,74 mixed media technique,75 technique with
alternating layers,76 tempera base with oil glazes,77 aqueous and oil-binding
media,78 underpainting with casein tempera,79 varnished tempera,80 oil and
tempera,81 oil,82 and so on. During the 1980s, the characterisation of his bind-
ing media was limited to the application of histochemical staining methods,83
while in the 1990s, the first results from analyses published in London supply
us with more precise information about the type of binder and its prepara-
tion.84

In 1895, Carl Wilhelm Röntgen discovered that lead white absorbs X-rays and
in 1913-14 Alexander Faber systematically studied the possibilities of using
X-rays for the investigation of paintings.85 While some initially overestimated
the possibilities, Wilhelm Bode, then director of the Kaiser-Friedrich-Muse-
um in Berlin, went to the opposite extreme. He completely rejected X-rays as
a means of examination of potential use to art history and described this as
‘rubbish’ (Mumpitz) and ‘only as good as the divining rod’.86 However, in 1924,
the Bayerische Staatsgemäldesammlungen in Munich acquired X-ray equip-
ment to examine their paintings and, in 1926 and 1927 Alan Burroughs trav-
elsled to the largest European galleries on behalf of the Fogg Art Museum in
order to produce X-radiographs.87 Among the paintings examined in the late
1920s and 1930s were several works by Lucas Cranach.88 Using Kurt Wehlte’s
material as a basis, Christian Wolters’ publication in 1938 on the signifi-
cance of the examination of paintings by X-rays for the history of art remains
to this day an authoritative work. Here we find important statements about Cranach’s evolution from an impulsive to a more schematic application of paint. Konrad Riemann began the most comprehensive archive collection of X-radiographs of Cranach’s paintings in Halle/Saale in 1953.

In the 1930s, conservation laboratories or technical research departments were established in several European capitals. In preparation for the Berlin exhibition of 1937, the first extensive technical examination was carried out on a Cranach painting in Lisbon. Prior to the removal of varnish and over-painting from the Salome (c.1509/10), an X-radiograph was taken, the painting was viewed under ultraviolet light, paint surface and pigments were examined under the microscope, and macro-scale photographic documentation was compiled.

A Cranach underdrawing was first identified by Otto Benesch in 1928 and he described it as a greyish-blue brush outlining of the figures visible with
During the following decade, publications appeared on how to detect underdrawings by infrared methods of examination. About 30 years later, infrared photographs produced by Riemann were included in the assessment of Lucas Cranach paintings. The first publications and the description of the essential characteristics of preliminary underdrawings followed.

During the post-war period, art-historical research paid increased attention to Cranach’s working process and results from technical examination obtained in connection with conservation treatments began to be published. The appearance of hitherto unknown documents clarified our understanding of the extended workshop practices. Albert Giesecke presumed the reason for a deterioration in quality in Cranach’s work to be that, from 1530 onwards, the father’s activity declined and that the sons produced fewer preparatory sketches. Werner Schade, by way of extending his earlier contribution on the topic of patterns for the painting of portraits and animals, repeatedly devoted himself to questions of the working process and the distribution of labour. He pointed out that the transformation of the artist’s work due to specific commissions has so far received too little consideration. Starting with the individual style of traditional works within and outside the workshop, he identified various pupils as well as painters from Cranach’s circle. He also expanded on the role of the sons within the workshop.

In 1972, the conservator Konrad Riemann described, based on the results of his own technical investigations, the sequence of work in the creation of the Fourteen Helpers in Need (c.1505/07). In the same year, Gronau opened up a host of questions by way of his dissertation on Lucas Cranach’s painting techniques. He assessed a greater number of infrared photographs and X-radiographs and carried out microscopic surface examinations. However, his interpretations remained problematic due to continued reliance on Doerner’s theories.

Since the 1960s, results from technical investigations of Cranach’s works have been increasingly taken into account in art-historical research. Conservators have been encouraged to publish their observations on materials, techniques and the state of preservation of Cranach paintings. Catalogues of collections and exhibitions now increasingly contain technical information (not always reliable). At the same time, it became clear that it would go against the character of Cranach’s work if research insisted on separating hands by means of stylistic analysis or instrumental methods.
While for Friedländer and Jakob Rosenberg\textsuperscript{108} the question of true original or workshop copy, replica or variation still formed the basis for the selection of works, Tilman Falk and Dieter Koepplin defined the categories in a more flexible way, taking for granted the principle of workshop participation.\textsuperscript{109} Giesecke\textsuperscript{110} asserted that only the master could place his signature on a painting produced in his studio, even if he had not added a single stroke himself; now even this hypothesis is questioned: ‘Cranach’s signature could be imitated just as well as Cranach’s paintings themselves.’\textsuperscript{111} During the Basel exhibition in 1974, the analysis of the species of wood used by the workshop was reconsidered for the first time since Flechsig in 1900.\textsuperscript{112} Seven years later, Peter Klein completed his chronology of beechwood year rings and since then it has been possible to use dendrochronology to date many of the panels more accurately.\textsuperscript{113}

By the 1990s, it became standard practice to include the results of technical examination in collection catalogues.\textsuperscript{114} The preparations for a Cranach exhibition in Kronach focused on the workshop practices.\textsuperscript{115} Once again, the question about the degree of work directly attributable to Cranach himself caused a clash of opinions. A traditional method, macrophotography\textsuperscript{116}, already recognised in 1930 during the International Museums Conference as being a useful means of determining attribution, was applied by Claus Grimm. He adopted an extreme position by reducing the number of authentic works in which Cranach actually participated to a minimum: ‘Only the few remaining early works, some drawings and preliminary studies, as well as individual exceptional works and parts of paintings from after 1505 are produced by him personally.’\textsuperscript{117} Around the same time, Johannes Erichsen and Andreas Tacke\textsuperscript{118} enriched our knowledge of workshop collaboration with their analysis of patterns, modelli and contract designs.

In 1994, Ingo Sandner and Iris Ritschel summarised the present state of research into working methods and painting techniques by Lucas Cranach and thus were able to formulate a research project on this subject.\textsuperscript{119} With the aid of infrared reflectography\textsuperscript{120}, developed in the 1960s by Johann R.J. van Asperen de Boer, Sandner expanded on questions and findings related to Cranach’s preliminary drawings on the painting’s support.\textsuperscript{121} The resulting high number of underdrawings supply vital information about the creation of the paintings. Thereafter, technical examinations increased in leaps and bounds.\textsuperscript{122} By the 1980s, very few pigments from Cranach paintings had been identified\textsuperscript{123}, but with the advances in instrumental methods of analysis (e.g. energy-dispersive X-ray analysis and proton-induced X-ray emission), identification of pigments became much more common.\textsuperscript{124}
The state of research
During the past 150 years, primary archival source material relating to the Cranachs has often been transcribed incorrectly or abridged125 and there is a marked absence of comprehensively transcribed and edited texts.126 No systematic evaluation of written documents on their painting materials, painting techniques and workshop practices, nor any attempt at comparison with the results of technical examination and instrumental analysis has been carried out. Although experts on Cranach are fairly well informed about the various wood species and their chronological use in the Cranach workshop,127 few studies have been made of the canvas supports.
The subject at the centre of recent technical research continues to be the division of labour within the studio with regards to underdrawing and the actual painting process.128 However, further research on the collaboration between the different crafts involved in the factory-like production of paintings would help to define the working principles and organisational structures of the Cranach workshop. Questions related to the artistic exchange between Cranach and his contemporaries have been discussed only on the basis of surface appearance and underdrawing. Further research is therefore required regarding overall production.
Some individual studies of the Cranach workshop’s painting materials, metals and binding media have been published, but further consideration could be given to the various complex painting techniques, the interrelationship between stylistic and technical development, the adaptation of materials and working process to particular commissions, and development of the Wittenberg workshop. Each of these topics offer opportunities for further research, not least because the Wittenberg workshop was active for more than eight decades.
This establishes the starting point for the research presented here. What follows is an analysis of the creative process behind selected paintings with a detailed discussion of materials and workshop practices aiming to arrive at a deeper understanding of the painting of Lucas Cranach the Elder.
Lucas Cranach the Elder,
Design for an Altarpiece,
c. 1520. Paper, 39.3 x 24.7 cm.
Staatliche Museen zu Berlin,
Preußischer Kulturbesitz,
Kupferstichkabinett (KdZ 387a).
II

Panel painting

The wooden support

On 20 January 1517, Hochmeister Albrecht of Prussia ordered a painting from Lucas Cranach, writing, ‘It is our sincere desire that you paint and finish for us a Hercules, crushing a naked fellow to death, and that you can paint this onto a panel or board with these measurements of length and width’ (app. II, 71). Here the painter was to design his composition according to the given format and was to instruct his carpenter to produce the panel according to given measurements. This example indicates that size and proportion of the painting support are often determined by the project requirements, subject, function and cost, but rather than emerging from the artistic process. Frequently, only the longest dimension of the panel or altarpiece was laid down by the commissioner, but it was the artistic design that dictated the shape and proportion of large formats. Contract designs and models of altarpieces of the Cranach workshop stipulate the relation between height and width (fig. 18). Some drawings were done to scale (1:10) and in the case of others, final dimensions had to be agreed upon. For the epitaph of Duke Georg of Anhalt (c. 1553/55), carried out by Cranach the Younger, the measurements of height and width are given in cubits (ellen) on the drawing itself. Measurements and proportions of large panels and altarpieces obviously corresponded to the interior architecture into which they were fitted (fig. p. 2).

One can assume that Lucas Cranach the Younger was continuing in the tradition of his father’s workshop when he replied to an electoral commission of 8 November 1583, writing that he had been to Colditz and had ‘measured the old panel, the room and everything’. In this case, the artist advised the elector against the round form in favour of a heart-shaped winged altar and laid out the measurements.

There is little variation in the proportions of the few surviving panels that Cranach the Elder painted before his appointment to the Wittenberg court. St Jerome (1502, fig. 81), Johannes Cuspinian and His Wife Anna (1502/03, fig. 19), the Portraits of a Viennese Scholar and His Wife (1503, figs 181, 26), as well as the Holy Family (Rest on the Flight into Egypt) (1504, fig. 176), are
painted on panels of varying sizes but each has a nearly identical ratio of height to width (4:3). The artist arranged the design within the limits of the previously determined panel format. Since these works evidently reflect humanist thought, the consistent ratio of height and width might be related to the Pythagorean numbers. The assumption that the proportions were defined by Cranach himself, rather than left to the carpenter, is strengthened by the observation that the panels were produced in different workshops. Diverging production techniques and the use of a different species of wood (see p. 52) lead to the conclusion that the order for the support of the Holy Family was not placed with the carpenter who had produced the Viennese portrait panels, but with another workshop.

In his Wittenberg studio, Lucas Cranach the Elder painted on a wide range of wooden panels of different sizes and formats. Orders and invoices vary between ‘very small panel’, ‘small panel’, ‘board’, ‘panel’ and ‘large sheet’. Occasionally the size goes well beyond the limits of easel painting, for instance, small panels come close to miniature. In 1539, he invoiced for a painted tabletop and panels for monumental altarpieces that could exceed five-and-a-half square metres or a single work could have a 320-centimetre side length. The altarpiece in the Stadtkirche of Weimar, completed by Lucas Cranach the Younger in 1555, surpasses these dimensions: the surface of the central panel alone measures more than 11 square metres.

During the years when Cranach the Elder was first at the court of Saxony, the high rectangular format was complemented by an oblong one. Occasionally the top is finished off with rounded or keel-shaped arches and the revival of interest in medallions promoted painting on round panels (fig. 58). Oval panels form an exception. The measurements show that the artist at first adopted Renaissance proportions with a more balanced relation of height and width, while later he seems to prefer the more Gothic proportion of the tall and narrow format. This panel format is echoed in the elongated, sometimes even preposterous proportions of the figures, for example, St Catherine and St Barbara (c. 1516). Cranach’s interest was increasingly limited to this type of proportion so as to preserve his own canon, in a contrast to Holbein’s more refined variability.

Standard-sized panels
By the third decade of the sixteenth century at the latest, the efficient workshop of Cranach made use of standard formats. Between 1520 and 1535,
more than 70 per cent of the preserved rectangular panels can be assigned to one of the format types presented in figure 20. In Saxony in the sixteenth century, no standardised system of measure existed. It seems that the standard formats are not based on whole foot or cubit measurements and the dimensions of the individual groups are in no proportional relation to each other. Possible explanations for slight deviations from the mean could be that, in the case of beech wood panels that consist of one board only and where the edges of the board finish with the same year ring, the trunk was probably used to the full and only the bark was removed. It would make sense that the carpenter tried not only to comply with the order for a particular format, but also to use the wood and his time most economically.

During his first years at the Wittenberg court, Lucas Cranach the Elder frequently ordered panels of varying size and format, indicating that he adjusted the dimensions according to the artistic design and/or individual client request. The later introduction of standard-sized panels imposed the discipline of harmonising the design within predetermined vertical and horizontal limits. As a result, compositions are not always well balanced. By working within these parameters and avoiding individual variations, Cranach was able to increase the efficiency of his workshop production. There was no need to deliver individual measurements for each commission to the carpenter,

20
Panel formats preferred in the Cranach workshop between c. 1520 and c. 1535. The dimensions differ slightly from the mean.

A = 18.5-22.5 × 14-16 cm,
B = 33.5-39 × 23.5-30 cm,
C = 51-59 × 34-40 cm,
D = 82-90 × 55-63 cm,
E = 114-121 × 77-84 cm,
F = 149-158 × 112-119 cm.
which allowed panels to be produced in advance. Different themes are painted on each format and the same themes are depicted on panels of different format types. The commissioner had the choice within predetermined groups. This would contradict the notion that the format was primarily determined by artistic traditions and/or commissioner demands.25

Closely associated to the use of standard formats for individual panels and winged altarpieces is the practice of using a modular system for design, as in the Saints and Passion Cycle in Halle/Saale, preserved in retable designs with movable shutters (fig. 18). The proportions and sizes of the individual elements of the models were maintained by ‘tracing’ the drawn frames.26 Thus Cranach could exchange or even interchange the drawings and he could easily modify them to scale. The model for the Peter and Paul altar (fig. 18) and the Lamentation (c. 1520/25), which formed the central panel of the painted altarpiece, exemplify this practice.27 The relationship between the drawing and the panel is 1:10 and the latter is in standard-sized panel ‘F’ (cf. fig. 20). Thus both the painting support and the drawing proportions are determined in relation to one another according to an established system.

21 Lucas Cranach the Elder, Self-portrait, 1531. Panel, 45.4 × 35.6 cm. Stolzenfels Castle. Diagram showing a reconstruction of the original panel format.
<table>
<thead>
<tr>
<th>Title</th>
<th>Location</th>
<th>Friedländer, Rosenberg (1978) No.:</th>
<th>Date</th>
<th>Height in cm</th>
<th>Width in cm</th>
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<tbody>
<tr>
<td>Cardinal Albrecht of Brandenburg as St Jerome</td>
<td>Darmstadt, Hessisches Landesmuseum</td>
<td>185</td>
<td>1525</td>
<td>116.5</td>
<td>77.5</td>
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<tr>
<td>Adam and Eve</td>
<td>London, Courtauld Institute Galleries</td>
<td>191</td>
<td>1526</td>
<td>117.1</td>
<td>80.5</td>
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<td>Samson and Delilah</td>
<td>Augsburg, Staatsgalerie</td>
<td>212</td>
<td>1529</td>
<td>117</td>
<td>82</td>
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<tr>
<td>The Fall and Salvation of Man</td>
<td>Gotha, Landesmuseum</td>
<td>221</td>
<td>1529</td>
<td>80</td>
<td>115</td>
</tr>
<tr>
<td>The Stag Hunt of the Elector Friedrich III the Wise</td>
<td>Vienna, Kunsthistorisches Museum</td>
<td>281</td>
<td>1529</td>
<td>80</td>
<td>114</td>
</tr>
<tr>
<td>The Garden of Eden</td>
<td>Dresden, Gemäldegalerie</td>
<td>202</td>
<td>1530</td>
<td>80</td>
<td>117</td>
</tr>
<tr>
<td>Pharaoh's Hosts Engulfed in the Red Sea</td>
<td>Munich, Alte Pinakothek</td>
<td>203</td>
<td>1530</td>
<td>82</td>
<td>117</td>
</tr>
<tr>
<td>The Garden of Eden</td>
<td>Vienna, Kunsthistorisches Museum</td>
<td>201</td>
<td>1530</td>
<td>81</td>
<td>114</td>
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<tr>
<td>Abraham's Sacrifice</td>
<td>Bamberg, Staatsgalerie</td>
<td>208</td>
<td>1530</td>
<td>82</td>
<td>117</td>
</tr>
<tr>
<td>Old Man with Young Courtesans</td>
<td>Sold in London (Sotheby's), 12 December 1933</td>
<td>291</td>
<td>c.1530</td>
<td>84</td>
<td>116</td>
</tr>
<tr>
<td>The Feast of Herod</td>
<td>Hartford, Connecticut</td>
<td>220</td>
<td>1531</td>
<td>80</td>
<td>117</td>
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<tr>
<td>Christ and the Woman Caught in Adultery</td>
<td>Budapest, Szépmúvészeti Museum</td>
<td>216</td>
<td>1532</td>
<td>82.5</td>
<td>121</td>
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<tr>
<td>Hercules with Omphale</td>
<td>Lost during Second World War</td>
<td>273</td>
<td>1532</td>
<td>79</td>
<td>116</td>
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<tr>
<td>The Jaws of Truth</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
<td>278</td>
<td>1534</td>
<td>75.5</td>
<td>118</td>
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<tr>
<td>Virgin and Child</td>
<td>Stuttgart, Staatsgalerie</td>
<td>227</td>
<td>1535</td>
<td>118</td>
<td>82.5</td>
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<td>Virgin and Child</td>
<td>Detroit, Michigan, Detroit Institute of Arts</td>
<td>228</td>
<td>1536</td>
<td>120</td>
<td>84</td>
</tr>
<tr>
<td>Hercules with Omphale</td>
<td>Brunswick, Herzog Anton Ulrich-Museum</td>
<td>274</td>
<td>1537</td>
<td>82</td>
<td>119</td>
</tr>
</tbody>
</table>

Table 1: A selection of paintings in standard format ‘E’
The decreasing number of made-to-measure paintings in the 1520s reflects a self-imposed restriction in favour of workshop efficiency and demonstrates Cranach’s growing self-confidence as an entrepreneur. The extensive standardisation of formats not only allowed efficient production, but also, to an extent, supports the idea that certain themes were painted without specific commission and then sold. There were hardly any comparably efficient practices in sixteenth-century German panel painting elsewhere. However, in other countries and in later periods, standard-sized panels are more common, for instance, in the Netherlands.29

Additions to an already existing support during painting were, however, not common in Cranach’s workshop. Among the paintings investigated in this research, no evidence was found that the artist reworked a panel. The technical examination of the *Virgin and Child with Saints* (1516, fig. 22) confirmed that the extension along the left edge by 13.3 centimetres was carried out

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22 Lucas Cranach the Elder and workshop, *Virgin and Child with Saints*, 1516. Panel, 119.3 × 96.7 cm. Dessau, Anhaltische Gemäldegalerie. Diagram showing a reconstruction of the original panel format.
subsequently. Grate has argued that the upper part of the so-called *Payment* (1532, FR 290) was extended and repainted while still in the Wittenberg workshop, in view of the evidence of a faithful reproduction of a preserved study of a fowl. However, on most panels, enlargements and reductions are recognisable without doubt as later alterations. Where panels have been reduced in size, knowledge of standard formats renders possible a reconstruction of the original sizes with greater certainty. The *Self-portrait* of Lucas Cranach the Elder of 1531 (fig. 21) today measures 45.4 by 35.6 centimetres. The beech panel is obviously reduced in size along the lower edge, where the bevelling, preserved on the other edges, is missing. This, together with knowledge of the standard format ‘C’, makes it possible to estimate the original panel size of approximately 51-52 by 35.6 centimetres. Neither Koepplin’s suspicion that the portrait was cut out of a larger panel nor Rosenberg’s assumption that this represents a copy from the seventeenth century could be confirmed by the technical examination. All results, including a winged serpent and the date of 1531 detected by X-ray examination under layers of overpaint, confirm Schade’s earlier assumption that this work represents an independent and authentic portrait of Lucas Cranach the Elder.

Species of wood

Before 1505, panels were made of lime, spruce and fir. The *Crucifixion* (c.1500, fig. 16), *St Jerome* (1502, fig. 81) and the *Holy Family* (1504, fig. 176) are painted on lime wood. The support for the *Crucifixion* of 1503 (fig. 27) is fir (*Abies sp.*), the double portraits of Johannes Cuspinian and his wife (1502/03, fig. 19) and a Viennese scholar and his wife (1503, figs 181, 182), as well as the shutters of an altarpiece showing the saints Valentine and Francis (1502/03, figs 32, 33) are painted on spruce (*Picea sp.*). Judging by the results obtained, Cranach used spruce only during his stay in Austria.

During the first years in Wittenberg he painted on lime wood (*Tilia sp.*) which was supplied to him by the court. By contrast, one of the first major commissions from outside the court, the altarpiece in Neustadt/Orla (1511-13, fig. 215), was made from coniferous and deciduous woods. It might be that in this case the commissioner directly supplied boards from fir trees, up to a length of five ellen, used for the shrine and panels. Thereafter, it seems evident that coniferous wood was preferred for altar shrines and occasionally it was also used for large panels. During the second decade of the sixteenth century, Cranach uses silver fir (*Abies alba*), amongst others, for the *Adoration of the Magi* (c.1513/16), the *Ten Commandments* (1516, fig. 64), the *Saviour* (c.1515/16, fig. 120) and two large crucifixion panels. Possibly the long boards that could remain in the Wittenberg workshop, in view of the evidence of a faithful reproduction of a preserved study of a fowl. However, on most panels, enlargements and reductions are recognisable without doubt as later alterations. Where panels have been reduced in size, knowledge of standard formats renders possible a reconstruction of the original sizes with greater certainty. The *Self-portrait* of Lucas Cranach the Elder of 1531 (fig. 21) today measures 45.4 by 35.6 centimetres. The beech panel is obviously reduced in size along the lower edge, where the bevelling, preserved on the other edges, is missing. This, together with knowledge of the standard format ‘C’, makes it possible to estimate the original panel size of approximately 51-52 by 35.6 centimetres. Neither Koepplin’s suspicion that the portrait was cut out of a larger panel nor Rosenberg’s assumption that this represents a copy from the seventeenth century could be confirmed by the technical examination. All results, including a winged serpent and the date of 1531 detected by X-ray examination under layers of overpaint, confirm Schade’s earlier assumption that this work represents an independent and authentic portrait of Lucas Cranach the Elder.

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be obtained from fir trunks were cheaper or more easily available. Cranach simultaneously uses very large lime wood planks45 and in later decades, carpenters made even the largest altarpieces from lime.46

Oak panels are exceptional in the oeuvre of Lucas Cranach the Elder. The number of works quoted by Koepplin and Falk in 197447 and by Friedländer and Rosenberg in 197848 as being oak panels has been readjusted in recent years due to precise identification of the wood species. It was repeatedly assumed that because the Portraits of a Woman and a Man with a Rosary (FR 27, 56, figs 23, 24), the Portrait of a Man with a Spotted Fur Collar (FR 58) and also two altarpiece shutters showing saints and donors (FR 28) were painted on oak that they were necessarily executed on location in the Netherlands in 1508.49 Close examination has shown, however, that the altarpiece wings were painted on lime wood, and that the panel has been thinned to approximately 1 millimetre and subsequently mounted onto a new support.50 The Portrait of a Man with a Spotted Fur Collar may have been painted before 1508 since the earliest felling date of 1499 was established by dendrochronological examination.51 Today it is impossible to reconstruct with any certainty whether or not it was a member of Cranach’s workshop who mounted the Christ and the Virgin – painted in 1516/20 on parchment (fig. 207) – onto an oak panel.52 We know that from the late 1520s and early 1530s, the portrait of Mr. Köckritz (FR 324)53 and The Close of the Silver Age (FR 263)54 were painted onto oak (Quercus sp.). However, after considering all the technical results, the Crucifixion on oak, dated 1532, was obviously not produced in the Cranach workshop (see p. 154).55 Concerning the portrait of Emperor Charles V,56 only contradictory results are available: Cadorin and Veillon attribute the oak to a later restoration,57 but Klein established an earliest felling date of 1546 for this wood; this largely supports the estimated date of about 1550, which is based on style.58 According to the results of a dendrochronological examination, a further six panels examined by Klein are to be dated after the death of Lucas Cranach the Elder; in some cases there has been proof that they were later copies or even forgeries.59

Cranach is unusual in preferring beech (Fagus sylvatica L.)60 as a support for his paintings. From 1520/22 until the mid-1530s and beyond, this species of wood was used frequently.61 While the use of lime, oak and fir was widespread in European panel painting, artists only rarely worked on beech; exceptions are Master Theoderich in the fourteenth century and later Martin Schongauer, Hans Holbein the Elder, Hans Holbein the Younger, the Master of Messkirch62 and the Fendt family in Silesia.63 The painter Georg Flegel
Lucas Cranach the Elder, 
**Portrait of a Man with a Rosary,**
c. 1508. Panel, 47.6 × 35.2 cm. 

Lucas Cranach the Elder, 
**Portrait of a Woman,**
c. 1508. Panel, 42.6 × 33.7 cm. 
Basel, Kunstmuseum.

(1566-1638) used it to a slightly greater extent. However, the frequent use of beech wood in the Cranach workshop appears to be unique for the sixteenth century, not only in Germany, but in the whole of Europe. So far there is no explanation for this.

Beech wood was used mainly for small-format paintings. Examination indicates that the introduction of this species is associated with the adoption of standard sizes. Accordingly, with the decreased use of beech after 1535, standardised formats in panel painting dropped to less than 30 per cent of all panels painted. Klein was able to confirm with dendrochronological analyses that the boards of certain beech panels stemmed from one and the same tree. It is possible to assume that Cranach bought sawn or cleaved beech wood trunks (see p. 277). Boards from one and the same tree were used over a period of several years. According to Klein’s results, the storage time was between one and seven years. In contrast to some other species of wood, it is not necessary to remove the sapwood from beech. On many of Cranach’s panels, the edge of the board finishes with the same annual ring on both sides,
so it would seem that beech was actually used in its full width with only the bark removed.68 On some of the boards the bark is even still attached.69 Overall, the wood is of very good quality and earlier suppositions that beech is not suitable for panel painting have not been confirmed. Today many of the beech panels are in better condition than comparable works on lime.

One of the earliest works, presumably painted towards the end of the year 1521 onto beech, is a Portrait of Martin Luther as Junker Jörg (FR 149).70 The panel consists of a single particularly wide board (37.3 cm), the reverse of which shows carved blossoms, as well as foliage and chains.71 Could it be that in this case the wood was tested for other uses, such as carving? After 1522, a number of dated paintings on beech have been preserved72 and Klein was able to give a precise date for many of these boards.73 One painting on beech, Christ Blessing the Children, is marked with the date of 1543 and signed with the initials AS.74 Therefore it would be worthwhile to investigate whether the use of beech was limited to the studios in the Wittenberg Schloßstraße or whether former assistants also used this species of wood outside the Cranach workshop.

Identification of other species of wood, such as pine (Pinus sp.), poplar (Populus sp.), elm (Ulmus sp.) and maple (Acer sp.), has only been provided in individual cases.75 Within this investigation it was not possible to establish with certainty whether the paintings for which the wood has been identified are by Cranach or not. Pine appears to have been used frequently for later copies or fakes.76 It cannot, however, be ruled out that in individual cases other species of wood or even older panels were used in the Cranach workshop. A document dated August 1517 provides an indication: Johann Osswalt, Schultheiss from Eisenach, sent the Wittenberg painter samples of birch, maple and ash for the building of the castle at Weimar, along with a tabletop board which he had rescued from wood to be burnt at Gerstungen Castle (app. II, 75). The facts at hand reveal, however, that the species of wood that Cranach used varied little. The choice of a certain wood species was possibly of less importance to the painter than other considerations. There seems to be no obvious preference. The marvellous portrait of Christian II of Denmark (FR 150), for example, is painted on lime, while another version exists on beech (FR150A). Also, the two remaining likenesses of Count Palatine Philipp of the Rhine are on lime (FR 141, fig. 46) and beech (FR 320), respectively. The Portrait of a Man, Perhaps a Mayor of Weißenfels (FR 63, fig. 206) suggests that Cranach’s interest in painting sometimes overcame his concern for the support. This portrait was painted directly on top of a drawing of the Translation of St Mary Magdalene on parchment (see p. 258).
51

Wooden supports of the itinerant years (1500-1504)

Although more attention has been given in recent years to the identification of wood species and dendrochronological analysis\(^7\), the technical aspects of panel production remain largely unconsidered. Examination of the various techniques with which the boards were joined provides surprising insights into the working process and can be of help in dating. At present, though, only a few catalogues contain reliable technical results.\(^8\) In order to draw valid conclusions, extensive investigation of individual objects will be required. This will be difficult because traces of the techniques of panel-making along the edges and on the reverse have often been obscured by later interventions or restoration treatments.

The painting supports from the period before 1505 vary not only in the species of wood used, but also in technical characteristics, which leads to con-
clclusions about both the working methods of the carpenters and the original context. Prior to his appointment as painter to the Wittenberg court, Cranach spent time in Vienna. Friedländer and Rosenberg\(^79\) presume this to be during the years 1500/01 and 1504/05. Koepplin\(^80\), however, limits the period to 1501/02-1504 and Schade\(^81\) further reduces the stay in the city on the Danube to 1502-03. The year 1502 is documented with information about Cranach’s illness in Vienna.\(^82\)

In the autumn of 1502, on the occasion of their marriage, Cranach painted the portraits of the Viennese university scholar Johannes Cuspinian and his wife, Anna Putsch (fig. 19). Both pictures are executed on broad centre boards\(^83\) of spruce, which originally formed one longer plank. The double portrait, showing a legal scholar and his wife (1503, figs 181, 26), not only matches the Cuspinian portraits in terms of the wood species, but also in the technical characteristics, that is, in the way the wood was worked. These too, are broad centre boards, some of the knots are replaced by small pieces of wood, others are left. Inserted pieces as well as knots are covered by tow.\(^84\) The backs of all four panels are smoothed longitudinally with a jack plane (Schropphobel)\(^85\) of a similar width, and the edges are bevelled in a similar shape (figs 25, 31). The panels for both the portrait pairs certainly appear to have come from the workshop of the same carpenter and one can hypothesise that Cranach painted them nearby, since it is unlikely that he travelled carrying unpainted panels. The portrait of the legal scholar, which is dated 1503, seems to confirm that Cranach was in Vienna at that time.

The supports of the other paintings produced during the itinerant years not only vary from those of the four panels above, but also from each other (see table 2). The Crucifixion (c.1500, fig. 16) on lime and the wings depicting the saints Valentine and Francis (1502/03, figs 32, 33) on spruce have in common the application of tow over the joins on both sides. This is not found on other panels of this period. The X-radiograph of St Valentine also shows canvas applied to the panel in areas of subsequent gilding while the Crucifixion (1503, figs 27, 28) has the remnants of tow covering the reverse. The supports for St Jerome (1502, fig. 81) and the Holy Family (1504, figs 29, 176) seem to have been obtained from a different carpenter since wood species and treatment of the edges differ from the portraits and neither tow nor any other means of securing the joins was used. Apart from the two pairs of portraits, no other panels have knots cut out and replaced by inserted wood. Could it be that this indicates not just a change of carpenter but also a change of residence? Was the St Jerome (1502) really painted in Vienna, where lime wood was used comparatively seldom during this time?\(^86\) Against this background, it also appears

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27 (page 53)
Lucas Cranach the Elder,
**Crucifixion**, 1503. Panel,
138 ×98.9 cm.
Munich, Bayerische
Staatsgemäldesammlungen,
Alte Pinakothek.
questionable whether the *Crucifixion* (1503) was the main work during the Vienna years, as is assumed by Koepplin. The use of fir and the adhesion of tow on the back are also frequent in Franconian painting. Koepplin and Schade have pointed out that there are typological similarities between the *Crucifixion* and Dürer’s works. However, technical examination cannot prove that Cranach created this work during a stop on his way to Saxony.
Table 2: Technical characteristics of the wooden supports before 1505

<table>
<thead>
<tr>
<th></th>
<th>Crucifixion (FR 1)</th>
<th>St Valentine / St Francis (FR 2, 3)</th>
<th>St Jerome (FR 4)</th>
<th>Portraits of Johannes Cuspinian and His Wife (FR 6, 7)</th>
<th>Portraits of a Viennese Scholar and His Wife (FR 8, 9)</th>
<th>Crucifixion (FR 5)</th>
<th>Holy Family (Rest on the Flight into Egypt) (FR 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>c. 1500</td>
<td>c. 1502/03</td>
<td>1502</td>
<td>c. 1502/03</td>
<td>1503</td>
<td>1593</td>
<td>1504</td>
</tr>
<tr>
<td>Height (in cm)</td>
<td>58.4</td>
<td>91.1 / 86.8</td>
<td>56</td>
<td>60.3 / 60.2</td>
<td>54 / 52.6 reconstr. 54</td>
<td>137.8-138</td>
<td>70.8 (+ c.0.5)</td>
</tr>
<tr>
<td>Width (in cm)</td>
<td>45.8</td>
<td>49.1 / 47.5</td>
<td>41.6</td>
<td>45.4 / 54.2</td>
<td>39 / 36.4 reconstr. 40</td>
<td>99.3-98.9</td>
<td>52.9</td>
</tr>
<tr>
<td>Thickness (in cm)</td>
<td>0.4-0.6 (thinned)</td>
<td>c. 0.8 (thinned?) / 0.6-0.8</td>
<td>0.55-0.7</td>
<td>0.45-0.55</td>
<td>0.5-0.6</td>
<td>0.6-1.5</td>
<td>1.4-1.5</td>
</tr>
<tr>
<td>Species of wood</td>
<td>lime</td>
<td>spruce**</td>
<td>lime</td>
<td>spruce</td>
<td>spruce</td>
<td>fir</td>
<td>lime</td>
</tr>
<tr>
<td>Boards</td>
<td>3 boards</td>
<td>2 boards each</td>
<td>2 boards</td>
<td>1 centre board each</td>
<td>1 centre board each</td>
<td>7 boards</td>
<td>2 boards</td>
</tr>
<tr>
<td>Covering of joins</td>
<td>fibrous material</td>
<td>fibrous material and canvas</td>
<td>none</td>
<td>not applicable</td>
<td>not applicable</td>
<td>fibrous material on reverse</td>
<td>none</td>
</tr>
<tr>
<td>Treatment of defects in the wood</td>
<td>no obvious knots</td>
<td>knots retained</td>
<td>no obvious knots</td>
<td>some knots replaced, partially fibrous material on knots and inserted pieces</td>
<td>some knots replaced, partially fibrous material on knots and inserted pieces (fig. 48)</td>
<td>a few knots retained</td>
<td>knots retained</td>
</tr>
<tr>
<td>Treatment of reverse side</td>
<td>reworked at later time</td>
<td>smoothed with jack plane in direction of wood grain, plain wood</td>
<td>reworked at later time, traces of black paint along the edges</td>
<td>smoothed with jack plane in direction of wood grain, black paint and coat of arms (fig. 31)</td>
<td>smoothed with jack plane in direction of wood grain, black paint</td>
<td>smoothed with jack plane in direction of wood grain, plain wood (fig. 30)</td>
<td>smoothed with jack plane across direction of wood grain, black paint (fig. 29)</td>
</tr>
<tr>
<td>Fashioning of panel edges on reverse side</td>
<td>reworked at later time</td>
<td>slightly bevelled</td>
<td>reworked at later time (presumably rectangular or slightly bevelled)</td>
<td>bevelled (fig. 25)</td>
<td>bevelled (fig. 28)</td>
<td>rebate</td>
<td></td>
</tr>
</tbody>
</table>
29. **Holy Family (Rest on the Flight into Egypt)**, 1504 (fig. 176). Detail of reverse.

30. **Crucifixion**, 1503 (fig. 27). Detail of reverse.

31. **Portrait of Anna Cuspinian**, 1502/03 (fig. 19). Detail of reverse.
Traces of the woodwork on the wings of an altarpiece depicting the saints Valentine and Francis (c. 1502/03, figs 32, 33) indicate their original arrangement. The panel with the stigmatisation of St Francis shows original traces of planing on the back. It is strengthened with dovetailed cross-battens, suggesting that originally it must have been a fixed wing. The St Valentine panel was obviously thinned on the back at a later time, but the present thickness is nearly equal to the St Francis panel, where any traces of cross-battens are absent. It is unlikely that this wing formed either the left counterpart to St Francis, as presumed by Koepplin and Falk, or the reverse of the St Francis. It is more likely that the St Valentine panel belonged to the left part of a second and variable pair of wings, which originally was a panel painted on both sides, or a panel that formed the back of a shrine wing containing sculptures.

**Methods of panel production in the Wittenberg workshops**

The lime wood supports of the first years at the electoral court of Saxony consist of boards of varying widths, mostly tending to be narrow. Even strips of wood measuring less than four centimetres in width were glued together for the support of the *Fourteen Helpers in Need* (c. 1505/07, figs. 34, 35). The supports are normally smoothed carefully on both sides, while the edges were given neither a rebate nor a bevel. This is where the supports differ from those of the period before Cranach’s appointment as court painter. Considerations of construction and economy provide an explanation: the amount of work required to produce a wooden support could certainly be reduced by choosing wider boards. The penalty for using wide planks was that they often include major flaws, like knots and areas of erratic grain. On the other hand, a panel consisting of a series of narrow boards may have a lesser tendency to warp, but joins also create natural points of weakness. Since knots and resinous deposits in the narrow boards were carefully replaced by rectangular pieces of wood, it could be interpreted as a sparing use of this precious material, but also as a preventive action to reduce the danger of splitting. There might also be a connection with the production of individual boards. According to the method of ‘quarter sawing’, for example, it is possible to cut a tree trunk into boards with mainly vertical year rings, but of relatively narrow width. Centre or side boards cut lengthways were joined together for the wings of the *Altarpiece with the Martyrdom of St Catherine* (1506) and for the support of the *Portrait of a Man with Fur Hat* (c. 1510).

Customarily, the wood was glued in the direction of the larger panel dimension, coinciding with the fibre orientation. Not so in the carpenter’s workshop that produced Cranach’s early Wittenberg supports. Until 1510/11, the wood...
grain runs in the direction of the smaller dimension of the panel, with few exceptions, regardless as to whether the support was to be painted in an oblong or tall, rectangular format (figs 35-37). The boards of the central panel of the Altarpiece with the Martyrdom of St Catherine (1506) are arranged vertically, that is, parallel to the smaller dimension of the panel. Had the wings each consisted of approximately five boards of the same length, glued together to form a narrow high rectangular format, this might have been consistent with widespread contemporary practice. In actual fact, there are nine and ten short boards joined together horizontally (fig.36). The same arrangement appears in altar retables, small and large individual panels and in a diptych. Although it appears that a large panel was cut for the double portrait of Johann the Steadfast and his son Johann Friedrich I (1509), since the width of the boards in both paintings is nearly identical, this assumption does not seem to be borne out in any of the preserved pairs of altar wings. In the sixteenth century there was a shortage of good quality wood in various regions. It might be that supply difficulties and economic reasons caused the carpenter to adopt this practice of joining the boards. Considering the varying widths of boards within larger panels, it can be concluded that a supply of boards of equal width were not available to him – at a good price – as they were in later years. The fact that the edges of the boards do not run parallel
35
Fourteen Helpers in Need, c. 1505/07 (fig. 34). Diagram showing the panel construction.

36
Altarpiece with the Martyrdom of St Catherine, 1506 (fig. 77). Diagram showing the panel construction.

37
Altarpiece of the Holy Kinship, 1509 (fig. 115). Diagram showing the panel construction.
also points to an economical use of the raw material. It may be that the lime wood planks were cut into shorter lengths for the same reason. This may have resulted in less waste when trimming the boards, bearing in mind the potential twisting of the wood during drying. The notion that the required panel dimensions could only be achieved by arranging the boards with the grain in the direction of the smaller dimension of the panel can be dismissed.\textsuperscript{100} The reasons for the arrangement of wood grain across the larger dimension are also to be looked for in the technique of joining planks or in stability.

Cranach’s panel maker preferred the customary joining of boards using a butt join by which the edges of the boards are glued edge to edge without dowels or tongue and groove. A precondition for a durable join is that the edges are brought into close contact, normally under pressure. Contemporary illustrations of carpenters’ workshops and tools provide few clues as to gluing techniques. It is to be assumed that joining was frequently done without special implements, or that they were so simple as to be considered unimportant. Early written sources contain very little information on this point.\textsuperscript{101} Theophillus Presbyter mentions that the wooden panels or doors are joined with the help of a tool used by coopers for making barrels.\textsuperscript{102} Perhaps here the relevant joining pressure was achieved with the help of a rope.\textsuperscript{103} On the Dresden \textit{Altarpiece of the Virgin}\textsuperscript{104} of around 1500, there is depicted a carpenter’s workshop: it shows boards being glued together on the floor to make a panel. The implement used looks similar to a \textit{Keillade}, a clamp or cramp using wedges, which later literature describes in various forms.\textsuperscript{105} Considering how thin the early Wittenberg supports were (about 0.5-1 cm), it was perhaps easier to glue shorter boards together in this way.

The arrangement of boards described above has had a negative effect on the condition of the large panel paintings. Alterations in the dimension of the wood due to environmental changes are far more pronounced in the radial and tangential dimensions than in the direction of the grain, thus swelling and shrinkage has caused more damage to the ground and paint on the narrow rectangular formats if the boards were arranged in the direction of the smaller dimension. Possibly the carpenter was not specialised in the production of painting supports. This practice does not reflect typical Saxon, Franconian or Flemish traditions for panels.\textsuperscript{106} The circumstance that Cranach’s workshop was located in Wittenberg Castle until about 1510/12 and the fact that, with only a few exceptions, all panels were made using this technique, suggest that they were made by the same carpenter who was also employed by the court. One is reminded of the arrangement of boards for wooden ceilings,
panelling or window shutters (see p. 275). It is, therefore, not certain whether Cranach had much influence on or even interest in the technique of panel manufacture.

There are, however, exceptions to the rule. Between 1505 and 1510, the portraits of Christoph Scheurl (1509, fig. 38) and Georg Spalatin (1509, FR 24),\textsuperscript{107} the Martyrdom of St Catherine (c. 1508, fig. 40), and a small triptych depicting the Resurrection (c. 1509, fig. 108) all demonstrate a method of construction that diverges from the practice described. One can assume that these supports were not made on behalf of the elector and that for this reason Cranach obtained them from another carpenter. This assumption is supported by the presence of the coats of arms on the reverse of the Resurrection, referring to Landgrave Wilhelm II of Hesse and his wife Anna of Mecklenburg (fig. 186).\textsuperscript{108} In addition, the panels differ from other works of that period: in the width of the boards used, the way the back was treated, as well as in profile and construction of the frame. The portrait of university professor Scheurl (1509) bears a carved mark on the reverse, which is unique and was perhaps the signature of a carpenter,\textsuperscript{109} if not a later addition. Profile and corner joins of the frame are, however, almost identical to the double portrait in London (1509).
The dating of the *Martyrdom of St Catherine* (fig. 40) varies widely: Fenyö assigns a date of c. 1504, Friedländer and Rosenberg assign a date of around 1505, Schade places it in the years from about 1506 to 1512 and Grimm finally analyses the motifs adopted from the right inner wing of Dürer’s *Heller Altarpiece*, which was conceived between 1507 and 1509. This painting is of extraordinary quality. The support consists of four broad lime wood boards in a vertical arrangement. The planks are almost twice as thick as usual (1.6 cm). On the front the joins are completely covered with canvas strips (figs 44, 45). Three dovetailed cross-battens on the back are probably original. Such techniques of stabilising the joins are rare on Cranach’s painting supports. There are also other differences compared to later practices, which will be considered further on. There is little doubt that this painting support came from a different professional panel maker. The cost for transporting supports was relatively high compared to those of production. Was this support made at a place where Cranach stopped during his travels, perhaps even in Nuremberg? The methods used are found on various Nuremberg supports of the same period.

Examination of the technology of panel making also supplies information on panels made in Wittenberg. In 1994, Erichsen published work on an altarpiece (c. 1510/12) held in private ownership in Switzerland that shows scenes of Jesus among the scribes, feeding the 5000, the marriage feast at Cana, Elizabeth feeding the poor and the birth of Christ. He presumed that this had been executed by the workshop or that it was an early work by Cranach’s brother Matthes in Kronach. The characteristic horizontal arrangement of the boards, that is, with the grain in the direction of the smaller dimension of the panel, now leaves little doubt that this altarpiece was made in Wittenberg.

The planning of the altarpiece for *St Johannis* at Neustadt/Orla (fig. 215) took place at a time when Cranach moved his studio out of the court into the town. According to archival evidence, the supports were made in 1511/12 (app. II, 42, 45). The technique used for joining the panels combines the practice of the early years with characteristics found during the following decade: the boards of the inner pair of folding wings run horizontally, those of the fixed wings vertically. Could this confirm the assumption that the arrangement of the boards relates to the intention of achieving stability? However, during the following years the lime wood panels continue to be glued in the direction of the larger dimension, almost without exception. Thicker planks are used: panels made from lime wood before 1510/12 measure scarcely one centimetre in thickness; this increases to one-and-a-half centimetres during the following
The boards are mostly cut tangentially from the trunk and not always divided parallel to the centre of the stem. Accordingly, there are clear variations in width. During the process of joining the panels the common rule of ‘core wood to core wood’ and ‘sapwood to sapwood’ in order to reduce warping was not given sufficient attention. There was frequently a rebate along the edges (fig. 41) and the back, as a rule, was (comparatively) roughly jack planed (fig. 42). One might assume that Cranach, having set up his new workshop in town, soon after employed a carpenter with different working habits.

Technical details of the support help to establish a chronology of works and their grouping. Thus, following the suggestion made by Schade, the Virgin and Child (FR 30) in the Thyssen-Bornemisza collection can be dated a few
years later than 1510, placing it after the so-called *Virgin and Child under the Trees* (FR 29). The *Adam and Eve* in Warsaw (FR 44) is most probably an earlier version of the same subject in Munich (FR 43). Attention can be drawn to the panels with Adam and Eve (c. 1508/10, fig. 275) in Besançon, largely unconsidered by previous research. The characteristics of the panels, which are joined in cross direction, and the painting technique suggest that these excellent works belong to Cranach’s earliest surviving versions of the subject (see pp. 317-318).

**The stabilisation of joins and the treatment of knots and resinous deposits**

The techniques for stabilising the joins between boards vary not only in the early works but also during the Wittenberg years. Butterfly-shaped pieces of wood were very occasionally used to prevent glued joins from opening, and those inserted into the reverse of the wings of the *Altarpiece with the Martyrdom of St Catherine* (1506, fig. 43) must have become visible early on in the layers of paint, which possibly led to the decision to avoid their use, particularly in panels painted on both sides. These butterfly keys are retained in the panels with the *Virgin and Child under the Trees* (c. 1510), the *Virgin and Child with Two Saints* (c. 1512/14) and in a few panels of larger format from later decades. The use of rectangular wooden pegs across the joins, as frequently practiced in the Netherlands, has only been detected on the *Princes’ Altarpiece* (c. 1510). It remains unclear why bracketing techniques like these were applied to only a few panels. Since they do not clearly relate to other characteristic features like the width and the thickness of the boards, the orientation of the boards within the panel, and the treatment of edges and the reverse, it is difficult to conclude if they simply indicate the personal preferences of some of the carpenters.

Dovetailed cross-battens inserted on the reverse of the support were not an option for the thin panels of the early Wittenberg years. From that period, only the *Martyrdom of St Catherine* (c. 1508), already discussed, and the portrait of Elector Friedrich III the Wise (FR 64A) are stabilised in this way. There is controversy as to whether this portrait of the elector is, in fact, a work of Lucas Cranach the Elder. It has been referred to repeatedly as a copy made in the late sixteenth century. Since the panel differs considerably in the widths of the boards, in their thickness and the treatment of the back, and considering secure attributions and well-documented works, this support was most probably not produced in the workshop of the carpenter who supplied Cranach with panels up to 1510/11 (see pp. 133-134).
Animal skins, woven fabrics or fibres can be used to stabilise joins, for smoothing out irregularities in the surface of the wood, to balance out tension in case of changes in the dimensions, as well as to improve adhesion of the ground. So far, only one panel has been identified with strips of parchment covering the joins; also, the widespread method of gluing canvas on joins has, to date, been found only rarely in Cranach’s oeuvre. The application of canvas in the upper parts of the panels of the saints Valentine and Francis (c.1502/03) is, presumably, to be understood as a preparation for the water-gilded haloes. Burnishing gold leaf subjects the ground to high stress and may lead to cracking at points of weakness such as joins. The extensive use of canvas to prepare the panel of the Virgin and Child with St Anne (c.1515/16), also with water-gilded haloes, is to be viewed with this tradition in mind. In addition, the support of the Virgin and Child under the Trees (c.1510) has the upper half covered with canvas, and the X-radiographs of the Princes’ Altarpiece (c.1510, fig. 4) show small and larger pieces of loosely woven canvas, perhaps intended to prevent cracking of the ground in the areas of flesh paint. The support for the Martyrdom of St Catherine (c.1508, figs 44, 45) is the earliest surviving example of joins covered with narrow strips of canvas. Only occasionally is this method encountered on later works. The density of the fabric varies between 8 and 15 threads per square centimetre (see p. 243). Considering that it was rare for Cranach’s panels to have the joins covered with canvas, in the case of the Neustadt Altarpiece (1511-13, fig. 215) this permits an important conclusion: based on stylistic variations, Erichsen argued for a later addition of the predella panel. However, the technical examination of the altarpiece reveals that the wing paintings and the predella consist of boards from coniferous wood of almost the same width, and that on all the panels the joins are partially covered with four- to five-centimetres-wide can-
vas strips of the same thread count (14 × 14 per cm²). This finding invalidates the hypothesis that the predella panel was added later. The point of departure for future research must be, therefore, that all the pictures that constitute this altarpiece were painted at about the same time.

While the joins and defects in Cranach’s earliest panels are often covered with tow, this is not the case with the supports used during his first ten years at the court. The technique of gluing coarse and broken fibres onto the wood was introduced into the Wittenberg workshop as standard practice only in about 1514/15. The Taking of Christ (1515, FR 75), the Holy Trinity (c. 1515, FR 65), Christ as the Man of Sorrows (c. 1515, FR 381E) and the four fragments of an altarpiece (c. 1515, FR 64B) are among the earliest examples of panels where fibrous material does not cover the joins, but is applied in several strips to the front across the grain. Even seven decades later, adhesions of tow in

Lucas Cranach the Elder and workshop, Count Palatine Philipp of the Rhine, c. 1520/22. Panel, 44.6 × 30 cm. Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie.
a horizontal direction are clearly visible on the *Colditz Altarpiece* (1584). Panels of lime, as well as coniferous wood, were prepared in this way.

The purpose of this practice is uncertain: Helland considered a general inspiration was derived from mortars in buildings reinforced with straw or animal hair¹³⁹ and, indeed, as early as 1506 Cranach receives for eight *groschen* moss and tow (*mis* and *werg*, app. II, 10) and during the building of the castle at Torgau he also charges 12 *groschen* for three pounds of fibrous tow (*aderwergk*, app. II, 208), thus justifying this assumption. If it was to improve the adhesion of ground to the wooden panel, it is surprising that the fibrous material was often applied in strips (fig. 47). Occasionally in these areas, a diagonal scoring into the wood was used to improve adhesion.¹⁴⁰ The idea was perhaps to stabilise the panel, analogous to the function of cross-battens, and to reduce warping during the application of the ground, the water content of which might be expected to cause movement in the support.¹⁴¹ Earlier examples from the Tyrol¹⁴² and Nuremberg¹⁴³ show that this rather unusual technique was developed elsewhere.¹⁴⁴ Tow was frequently applied in this manner on panels from the workshop of Michael Wolgemut.¹⁴⁵ Dürer’s *Eve* (1507)¹⁴⁶ was also prepared in the same way. It remains to be confirmed whether an itinerant craftsman might have brought this practice to Wittenberg or whether it was introduced after a conscious analysis of other workshop practices.

Fibres applied to the front of the panel beneath the ground often influence the formation of cracks and may even become visible on the paint surface. They can be identified by X-radiographs or examination in raking light, although the type of material cannot be specified using these methods. In 1963, the Institut Royal du Patrimoine Artistique in Brussels proved that the fibres on a panel in Larvik Church, Norway, *Christ Blessing the Children* (after 1537), were silk.¹⁴⁷ Cadorin and Veillon,¹⁴⁸ Hoffmann¹⁴⁹ and also Sandner and Ritschel,¹⁵⁰ on the other hand, described these fibres as hemp, while Bünsche¹⁵¹ identified them as flax. The fibre samples taken for this project from the reverse of the portraits of the wife of a Viennese scholar (1503, fig. 48), Count Palatine Philipp of the Rhine (1520, figs 46, 47), and a man (von Schleinitz?, 1526) all proved to be raw silk filaments,¹⁵² which leads to the hypothesis that silk fibres were also applied to the front. So far, there is no information on the widespread application of this technique,¹⁵³ and from where Cranach received the material. In comparison with hemp or flax, fine silk fibres might have been preferred because they could be applied in thinner layers, thereby reducing the amount and thickness of chalk ground required to cover them.

As mentioned above, carpenters tended to treat knots and resin deposits in the wood in quite different ways. The *Liber illuministarum*¹⁵⁴ recommends the
careful removal of these deficiencies and the plugging of spaces with another piece of wood. Sometimes Cranach’s carpenters replaced knots with wood of the same thickness as the panel itself. In other cases, the plugging was done on one side only (fig. 49) and occasionally with two thin inlays of wood (fig. 52), on both sides. These vary from almost rectangular or square shapes to irregular ones. In some panels, knots have been removed, while others were ignored. In more than half of the investigated works, knots were left untreated, only rarely was canvas used to conceal problem areas; after 1514/15 the material tended to be tow (fig. 51). The panel with the saints Willibald and Walpurgis adored by Bishop Gabriel von Eyb (1520) was possibly made in the workshop of another carpenter. The method of wood replacement is not, however, the usual one applied to works by Lucas Cranach the Elder, as the inserts are all rhombus shaped (fig. 50).
**Beech wood panels and new workshops**

There is no doubt that the panels made from beech contain fewer problem areas than those made of coniferous woods and lime. Just under ten per cent of all panels investigated containing knots were made of beech. The low number of irregularities and straight grain, typical features of beech, meant less effort and work for the carpenter and equally raised the quality of the panel from the painter’s point of view. For these same reasons, beech wood panels could also have been cheaper to produce. The panel maker used thin planks (about 0.5-1.5 cm), cleaved or sawn from the tree trunk both radially and tangentially. The boards are usually wider than those of lime wood: the first beech panels from the years 1521/22 are constructed from the widest planks, often more than 30 centimetres in width. Consequently, panels of the standard formats ‘A’ and ‘B’ consist of only one board and the ‘C’ formats frequently of two, oriented parallel to the smaller dimension of the panel. This practice of cross-directional joining can be explained by the more economical use of the usually wider boards.

The traces of production found on the beech wood panels and the way tow was applied imply that such changes can most probably be related to the appointment of a new carpenter. The reverse sides of numerous lime and beech wood panels made in the 1520s retain hollowed traces of a jack plane. Different from the lime wood panels, the edges of smaller panels made of beech wood are usually beveled at the back; larger panels were mostly given a rebate. The tow is glued onto the joins (fig. 54), and only in specific cases has it been applied in an irregular way. In some cases, this form of stabilisation is found both on the front and back. So far, no beech panels with fibrous material applied across the grain are known, although this technique continued to be used for lime panels. There the tow was either aligned with the join, or applied irregularly. In all the examined panels, the various forms of tow application described above correlate with the ways the panels are produced. It can therefore be concluded that the securing of the joins with tow was done in the carpenter’s rather than in the painter’s workshop. The evidence implies that there must have been at least two carpenters: one who supplied Cranach for years with lime wood panels, concentrating on the production of these painting supports in usually larger and non-standard formats, and an additional, probably a new carpenter, who produced beech panels, but mainly in standard sizes. Higher demand for paintings around 1520 led to an increase in the production of panels and thus obviously created a need for the second panel maker (see p. 277). Investigations by Lücke prove that in 1518, Cranach acquired the houses at No. 1 Schloßstraße where he had new and larger workshops set up.
This analysis of the variations in production technique and the periods in which they were practiced helps to further clarify questions relating to the work of the Cranach family. For example, the Cranach copy of the *Last Judgement* (FR 99) by Hieronymus Bosch was linked directly with the court painter’s journey to the Netherlands in 1508 (figs 263-266). The overall working period to complete the copy was estimated to have been 16 years. The examination of the support reveals that the boards are oriented parallel to the larger dimension of the panels and the joins are covered with tow. Therefore, the supposition that the painting was produced before 1520 can be ruled out.

Equally, the *Adoration of the Magi* in the Stadtkirche St. Wenzel in Naumburg, dated by Friedländer and Rosenberg at c.1513/14, is not likely to have been produced before 1520 because of tow applications along the board joins.

These examples reaffirm the contribution of technical investigation in revealing the means and methods of Cranach, his studio and associated carpenters in the preparation and treatment of his painting supports. It is apparent from these studies that the carpenters produced panels in a variety of ways, with a variety of wood species and in standard formats. This leads not only to a revised chronology but also provides insight into material relationships between separated works.
Frames

‘13 groschen the carpenter for 4 frames to fit the portrait paintings...’

The original frames of the paintings by Lucas Cranach the Elder have received little attention in the past. These frames form an indispensable part of the painting and correspond to traditional usage. Not only were they intended to provide a formal finish to enhance his paintings, they also formed an area of transition between the real world and that of the picture. In addition, the frame was used to fulfil structural functions while protecting the panel and painted surface from mechanical damage.

Many of Cranach’s original frames have been altered over time, often in order to accommodate changes in taste. In the case of the Altarpiece with the Martyrdom of St Catherine (1506), it is possible to trace many replacements. After the retable had been transferred to the Dresden picture collection in the early eighteenth century, the panels received a Baroque-style gallery frame. In 1837, there is evidence of framing in a contemporary style. A photograph from the early twentieth century shows the left wing in a neo-classical scotia frame with an egg-and-dart motif, and in the 1950s the retable was framed in a shallow concave moulding of polished oak. Most recently, in 1998, the left shutter of the retable was displayed in a newly polychromed frame.

The earliest intact frames date from 1509, after Cranach had returned from the Netherlands. Of some hundred paintings from the Wittenberg workshop, only about 20 have retained frames that can be identified as authentic. These are predominantly engaged frames (see Construction). It is usually possible to determine their originality by examining the border area between the moulding and the panel. Applied frames (laminated to the outer edges of the panel) are well known from smaller portraits (fig. 57). If the original moulding has been lost, an examination of the edge of the panel sometimes allows for conclusions about the original type of framing. On various panels, notches prepared on the verso indicate that the picture was fitted from the reverse into the rebate of the frame and fixed with wooden or metal pins. It has, however, proved very difficult to identify authentic rebated frames. In addition to engaged, applied and rebated frames, the predella panels of the altarpieces at Neustadt and Zwickau provide some exceptions. In the case of the former, the panel has been inserted from behind into the predella box, which is moulded on the front. In the Zwickau Altarpiece (c.1518) the frame was painted as a trompe-l’œil onto the panel. This survey charts the most commonly used frame designs, their construction, profiles and finishes.
Construction

The majority of the panels by Cranach and the Wittenberg workshop from the first decades of the sixteenth century were provided with engaged frames, which were grooved mouldings into which the painting support was inserted. This type of framing gave sufficient stability and allowed for the presentation of both sides of the panel. Until around 1510/11, the width of the groove corresponded to the full thickness of the panels regardless of their size (fig. 56). A small gap between panel and frame allowed for changes in the dimension of the wood. However, as a result, the panel could slip slightly so that the bare wood at the edge of the panel became all-too visible. Occasionally, attempts were made to fix the position of the panel; for example, on the right-hand fixed wing of the Neustadt Altarpiece (1511-13), which has retained its original rebated frame, an iron nail has been driven through the lower moulding and the painting’s support.11

The edges of the shutter panels of the Zwickau Altarpiece (c.1518) have been inserted completely into the slotted moulding, but the carpenter provided the fixed wings with a rebate and slid only the tapered edge into the groove. This method prevailed after 1510/11 mainly for the framing of larger panels and those painted on one side. For structural reasons altar wings are provided regularly with thinner and thus lighter panels, the edge of which are fully slotted into the mouldings.12 Smaller beech wood panels were usually provided with a wide bevel on the verso to be fitted into engaged frames (fig. 53). Larger formats also reveal rebates presumably for the same purpose.

Panel and frame often were produced from the same wood species. In the case of the Ten Commandments (1516, figs 64, 65) the moulding and the panel are both made of fir. For the Zwickau Altarpiece (c.1518) the carpenter also preferred a coniferous wood while the more elaborate ogee arch was made from a deciduous wood species. Frequently small beech wood tondi are provided with turned lime mouldings (figs 60, 61).

Engaged frames with mortise and tenon corner joins are common in German-speaking regions.13 The vertical sections usually contain the slots, the horizontal sections the tenons. The moulding is cut to a mitre join at the top, partly overlapping at the bottom. The double mortise and tenon join, which has been used in the construction of the intact frames on the portraits of Johann the Steadfast, Johann Friedrich I and Chistoph Scheurl from 1509, was subsequently changed to a version based on a single slot only (fig. 56). The mouldings of the fixed wings of the Neustadt Altarpiece (1511-13) are only fitted with a simple straight and mitred half-lap (fig. 63). The wooden joins have been glued and, depending on the load, additionally secured with wooden dowels14 or nailed-on iron bands.15
The frame of the *Resurrection* (c.1509) reflects the special form of a haunched mortise join\(^1\); the vertical sections are thinned down to a third on both sides but end in a block of solid wood. By contrast, the horizontal sections have two tenons reduced by the width of the block. This type of join prevents the members from slipping apart vertically. The construction of the frame of the *Altarpiece of the Virgin* (1518) in Brandenburg follows the same principle, though in the opposite direction. A locked join with one block respectively on the reverse of the vertical sections was used some years later in the frame of the *Portraits of a Couple von Schleinitz?* (1526, fig. 56). Whereas the join is locked at the top and the bottom of this double portrait, in the case of *Martin Luther and Katharina von Bora* (1529) locked tenons exist only at the bottom. Just one example of a frame with a completely mitred mortise and tenon join survives on the Dessau *Crucifixion* (c.1523). The sections are mitred on all sides, so that the join is not apparent to the viewer.\(^2\)

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56
Top: frame of Johann the Steadfast and Johann Friedrich I the Magnanimous, 1509 (fig. 164).
Centre: frame of the *Crucifixion*, c.1520/30 (fig. 55).
Two wrought-iron hinges join the frames of several double portraits, allowing the panels to be closed like a book or board game (fig. 60). A hook-shaped lock made of iron is preserved on the portraits of Martin Luther and Katharina von Bora (1529, fig. 61). The majority of shutters are attached to the shrine or the central panel by sets of two wrought-iron hinges. The London double portrait (1509, fig. 164) and the Neustadt Altarpiece (1511-13, fig. 215) are proof that they were joined with iron nails after the frames had been gilded. In both cases, nail tips are visible in the hollowed mouldings. The retables were also provided with bolts to close them. An invoice from the year 1536 indicates that a Last Judgement was even kept under lock and key.

Profiles
For many years Cranach preferred a simple, deep, hollowed frame. Traditionally the vertical and top scotia mouldings contrast with the flat rainsill base, reinforcing the idea of the frame as a window (figs 38, 55, 164). Cranach’s variation on the type often found in German medieval panel painting, which typically consists of a flat border with cavernous moulding and bevelled inner edge, has a more dramatic effect with its deep scotia and the flat border reduced to a narrow step, enhancing the illusory perspective of the painting (fig. 56). The painter himself seems to have decided on the moulding, as
there are preparatory drawings that illustrate the type of frame and moulding intended for a particular painting or altarpiece (fig. 18). The scotia moulding was chosen for use on small individual panels as well as on the largest of altarpieces, regardless of scale or subject matter. Examples of this sort of frame are preserved from the years 1509, 1511, 1518, 1521 and 1526, each of which reveals only slight modifications. The edge mouldings of the Neustadt retable shrine are enriched by collonettes (fig. 63), while on the frames of the portraits of Johann the Steadfast, Johann Friedrich I and Christoph Scheurl and the inside shutters of the Neustadt retable, the scotia and the black raised outer edges are enriched by a narrow half round (fig. 56). The half round was later abandoned, probably for the sake of simplicity. In addition, the later frames are less carefully planed.
By the 1520s at the latest, the scotia changes to ogee moulding with rainsill base preserved on examples from the years 1529, 1532 and 1535, as well as the Kemberg Altarpiece of 1565 (fig. 62).24 The Cranach workshop adhered to a conservative Gothic design over many decades, despite changes of carpenter.

The second type of frame used by Cranach is a northern version of the classical cassetta frame with rainsill base. The earliest is preserved on the Ten Commandments (1516, figs 64, 65).25 On three examples26 the innermost moulding consists of torus and scotia. An ogee moulding and a flat step form the outer border. At a later period the window-like function of the rainsill was abandoned and the profile was modified several times.27 Occasionally this type is adorned with three-dimensional rosettes and other additions to the picture, such as coats of arms or inscriptions conveying information, for example, on subject and ownership (fig. 66).28

The circular frames of the small capsule portraits have special profiles that are shaped to fit into each other (figs 58, 59). The portraits are then to be found inside a monochromatically painted ‘capsule’ for safekeeping.29 The desire to present panels differently and Italian influences certainly encouraged new frame designs and thus seems to have led to changes in working sequence. It is conceivable and likely that frames were designed to conform to prevailing interior decoration. Paintings were occasionally inserted into wainscoting and fitted with profiles echoing the architectural vocabulary. As early as 1508, Dürer designed an aedicular frame along Italian lines for the Landauer Altarpiece (1511).30 Technical examination of Cranach’s Budapest Martyrdom of St Catherine (c. 1508) has led to the assumption that in this case Cranach chose a more modern form of frame, which unfortunately has not survived.31 The filigree late Gothic tracery of the Neustadt Altarpiece (1511-13, fig. 215) gave way to other organic forms featuring fruits and foliage,

Lucas Cranach designed frames for his paintings in accordance with formal, structural and economic requirements that would have been, to varying degrees, dictated by the wishes of his clients. The width of the frame of diptychs or triptychs may have been determined by the subject, for example when the composition crosses the boundaries of the individual panels, as in the case of the *Altarpiece of the Holy Kinship* (1509, fig. 115). A change of distance between the central panel and the two shutters would spoil the perspective of the tiled floor, which had been conceived to show one room extending over all three panels.

The widths of the double-winged frames of the *Neustadt Altarpiece* (1511-13) are integral to the entire composition, which spreads over the exterior of the left and right inner wing (fig. p. 2). In the case of the life-sized marriage portraits of Duke Heinrich the Devout of Saxony and the Duchess Katharina of Mecklenburg (1514, fig. 68) this observation and technical examination resulted in a revision of the hypothesis by Distel, Schade and Löcher, who had interpreted the duceal pair as one of the first double portraits originally painted on a single panel. The reason for this assertion was provided by the sheath of the sword, which reaches from one picture into the next. However, the distance between the sword and the edge of the floor in both panels differs by four centimetres. If both ends of the sheath were to be joined, the

The Ten Commandments, 1516 (fig. 64). Detail of frame and diagram of frame construction.
angle of inclination would require a 12-centimetre-wide space in between. It is unlikely, however, that the compact composition included an appropriately wide black stripe between both figures and therefore, the conclusion must be that Cranach conceived the portraits as one, but painted them on two panels, with two adjoining frames or an architectural wall decoration filling the space in between.

**Decorations**

The corner regions of semi-finished frames were occasionally covered with pieces of canvas before a white ground was applied. Decoration followed with metal leaf on poliment or oil mordant. Gold has been employed in several ways to enhance the frame and therefore its significance. In contrast to the widespread medieval workshop practice of finishing the frame before proceeding with the painting, pigmented oil media and metal leaf have been repeatedly found on the uppermost paint layers of Cranach’s panels. Surely this indicates that the frame was finished in the later stages of production (see *Interim framing*). Convex, concave and ogee mouldings are usually gilded,
whereas the flat sill occasionally bears a layer of silver (figs 55, 63), the surface of which provides a suitable surface for lettering.38 The outer flat step and the inner bevel are often offset with black (figs 38, 55, 63). This pattern is known from fifteenth-century Netherlandish panel paintings.39 From c.1500 on, this decorative device also spread to Germany.40 As no frames from early Cranach paintings have been identified, it is not possible to establish conclusively whether Cranach introduced practices that he witnessed during his trip to the Netherlands. The invoices for richly polychromed finishes on frames refer primarily to canvas paintings.41 Even on drawn retable designs from the later years, yellow washes indicate the eventual placement of gold. In two cases, engraved foliage patterns refer back to Gothic decorative techniques.42 It is still not known whether frames of stained and polished wood or with furniture inlays were also produced in the Wittenberg workshop.43
Interim framing

The invoices from the Cranach workshop indicate that the frame might be carved and decorated either parallel to the painting process or after the picture had been completed.\(^{44}\) Technical examination confirms that the sequence of panel and frame production was not consistent. In 1502 the *Penance of St Jerome* (figs 69, 81) was painted on an unframed panel: the ground and paint layers cover the whole surface to the original edges. By contrast, the contemporary portraits of Johannes Cuspinian and his wife (1502/03, figs 19, 70) were framed before the application of the ground. The original frames of *Johann the Steadfast* and *Johann Friedrich I the Magnanimous* (1509, fig. 164) were added presumably after the painting of the portraits had commenced, but before their completion. Such inconsistency is detectable over many years in the Wittenberg workshop.\(^{45}\)

If the panel was inserted into its frame before the ground had been applied, there is the so-called priming barb close to the edges of the panel. Occasionally, we find several traces of gilding and/or paint on the bare wood outside this barb, implying that the panel and the frame were sometimes separated again after priming. The presence of paint and the way it appears can suggest the use of a temporary frame\(^{46}\) (fig. 72), an assumption that is supported by incisions in the ground along the barb\(^{47}\) (figs 71, 74) and by black painted borders\(^{48}\) (fig. 73). These incised lines may have marked out areas to be painted\(^{49}\) or possibly were intended to prevent damage to the ground when the frame or interim frame was removed – a practice that was uncommon in Germany, though not restricted to the Cranach workshop.\(^{50}\) The black edges can be interpreted as having served as a visual border that would have been helpful during the painting process. In a similar manner, black lines painted along the edge appear on Netherlandish, Italian and Saxon canvas paintings during the fifteenth century.\(^{51}\) On the panel depicting the *Martyrdom of St Catherine* (c.1508, fig. 40), the black line on the upper and lower border ends with the barb, leaving some bare wood visible on the edge of the panel. The black paint covers the wood left and right as far as the edge.\(^{52}\) A painting by Rembrandt, produced some 100 years later, may aid an understanding of this phenomenon (fig. 75). *The Artist in His Studio*\(^{53}\) shows a large panel standing on an easel. Grooved battens were temporarily attached to the upper and lower edge in order to stabilise the panel. It could thus be moved safely within the workshop. This assumes that there were similar pieces of squared wood as interim devices to exert a stabilising force used in the Cranach workshop during the early Wittenberg years. It is conceivable that they formed part of the temporary frame used during grounding when the aqueous medium might cause the panel to distort.\(^{54}\) It remains to be investigated whether they also served to hold the boards during joining.
69
Detail from *Penance of St Jerome*, 1502 (fig. 81).

70>
Detail from *Anna Cuspinian*, 1502/03 (fig. 19).

71
Detail from *Holy Family (Rest on the Flight into Egypt)*, 1504 (fig. 176).

72>
Lucas Cranach the Elder and workshop, detail from *Martin Luther*, 1534. Private collection.

73
Detail from *Altarpiece of the Holy Kinship*, 1509 (fig. 115).

74>
Detail from *Johann the Steadfast*, 1533 (fig. 102).
The small pendant portraits of the electors Friedrich III the Wise and Johann the Steadfast (1532/33) were obviously framed once they had been completed,55 as ground and paint layers extend to all four edges of the panel (fig. 102). There are, however, several small, semi-circular areas where the wood has not been covered with ground. These are presumably clip marks (fig. 74).

The clips56 seem to have been used to fix the panels on a rigid support during a major part of the painting process, right from the beginning of the application of the aqueous ground. The fastening must have been taken off before the ground was fully smoothed: in some of these areas, paint covers the bare wood. Furthermore, the appearance of similar traces on the New York portrait pendants (figs 74, 102) suggests that these clips may have been reused to improve handling of the small panels during the painting process. Here we find these marks also on the preparation layer, but these are not covered with paint.

It is also possible to detect differing routines in the production of retables. The central panel of the Altarpiece with the Martyrdom of St Catherine (1506, fig. 77) reveals that the framing was carried out just before the painting was completed. After the central panel had been set in the decorative frame and the
wings had been added, an imbalance of colour in the transition of the central panel and the right-hand wing seems to have become evident; the robe of the figure falling to the ground at the lower edge had been executed in green and red, which clash directly with the green dress worn by St Barbara. Cranach corrected this figure’s robe, replacing it with a yellow striped one (fig. 76). This was most likely carried out after framing: whereas the first green/red version of the robe is partly covered by the black painted edge, the yellow version ends with this border. The black paint also covers the bare wood and corrects the irregular course of the barb before the panel was framed.

This survey illustrates that both tradition and innovation characterise the framing practices of Lucas Cranach the Elder. Whereas for several decades, the profiles he had designed himself underwent only minor modifications, more fashionable influences, reversion to more traditional forms and the quest for efficiency led to new solutions and changes in his working practice. The frame was no longer an integral part of the painting as it had been in pan-European medieval panel construction. It could either be produced at the same time as, or on completion of, a painting, perhaps in accordance with the commissioner’s wishes. The use of standard formats and the abandonment of traditional working sequences in the production of supports and frames are closely linked to each other.

76
Altpiece with the
Martyrdom of St Catherine,
1506 (fig. 77). Detail from central panel.
The preparatory layers: ground, isolation and *imprimatura*

Examination of the wooden panels from the workshop of Lucas Cranach the Elder has established that substantial preparatory layers were applied in order to produce a sufficiently smooth, adhesive and reflective surface for paint and metal leaf. Following no apparent principle, the ground was applied to either the periphery or the centre face of tangentially cut planks. The obverse side, on which the ground was applied, was usually determined by the various treatments and application of fibrous materials carried out by the carpenter.

White grounds

The ground found most often on Cranach’s panels is of white colour bound with animal glue and contains calcium carbonate as a filler. Only on a few panels was it possible to detect natural sedimentary chalk, characterised by the presence of coccoliths, the remains of tiny unicellular marine organisms. The absence of such fossil shells in the majority of samples supports the assumption that the source of the finely grained calcium carbonate may have been adequately prepared local limestone. There is no indication from his invoices that Cranach used different chalks. In 1536, he charged the court for a considerable amount of ‘chalk’ (*kreiden*) at the relatively low price of 15-17 *groschen* per *zentner* (one Leipzig *zentner* = approximately 51.4 kilograms). In view of the relatively high cost of transport, it seems unlikely that this material would have been delivered from any great distance. It remains the task of future research to investigate the different origins and processing of basic materials used in the preparation of panels and thus to draw conclusions about the origin of the ground material used in individual panels.

The chalk ground, which was quite liquid, was applied to untreated or pre-sized panels to form a preparatory layer that varied in thickness, according to artistic purpose. For instance, carved golden haloes called for particularly thick layers of ground (fig. 80). In later years, perhaps due to the high rate of production in the Wittenberg workshop, the panels were sometimes so thinly ground-ed that traces of tow are visible on the surface, which hampered the production of smooth surfaces. All cross-sections of preparatory layers that have been examined to date suggest that the ground was applied in a few layers without long drying periods between applications. Cracks in the ground that occurred before the panel was painted (fig. 43) can be detected in X-radiographs of early works and might relate to the presence of moisture during the application of the ground that could have caused the support to swell. Inadequate pre-sizing of the wood, an inappropriate concentration of size, or accelerated drying on the surface would have exacerbated the extent of the damage.
If, while the ground was being applied, the panel was in a frame and subsequently removed after drying, or if the panel shrank as a result of environmental changes, the ground along the borderline between panel and frame would come apart. To prevent an uneven edge, a line would be scratched into the barb with a pointed tool (see p. 86). On the *Fourteen Helpers in Need* (*c.*1505/07) and the *Neustadt Altarpiece* (1511-13), such lines were scored into the ground while it was still quite soft.12

Often blisters are visible in cross-sections and on the surface of the ground. Small white dots appear in the X-radiograph if the partially smoothed cavities are filled with radio-opaque paint (fig. 79). This seems to be an indication that the ground had been smoothed without the surface being wetted again, which is further confirmed by scratch marks that appear lighter and often run equidistant and parallel to each other. These scratch marks were presumably caused by small defects in a blade used for scraping. The *Liber illuministarum* also points out this undesirable phenomenon: ‘for scraping, a well-sharpened knife must be used without any notches as the tiniest nick is apparent in the ground’ (*zum schaben solten ein ebens wol schneidens messer haben on all schartten dann das clanest schärttel merkt man jm grundi*).13

Only in exceptional cases was there deliberate use of a toothed blade to smooth away the ground14, although a toothed plane was employed on the retable shrines of Neustadt/Orla and Kade, evidently to give a distinctive texture to their backgrounds. By comparison with the model, the brocade and the way it was imitated with tooled gold ground,15 carved or scored, the texture achieved with a simple toothed blade, imposed limitations on the degree of

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*Portrait of a Man with a Fur Hat*, *c.*1510 (fig. 13). Detail of X-radiograph.
realistic representation. Nevertheless this method did save a considerable amount of work. For the Neustadt/Orla and Kade retables, it was apparently neither the intention of Cranach nor the wish of the commissioner that sumptuous textiles should be depicted in a traditional way. To date, we know only of the Altarpiece of the Virgin (1518) in Brandenburg Cathedral that has such a carved and gilded background. However, so far there is no conclusive evidence for it being produced in the Wittenberg workshop. There is proof though, that Hans Döring, after he left the Cranach workshop, used this technique on the retable in Nieder-Weidbach.

In Gothic tradition the golden haloes on the panels depicting St Francis and St Valentine (1502/03, fig. 80) form circular lines, incised with dividers and subsequently indented with a gesso hook. About 10 years later, Cranach once again used this technique on the Aschersleben and Kade retables, as well as on the Virgin and Child with St Anne (c. 1515/16). On the panel Christ as Saviour (c. 1515/16, fig. 120), separate halo rays have been carved in the chalk ground in the form of shallow hollows. The traditional techniques of tooling the ground with incised or carved patterns apparently suited the wishes of the provincial patrons for whom Cranach worked increasingly after 1510.
Reddish grounds

A few panels from the years before Cranach was appointed to the court are exceptional in that they were painted on reddish-coloured grounds. *St Jerome* (1502, fig. 81) has a red preparatory layer composed of red lead, lead white and calcium carbonate, and the *Holy Family* (1504) appears to be primed in two layers – white over red lead (figs 71, 176). It is likely that the *Portrait of a Young Lady*, which has a red preparatory layer (red lead, lead white and calcium carbonate bound in oil⁹), belongs to the group of portraits painted by Cranach before 1505 (see pp. 303-311).²⁰

The history of coloured grounds and especially their function has been only partly examined. Documentary evidence indicates that red lead in oil was used to preserve the wood²¹ while also levelling the support.²² The Hamburg ‘Glassworkers and Painters’ regulations’ (Glaswerker-Malerrolle) of 1461 expressly recommend that, for carvings and panels that are meant to withstand the effects of the weather, the wood be soaked in oligen mennige (red lead in oil medium).²³ Until now there have been few published examples of light reddish grounds on panels; these are primarily from northern Europe and northern Italy²⁴ and, although current assumption is based on scant evidence, it seems that reddish grounds were not widespread in either Franconian or Austrian painting of the late fifteenth and early sixteenth century.²⁵ However, Dürer painted the portrait of Oswolt Krel (1499, fig. 271)²⁶ on a reddish mixture of red lead and lead white – the same sort of ground that Cranach used three years later and which remains exceptional within the works of both artists (see p. 317).²⁷ The technical and artistic intentions in the use of coloured grounds require further examination (see Reddish imprimatura).

| Table 3: Preparatory layers on panel paintings (c.1500-1504) |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Date            | Ground          | Filler          | Barb           | imprimatura     | Composition     |
|                 | red/white       | red/white       | yes            | reddish         | lead white      |
| c.1500          | white           | calcium carbonate | yes            | white           | lead white      |
| c.1502/03       | red             | red lead, lead white, calcium carbonate | no            | none            | --              |
| 1502            | white           | calcium carbonate | yes            | none            | lead white      |
| 1503            | white           | calcium carbonate | yes            | none            | reddish         |
| 1504            | red and white   | untested, presumably calcium carbonate | no            | none or white   | untested        |
|                 |                 | untested, presumably red lead, lead white |               |                 |                |

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Isolation layers

Cranach modified the surface quality of the smoothed ground with thin intermediate layers. What appears to be an unpigmented isolation layer over the ground was likely applied to reduce absorption. In cross-sections, the upper part of the ground appears to be translucent yellowish to greyish with a yellowish fluorescence in ultraviolet light, suggesting either an oil or oil-resin-based isolation layer or a layer formed by the binding medium from the paint. The Liber illuministarum describes an isolation layer involving oil impregnation: ‘On a panel one part of which is gilded and another of which will be with oil paints be sure to soak the latter part in oil’. Such an unpigmented oil-based isolation layer could be clearly detected on the Holy Trinity (c.1515) and the portrait of Christian II of Denmark (1523). On other works, evidence of beading of the aqueous underdrawing medium leads to the conclusion that the ground was provided with an oil-based isolation layer before the aqueous layer was applied. Despite repeated assertions of its presence, no trace of a glue-size layer could be detected on any of the cross-sections examined. However, isolation with aqueous binding media cannot be ruled out. Passages with subsequent water-gilding or with pigments bound in a glue medium, for instance, could have received an aqueous underlayer prior to painting. The oil penetrating the ground provides for a stable adhesion of the paint film, thus increasing its durability. Lead white, red lead or both may have been added to the oil, as these were thought to accelerate drying. On the X-radiographs of Johann the Steadfast and Johann Friedrich I (1509), extremely faint traces of brushwork can be detected bearing no relation to the subject outlines yet there is no evidence of a pigmented intermediate layer in the cross-sections. There seems a fluent transition between what may be an unpigmented isolation layer and the subsequent coating of paint. In cross-sections from the Neustadt Altarpiece (1511-13), an isolation layer was observed containing traces of lead white.

We do not know what Cranach called the pigmented intermediate layer. However, Dürer carried out what he termed unterstreichen (undercoating) on the Heller Altarpiece before proceeding to what he described as untermalen (underpainting). Later the term Imprimitur became widely used in German. Here we shall attempt to reclaim the Italian term imprimatura. Filarete, Leonardo, Vasari and Armenini give detailed accounts of the practice during the Renaissance. In the Netherlands, van Mander describes the primersel through which it was possible to still see the underdrawing. Recent research interprets both terms differently with regard to expanse and translucency. The English equivalent priming appears to be even less specific in
meaning. In the context of Cranach, what is meant by *imprimatura* is an overall translucent toning of a ground that has been applied to the whole surface, with the possible exception of passages of water gilding or silvering.

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**White imprimatura**

The use of a white *imprimatura* layer is widespread in medieval panel painting north and south of the Alps and was part of the repertoire of Cranach's contemporaries such as Dürer, Memling, Michelangelo and Titian at the beginning of the sixteenth century. A pigmented intermediate layer adjusts the surface properties of the ground and may influence the appearance of the underdrawing. An *imprimatura* that is white increases light reflection of a gesso- or chalk-covered panel.

Early known works by Lucas Cranach the Elder such as the *Crucifixion* (c.1500) and the shutters of a retable depicting St Valentine and St Francis (c.1502/03), have an *imprimatura* containing lead white. For many decades this technique formed part of the Wittenberg workshop practice (fig. 84). The intermediate layer was usually applied with a broad brush and in large strokes, unrelated to the contours and forms of the painting. The resulting striped texture can be detected in X-radiographs and occasionally it also shows up in raking light.
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on the surface of the painting (figs 82, 83). Brushed application of an *imprimatura* modifies the surface structure of the ground and, since no further smoothing was undertaken, it can be assumed that the somewhat rougher ground was not only tolerated but intended. Brushstrokes of a pigmented intermediate layer can also be detected on the surface of paintings by Strigel, Traut, Kulmbach and Baldung Grien. In this respect, their practice differs from Vasari’s instructions for the *imprimatura*, which state that it is to be spread evenly by hand.

In works of the first decades of the sixteenth century that have been examined for this study, the *imprimatura* covers the underdrawing, altering its appearance. On the *Altarpiece with the Martyrdom of St Catherine* (1506) a layer of lead white conceals details of form that had been drawn and then rejected. This observation indicates that the isolation of the ground and the application of the *imprimatura* may have been two separate operations and it is, in fact, possible to detect a pigmented intermediate layer solely on the central panel and not on the wings of the Dessau *Princes’ Altarpiece* (c.1510). On later works, the *imprimatura* occasionally also serves as a preparatory layer for underdrawings in dry media.

The observation that Cranach covered the ground with a white intermediate layer is not new but it has been interpreted differently in the past. Gronau, for example, assumed the existence of a brown *imprimatura*, wrongly describing it as ‘ground’ or ‘underpainting’. Sandner and Ritschel as well as Schözel and Giebe interpret this phenomenon as a re-working of the panel after grounding. This might have been necessary on the basis of cracks having already formed in the ground and it is correct that on various panels the lead white paint has penetrated the network of cracks (fig. 43). However, since the intermediate layer also appears on other panels that have no such early cracks in their preparation layers, its purpose cannot be solely a remedial one.

**Fourteen Helpers in Need**, c.1505/07 (fig. 34). Cross-section of St Christopher’s red robe.

The lowest layer is the chalk ground, followed by carbon black from the underdrawing, a lead white *imprimatura*, two undermodelling layers (containing vermilion, red lead and red iron oxide) and finally a red glaze.
Light reddish imprimatura

The use of a light red imprimatura affects Cranach’s painting techniques and is closely connected to the use of coloured grounds. A lightly tinted preparation modifies not only the brilliance of a white ground but also enabled Cranach to vary the optical qualities of a given image. The earliest example of a reddish imprimatura was found on the Crucifixion (1503, fig. 27). X-radiographs reveal that no modelling was achieved with this layer, which, on many of his paintings is a mixture of lead white and red lead (fig. 85). The thickness of the layer and the intensity of the reddish toning can vary in a single work or between individual works. Often the extreme thinness of the application leads to the conclusion that the intermediate layer could have barely tinted the white ground. In cross-section, the mixture usually appears light red or pink. When applied to the ground, the oil medium would have altered the refractive index of the calcium carbonate bound in animal glue. The result was likely to be a warm flesh tone and certainly influenced the appearance of the subsequently applied paint.
As far as has been detected, this coloured intermediate layer, like the white imprimatura, was used to cover the underdrawing during the first decades of workshop production. In later years, the sequence of application changed. On the portrait of Gregor Brück (1533), the underdrawing in a dry medium \(^5\) lies on a pink-coloured imprimatura. There is an interesting comparison with the early drawings of the Thief on the Cross (\(c.1501/02\), fig. 86), executed on light-reddish toned paper;\(^5\) it suggests a fluent transition between studies and paintings that would have supported Cranach’s reputation as a ‘quick painter’. The interest in experimenting with different tinted grounds is more evident in his early years, although the often-assumed existence of a brownish imprimatura could not be confirmed.\(^5\)

### Table 4:
Selected examples of imprimature

<table>
<thead>
<tr>
<th>Title</th>
<th>Friedländer, Rosenberg (1978) No.:</th>
<th>Date</th>
<th>Imprimatura</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crucifixion</td>
<td>1</td>
<td>(c.1500)</td>
<td>thin white</td>
</tr>
<tr>
<td>St Valentine / St Francis</td>
<td>2, 3</td>
<td>(c.1502/03)</td>
<td>white</td>
</tr>
<tr>
<td>Portraits of Johannes Cuspinian and His Wife Anna</td>
<td>6, 7</td>
<td>(1502/03)</td>
<td>none</td>
</tr>
<tr>
<td>Crucifixion</td>
<td>5</td>
<td>1503</td>
<td>substantial reddish</td>
</tr>
<tr>
<td>Fourteen Helpers in Need</td>
<td>16</td>
<td>(c.1505/07)</td>
<td>substantial lead white</td>
</tr>
<tr>
<td>Altarpiece with the Martyrdom of St Catherine</td>
<td>12-15</td>
<td>1506</td>
<td>lead white</td>
</tr>
<tr>
<td>Martyrdom of St Catherine</td>
<td>11</td>
<td>(c.1508)</td>
<td>substantial pink (lead white, red lead)</td>
</tr>
<tr>
<td>Altarpiece of the Holy Kinship (Princes’ Altarpiece)</td>
<td>20</td>
<td>(c.1510)</td>
<td>wings: none centre panel: substantial pink (lead white, red lead)</td>
</tr>
<tr>
<td>Portrait of a Man with Fur Hat</td>
<td>59</td>
<td>(c.1510)</td>
<td>thin white</td>
</tr>
<tr>
<td>St Catherine and St Barbara</td>
<td>31</td>
<td>(c.1511/12)</td>
<td>reddish</td>
</tr>
<tr>
<td>Judgement of Paris</td>
<td>41</td>
<td>(c.1512/14)</td>
<td>pink (lead white, red lead)</td>
</tr>
<tr>
<td>Adam and Eve</td>
<td>113</td>
<td>(c.1513/15)</td>
<td>white</td>
</tr>
<tr>
<td>Virgin and Child with Saints</td>
<td>85</td>
<td>1516</td>
<td>none</td>
</tr>
<tr>
<td>Christ Taking Leave of His Mother</td>
<td>132</td>
<td>(c.1516/20)</td>
<td>reddish</td>
</tr>
<tr>
<td>Christian II of Denmark</td>
<td>150</td>
<td>1523</td>
<td>none</td>
</tr>
<tr>
<td>Gregor Brück</td>
<td>341</td>
<td>1533</td>
<td>reddish</td>
</tr>
</tbody>
</table>
There is limited evidence for the use of reddish *imprimatura* layers before 1500. It has been observed in fourteenth century north German\(^5\) panel painting as well as on Netherlandish\(^6\) and Italian pictures\(^7\) from the fifteenth century. From Nuremberg we know the portraits of Barbara and Albrecht Dürer the Elder (c.1490)\(^8\) attributed to Albrecht Dürer, the *Perkmzie Portrait* (1496) from Michael Wolgemut’s workshop\(^9\) and Hans Traut’s *St Brigitta* (c.1505).\(^10\) A light reddish *imprimatura* was also confirmed on Dürer’s panels *Jesus amongst the Scribes* (1506, fig. 27)\(^11\) and the portrait of Burkhard von Speyer (1506).\(^12\) Somewhat later, an unknown Saxon painter\(^13\) as well as Bartholomäus Bruyn,\(^14\) Bernhard Strigel,\(^15\) Hans Holbein the Younger,\(^16\) John Bettes, Jan Gossaert,\(^17\) Katharina de Hemessen, Bartholomäus Spranger, a Breslau painter, Hans von Aachen,\(^18\) Franciabigio and Bernardino da Asola\(^19\) painted on reddish intermediate layers. In 1587, in his treatise on painting technique, Armenini explicitly describes the flesh tone *imprimatura*.\(^20\) According to his instructions, it consisted of lead white and a little red in a mixture of linseed oil and resin. The *carnatiachtigh primuersel* mentioned by van Mander (1617) tallies with this description.\(^21\) Hieronymus Bosch used it in accordance with van Mander’s instructions.\(^22\) Furthermore, we find in fourteenth- and fifteenth-century polychromed sculpture not only the widespread reddish underpainting of flesh tones\(^23\) but also pink-coloured intermediate layers applied to the whole of the surface.\(^24\) In other words, even if Cranach experimented with coloured grounds in the early years, he did not ‘invent’ pink-coloured mixtures of red lead and lead white for this purpose. With all his variants, the painter still operated within the parameters of established workshop traditions. Since Wolgemut as well as Dürer, before his first visit to Italy, occasionally painted on light red grounds and *imprimature* respectively, it is also difficult to argue a direct link with Italian practice. There is little ground for Koller’s assumption\(^25\) that it was only at the end of the sixteenth century under the influence of Netherlandish Mannerists that painters in Germany applied *imprimature*.

In view of evidence of its widespread use, Cranach’s pink *imprimatura* cannot serve to differentiate between work carried out by the master himself or by his assistants or to date paintings. The court painter also worked quite often without any pigmented *imprimatura* and, in portrait paintings, the first application of light flesh paint seems to take on the function of the *imprimatura*. It remains to be examined to what extent pupils, as they built up their own workshops, adopted these same techniques.\(^26\)
Practices of underdrawing

The systematic analysis of underdrawings on paintings by Lucas Cranach the Elder has been the subject of a research project led by Sandner. This section provides a summary of important results from the project and it addresses further questions: How was the underdrawing varied according to its function and what is the technical and artistic interdependency of the imprimatura, underdrawing and painting process? This examination is less concerned with stylistic differences as with the underdrawing as a component of the whole working process and the layer structure.

Tools and materials

The majority of examined paintings by Cranach the Elder include underdrawings made with a pointed brush and a black pigment in a liquid medium (figs 17, 87, 91, 93). Depending on the format, the artist chose brushes of differing size; on some of the small panels it is difficult to distinguish if the underdrawing is done with a brush or a quill pen (fig. 89). Sandner assumes the black liquid medium to be drawing ink derived from lamp or candle soot. It is however also conceivable that carlof rahn (chimney soot) or kienruß (pine soot), frequently mentioned in invoices, were used (see pp. 162-163). The instrumental method for the identification of the pigment detected only pure carbon and the binding medium is open to conjecture. What is visually evident is that, depending on the degree of dilution, the carbon-based ink or paint allowed for modulation from grey to heavy black tones on the white ground.

Comparatively few works are underdrawn with a dry drawing material of grey or black colour. Schade mentions ‘black chalk’ and ‘preparation in a kind of silver-point’. Gronau suspects silver-point and Sandner considers other drawing materials, for instance the lead stylus. At present, there are no results of instrumental analysis available. Works underdrawn with a dry material include mainly portrait paintings but also large format panels of the later years. In the portraits, it is sometimes possible to detect very thin lines of underdrawing, which might have been produced with a metal-point or black chalk that deposited a thin pigmented coating on a slightly roughened surface. In other cases, uniform strength and continuous application of the underdrawing medium suggest that tracing may have been used (fig. 88). In order to transfer a drawing, the reverse of it or a backing sheet was blackened for example with charcoal dust and then laid over the ground in order to trace the outlines of the drawing with a stylus (see p. 302). In some instances it is difficult to distinguish between traced and drawn lines, all the more so as it is conceivable that traced drawings were reworked with a dry or fluid drawing material.
Cranach also made underdrawings on panels of differing format and different subjects using finely pointed red chalk. The number of identified examples is comparatively small - presumably as in these cases infrared reflectography cannot assist identification. In the course of microscopical examinations of the painting’s surface, occasionally red pigments have been observed directly on the ground. These observations have given rise to the suggestion that this might be due to the presence of a red chalk underdrawing.
There are cases where it has not been possible with infrared reflectography nor microscopical examination to determine the presence of any drawing material, nor to detect any underdrawing. Nevertheless, the lack of any visible traces does not prove that an underdrawing does not exist. To date there has been no Cranach painting identified with traces of any initial sketch in a dry material carried out in advance of the underdrawing executed in a liquid medium with a brush. But just such practices are described in various important treatises on painting, so it is no surprise that Sandner suspects that either charcoal or red chalk was used.

**Freehand underdrawing**

Cranach drew outlines and volumes mostly with relatively short, impulsive, curved strokes (figs 17, 91, 93). Occasionally shadows are indicated by hatching. Washes remain the exception (fig. 91). Violent cascades of lines on the earliest works reflect his extraordinarily dynamic working method. Precision of detail and anatomical accuracy are subordinated to expressiveness and elegance of contour as well as harmony of composition. The underdrawing delineates individual forms without determining conclusively the borders for the application of the paint. Nonetheless, in some of the earliest works the linear underdrawing was integrated efficiently in the painting process. On the *Crucifixion* (c. 1500, figs 16, 17), in the red robe of the woman behind the Virgin, the folds modelled in the underdrawing are only covered with thin, translucent layers of paint. More obviously, the drawing forms the shadows of the dress of an angel accompanying the *Holy Family* (1504, fig. 89). Working on the premise that Cranach used a brownish *imprimatura*, Köhler believed that he could detect an unfinished detail in this dress. By contrast, examination under the microscope shows clearly that the modelling of the folds was carried out for the most part between the lines of underdrawing. Although it is likely that the layers of paint became more translucent as a result of the ageing process, here the visibility of the graphic design was obviously intended. In these particular cases, Cranach attached an intrinsic and aesthetic quality to his underdrawing worth preserving and consciously incorporated it in the painting. It therefore seems inappropriate to consider the underdrawing only as preparatory aids for the build-up of paint layers. On the *Crucifixion* of 1503, a few strokes of parallel hatching and washes of diluted ink or paint break up the outlining. Only a few years later, an extensive modelling of the volumes with greyish washes preceded the ‘working up’ of the *Fourteen Helpers in Need* (1505/07, fig. p. 8, figs 90, 91). Compared to others, this picture is characterised by a particularly fast application of paint. The underdrawing obviously served to shorten the painting process. The white
imprimatura on top of the drawing smoothes out washes, some strokes of hatching, and the outlines, resulting in a grisaille-like undermodelling.\textsuperscript{22} In comparison to Dürer, Cranach reduced the function of drawing, with a preference for developing volume in paint. On the Altarpiece with the Martyrdom of St Catherine (1506), Cranach largely dispensed with the use of hatched shadows or washes in the underdrawing (figs 92, 93),\textsuperscript{23} which is extremely economical, especially on the versos of the wings. The reliance on outlines only and a tendency towards simplification are characteristic of the majority of underdrawings of Cranach’s Wittenberg years. The underdrawing is now strictly preparatory and limited to essential forms; it is increasingly only auxiliary and no longer incorporated into the painted image.\textsuperscript{24} Only occasionally, mostly in the case of particular commissions, did Cranach elaborate on the underdrawing by modelling details and volumes. Thus, the finely hatched modelling of St Catherine on the Budapest panel (fig. 87) signifies a new impetus; once again a comparison with Dürer’s working method springs to mind (see pp. 315-318). Consequently, in evaluating questions of division of labour and of artistic exchange in a painting, it seems appropriate to take into consideration the reason for the varying degrees of attention that Cranach gives to the detail in his underdrawings.
While painting the *Altarpiece with the Martyrdom of St Catherine* (1506), Cranach did not appear to consider the underdrawing as definitive. Whereas no important corrections within the drawn composition are discernible, the completed painting differs from it repeatedly, especially on the shutters. The saints’ postures and lines of sight have been altered without another discernible level of underdrawing (figs 92, 93). Here the white *imprimatura* apparently served to cover the outlining in black. This might be a reason why in some cases an *imprimatura* was applied and why in others it is absent. Cranach’s practice of underdrawing might thus have worked against his concern for rapid production as the greater thickness of *imprimatura* and paint layers needed to cover the underdrawing would require longer drying times. Conversely, economical underdrawing with less covering power would enable paint to be applied more thinly. In fact, by comparison with the Viennese double portraits of 1502/03, some of the early Wittenberg portraits are remarkable as they have both a less elaborate underdrawing and a very thin application of paint. The growing experience as a portrait painter allowed Cranach to do without a composition fully worked out by graphic means; for example, he painted the *Portrait of a Man, Perhaps a Mayor of Weißenfels* (1515, fig. 206) directly on top of a drawing on parchment of the *Translation of St Mary*
Magdalene (see p. 258). Here the painting may well have been executed in the presence of the sitter without an intermediate study on paper. In other cases, painted portrait studies may have reduced the importance of the underdrawing and in serial workshop production an inconspicuous outline was often traced onto the ground (fig. 88).

The best surface for underdrawing with a brush or a quill pen is a carefully smoothed ground, while a rougher surface ensures better abrasion for dry media. This might be the reason why the underdrawing in a finely pointed dry material of the portrait of Gregor Brück (1533) lies on the imprimatura. Black chalk allowed for thin lines to be drawn, although their vulnerability to disruption when the paint was applied might have been a disadvantage. Where red chalk was used, it was possible to incorporate it particularly well in flesh paint applied in thin layers.

Technically determined underdrawing
It is possible to distinguish between the underdrawing, which represents a visualisation of the artistic design and a technically determined underdrawing.²⁵ In Cranach’s case, these functionally necessary lines are mainly divisions between different passages of paint and between painting and metal leaf lightly scored with a stylus into the ground to indicate where to apply the poliment or mordant (see pp. 117-119). Occasionally there are incised drawings of drapery or other painted details (figs 94, 95). Cranach rarely used incised lines to construct perspectival recession or architecture. In contrast with Dürer, he was not particularly interested in the act of measuring the measurable. On the other hand, incising burnished gold haloes with a pair of dividers was usual. On the panel representing St Valentine (c.1502/03, fig. 33), the area to be gilded is first mirrored and moved slightly to the right, marked by an incision in the ground. In the X-radiograph this is visible as a fine white line filled with a more absorbent paint. The contour of the face as well as the demarcation of the mitre and the shoulder is indicated with a thin free-hand incision. The delineation of the halo is preceded by several puncture marks and an unsuccessful attempt at incising the semi-circular contour with a pair of dividers. In the end, Cranach altered the composition and, having changed the saint’s line of vision, he repeated the incised drawing as the basis for the completed painting. The fact that the halo and the contour of the face were at first marked as a mirror image merits closer examination, as it seems to provide information about the working process. It allows the assumption that there may have been an initial drawing preceding the one done with the brush. It is possible that the first incised drawing was carried out on the basis
PRACTICES OF UNDERDRAWING

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Detail from Fourteen Helpers in Need, c. 1505/07 (fig. 34).

95>
Detail from Fourteen Helpers in Need, c. 1505/07 (fig. 34).
of a design the material of which is no longer discernible. As the incised drawing is clearly preserved in its entirety, it seems unlikely that the initial sketch was erased by scraping off the ground again. The first design must have been more or less complete since, with the incision, first preparations for gilding were made. The repeated attempts to position the pair of dividers confirm this assertion. The mirrored repetition of the incised drawing and the possible use of technical aids will be dealt with in chapter V Portrait study and portrait painting.

To expand on the previous section, it might be considered that the underdrawing revealed by infrared reflectography does not necessarily have to be Cranach’s first or initial artistic design on the painting’s support. The black brush drawing could have been preceded by a rough sketch or by a more detailed drawing. This might explain the observation that there are rarely any corrections in Cranach’s brush underdrawings.

In line with the instructions in the Liber illuministarum: ‘If you wish to gild one section of a panel but not another, first incise, then apply the brown-red afterwards’ Cranach or an assistant scored contours of larger areas to be gilded in the ground with a stylus, in order not to lose them when poliment and metal leaf were applied. Examples of such demarcated areas for gilded backgrounds are preserved in the Holy Trinity (c.1515), the Virgin on a Crescent Moon (c.1516) and the Prague Altarpiece (c.1520). Also in the case of the latter work, even the rays of the halo, formed with punched stippling, were initially marked by incised lines into the ground.

The practices varied in the case of matt gilding. On the panel depicting the Fourteen Helpers in Need (c.1505/07, fig. 34), the areas that were to be mordant gilded were outlined with a stylus before the white imprimatura was applied. Several details of drapery are also marked under the gold (fig. 94). However, when applying red-brown glazes on the gilding to model the shadows, Cranach largely ignored the incisions. It was not even necessary to mark the outline for this gilding technique, since the mordant could be applied exactly to the designated areas and thus adhesion could be restricted to these surfaces. Thus, the spandrels on the verso of the panel with the Fourteen Helpers in Need are no longer delineated with incisions; additionally, on the shutters of the Altarpiece with the Martyrdom of St Catherine (1506, fig. 77), the matt gilding is not preceded by any incisions. On works such as the Martyrdom of St Catherine (c.1508, fig. 40) and the Duke Heinrich the Devout of Saxony and the Duchess Katharina of Mecklenburg (1514, fig. 68), the application of leaf metal was integrated into the painting process so that the purpose of the incised drawing became redundant.
Occasionally, Cranach outlined circular features with a pair of compasses. On the *Martyrdom of St Catherine* (c. 1508) he scratched the contours of the shattered cartwheel in the ground with a pair of dividers. The semi-circular stone arch on the *Holy Kinship* (c. 1510/12) was incised with the same instrument. On the X-radiographs, these marks show up lighter as the depressions are filled with X-ray absorbent paint. By contrast, the main lines of the architecture often appear dark, which indicate that they have been ruled and incised during the painting process, most probably with a metal stylus. Both types of incised drawing can be found on various panels. On the *Holy Kinship*, the area of the bench behind the Virgin clearly shows that the paint for the floor was first applied generously and the border line then drawn in the paint with a metal stylus, while finally the light edge of the seat was modelled with paint along this demarcation. The depiction of the architecture in perspective on the central panel of the *Altarpiece of the Holy Kinship* (1509, fig. 115), although carried out using a vanishing point, has not been laid out by incisions. Only after the light-coloured paint for the tiles had been applied to the whole area were the edges of the slabs and the architectural features picked out with a stylus. The term ‘technically determined underdrawing’ as a description for scratching that is incorporated into the painting process is not appropriate. It is more accurately referred to as incised contour drawing, and is one of Cranach’s frequently applied working techniques. As early on as the *Crucifixion* of c. 1500, the long stick held by a soldier was aligned with a stylus and ruler during the process of painting. The same method was employed on the *Altarpiece with the Martyrdom of St Catherine* in 1506 and in 1515 on the *Diptych of St Jerome and St Leopold*. Finally, in this context it is appropriate to mention the use of incisions also as guidelines for inscriptions, which can be clearly detected even by the naked eye on the *Prague Altarpiece* (figs 227, 228).

This examination offers proof that Cranach varied his practice of underdrawing not only in relation to its function in designing the composition and to the commission, but also in relation to its precise purpose within the painting process. There is a fluent transition between various forms of underdrawing and incised drawing executed during painting, which – once more is known – might further help to determine the period of production and/or aid in the authentification of individual paintings.
Applications of gold, silver and paper

For about two decades, up until the early 1520s, gilded surfaces formed an important part of Cranach’s compositions. Later, gold leaf remained the preferred material for the decoration of frames. The amount of gilding, its meaning and the techniques of application all developed rather unevenly, depending on commissions. Whereas in the first decade of the sixteenth century the precious metal was commonly applied to his altarpieces, individual panels and portraits, after c.1510 its use is restricted mostly to retables. Traditionally, gold served to enhance haloes (figs 97, 98, 101). Occasionally Cranach reverted to the gilded background that was typical of late medieval painting. However, he predominantly used gilding to heighten the illusionistic effect and precious nature of metal objects, such as crowns, wire caps, jewellery, ornamental hinges, buttons, imperial orbs and goblets. In addition, coats of arms, liturgical paraphernalia, weapons and bridles were gilded (fig. 95). Similarly, the traditional technique of depicting silk brocades and borders embroidered with gold threads with paint on metal leaf was applied in the Cranach workshop. Very rarely did gold serve to depict candlelight or reflections. Drawing on Gothic tracery and referring to polychromed frames, it fulfilled more of a decorative purpose, filling in spandrels or laying in garlands of foliage and fruit as well as enhancing inscriptions. Silver, in accordance with its lower value and lesser stability, was given only a subordinate significance in Cranach’s panel painting. It was used relatively infrequently to decorate coats of arms, fabrics or crescent moons and occasionally using zwischgold, that is, a metal leaf consisting of laminated gold and silver.

Gold leaf

Cranach’s detailed accounts provide us with information about the quality, price, amount and sources of gold leaf. In 1505, the painter received ‘four books of fine gold and one book of silver’ (app. II, 4) from the Michelsmarkt in Leipzig. In 1509, gold and silver coins were taken for him by the Wittenberg court to the goldbeater in Leipzig, which was presumably a usual practice, as Elector Friedrich III the Wise also sent gulden from Hungary and the Rhineland to the goldsmiths for them to be made into jewellery. Later, Cranach bought metal leaf directly from goldbeaters in Leipzig (app. II, 197, 205 et al.). Over the years, various masters worked in this city: Caspar Hinkisch in 1504, Heydin, a woman goldbeater, in 1517, and Bartholomäus Meyer in 1519. By 1529, there were at least two goldbeaters in Leipzig and in 1536, Cranach accepted a delivery of gold from Wolfin Brennßdorff and Caspar Goltsschlahen (app. II, 197). Almost without exception the quality of the gold
is described as fine gold (feingolt, app. II, 138, 169 et al.). In the 1540s, Hungarian gold was specified (app. II, 253); it was particularly popular because of its highly refined content. The lawful standard of the Hungarian gold ducat was approximately 23.3 carat gold, called aurum finum (fine gold). The less valuable Rheinisch floren had approximately 18 carat gold. Analyses prove that the metal used by Cranach was usually reasonably pure, with silver and copper detectable as only minor impurities.

Cranach usually invoiced gold per ‘book’ (buch), only occasionally charging smaller amounts per leaf. A book contained 300 leaves, a norm which still applies today for Austrian and German manufacturers. As far as can be ascertained, the gold leaf was cut in a square shape. The leaves applied to the Duke Heinrich the Devout of Saxony and the Duchess Katharina of Mecklenburg (1514), the Holy Trinity (1515) and the Altarpiece of the Virgin in the Brandenburg Cathedral (1518) measure 9.5-10 centimetres in side length. On other paintings the largest leaves measure between 8.5 and 9.3 centimetres.

Altogether, about 150 books of gold are itemised in the invoices, which are very incomplete. If it is presumed that one book contained 300 leaves, each approximately 100 centimetres square in size, then the amount of gold leaf invoiced represents an area of about 450 square metres. However, only a fraction of this quantity of gold leaf was applied in the workshop onto paintings and their frames; the majority of it was used to decorate the castle interior and exterior. A large number of both small and large ‘knobs’ (knäufe), ‘rosettes’ (rosen), and ‘suns’ (sonnen) had gold leaf applied to them. In addition, Cranach’s assistants gilded coats of arms, inscriptions, banners, shields and a sleigh. The bulk of the precious metal itemised in the preserved invoices was applied during the years when this technique on paintings had long since gone out of fashion (cf. app. II).

The purchase price for a book of refined gold changed only slightly between 1505 and 1545. In 1505, Cranach paid a little less than four gulden (app. II, 4), in 1509 exactly four gulden (app. II, 37) and in the 1530s and 1540s, repeatedly four gulden for a book (app. II, 197, 207, 272 et al.). Further research is necessary to establish if there were changes in the size and thickness of the leaf.

The gold on several panels such as the Portrait of the Wife of a Viennese Scholar (1503), the Fourteen Helpers in Need (c. 1505/07) and the Holy Trinity (c. 1515) was beaten to a thickness of approximately 500 nanometres (that is, 0.0005 millimetres). By comparison, the usual thickness for most gold leaf today is between 100 and 125 nanometres.
Burnished gilding
Water-gilding or burnished gilding can be distinguished from mordant or unburnished gilding by the technique used to apply the gold leaf. In the case of burnished gilding, the ground is prepared with thin layers of poliment, usually a slightly greasy red-brown clay (bole). It provides a smooth cushioned surface on which the gold leaf can be burnished either with a stone or a tooth. The reddish-brown poliment investigated on Cranach’s paintings appears to consist of an iron oxide-containing material of this type, although bole need not necessarily have been used. The instructions for payment examined make no mention of this specific term or of red earth pigments, but do mention a polermennig zum gold with no further explanation (app. II, 220).

The leaf was, if necessary, cut to size and then laid on the red poliment, whereby the sheets regularly overlap. These overlaps usually become visible during burnishing or in the course of time. Cranach employed this effect on the Prague Altarpiece (c. 1520) to represent the aureole, where the pieces of gold were cut to a width of only about 3 centimetres and were laid on the moistened ground next to each other and burnished in such a way that the area of overlap forms rays with its intensive golden gleam.
The period during which Cranach used burnished gilding on paintings stretches from the early works into the 1520s. In a traditional manner, the haloes of the two saints Valentine and Francis from about 1502/03 were decorated with burnished gold leaf (figs 80, 97). The Holy Trinity, commissioned around 1515 by the Leipzig Archers’ Guild, is the first preserved panel in which burnished gold leaf was applied to decorate the background. Next come several works with either (and in some cases, both) burnished gold haloes or gilded backgrounds. About 15 years after the artist had painted some of the first portraits set in a landscape, he went back to water-gilding to decorate complete backgrounds in a rather Gothic style. Thus, the elongated figures on very narrow high format panels go with a reversion to traditional techniques. Cranach seems to flaunt an abundance of gold leaf just before its application went out of fashion.

In order to break up the uniform light reflection of the metal surface and to distinguish haloes from gilded backgrounds, the surface was usually tooled with incised lines and punched patterns. On the Holy Trinity (c.1515), the Virgin on a Crescent Moon Adored by Friedrich III the Wise (c.1516) and the Prague Altarpiece (c.1520), the artist used only a simple punch, the pin punch, which gives a round dot. Its measure at the tip is 2.5 millimetres. Whereas on many late medieval panels the metal was tooled for decoration before the painting process began, some of the punched lines on the panel of the Holy Trinity have been indented into the paint layer that partly covers the gold leaf. Also, after the application of paint, a diamond-shaped pattern was worked into the gilded surface with a star-shaped serrated wheel. By comparison with punch indentations, the wheel produces more uniform lines of dots, the distance between which constantly measures about five-and-a-half impressions per centimetre. Whereas punch indentations applied with a wheel can be found on a considerable number of late medieval paintings, its use in the Wittenberg workshop is restricted to a very small number of panels. On the Prague Altarpiece, the Virgin on a Crescent Moon Adored by Friedrich III the Wise and the Virgin Standing on a Crescent Moon (Sup 6H), the decoration was carried out exclusively using a single punch.

**Matt gilding**

Unburnished mordant gilding is by far the most frequently practised gilding technique between 1502/03 and the 1520s. The extent to which it was used varied from work to work. Matt gilding complements the range of colours on the panel with the Fourteen Helpers in Need (c.1505/07, fig. 34) and the Duke Heinrich the Devout of Saxony and the Duchess Katharina of Mecklenburg (1514, II / PANEL PAINTING
fig. 68). In comparison, the matt gilding on the Altarpiece of the Holy Kinship (1509, fig. 115) is barely visible – it depicts only halo rays. Whereas for technical reasons burnished gilding had to take place, without exception, before paint was applied, matt gilding allowed the painter extended creative possibilities and greater flexibility in the sequence of work. The mordant, which, theoretically, can be any substance to which metal leaf will adhere, is painted in larger areas in lines or patterns and, when it is almost dry but still slightly tacky, pieces of gold leaf are applied. In Cranach’s workshop, the sequence of painting and mordant gilding varied within a single painting and from one work to the next. The matt gilding was carried out before, during and after the painting process. On the triptych with the Resurrection (c. 1509), the robes of the saints have been gilded before paint was applied, whereas the rays of the haloes are on top of the background paint (fig. 98). Here, small pieces of gold leaf apparently stuck not only to the rays drawn with mordant but also across the whole surface so that they subsequently had to be covered once again with paint. Accordingly, matt gilding of larger passages was mostly carried out before the first application of paint and graphic details were added in the course, or at the end, of the painting process. However, on the Martyrdom of St Catherine (c. 1508), a garment was completely gilded after it had been completed in paint (figs 183, 184). The life-size portrait of Duke Heinrich the Devout of Saxony (1514, fig. 68) was to a large extent painted before parts of the extraordinary dress were gilded and then completed. The companion portrait of the Duchess Katharina of Mecklenburg was worked up in the opposite sequence: the flesh tones were modelled after the dress had been decorated with gold and silver leaf. It might be that Cranach started painting the portrait of the duke while another workshop member gilded the other large panel. Cranach only rarely played off the charming contrast between burnished and matt gilding. Examples are the Saviour (c. 1515/16, fig. 120) and the Virgin and Child with St Anne (c. 1515/16). Most likely he used mordant gilding here not only for technical reasons or economy of effort, but also for variety of effect.

‘Golftarb’

All mordants investigated so far contain oil and some resin but other adhesive media (e.g. glues) cannot as yet be discounted. The addition of pigments to the mordant varies from panel to panel and occasionally even within a single work. On the Portrait of a Viennese Scholar (1503, fig. 181) the rings, buttons and the book clasps are gilded on an ochre-coloured adhesive. By contrast, the inscription 1503 VIXI. AN. 41 has been executed in bright yellow paint, presumably containing lead-tin yellow, before being covered with gold leaf. On the Fourteen Helpers in Need (1505/07), the adhesive is a drying oil contain-
ing lead white, lead-tin yellow, chalk, ochre, copper green and vermilion. The
mordant on the Altarpiece with the Martyrdom of St Catherine (1506) reveals
elements of lead white, red lead, ochre and black.31 The medium for gilding
robes, goblet and haloes on the small winged retable with the Resurrection
(c. 1509) is practically colourless, whereas the metal leaf for the coats of arms
on the outer faces of the wings is applied over a light red paint. On the Princes’
Altarpiece (c. 1510) a white and brown mordant was found. This considerable
degree of variation lead to the conclusion that pigments containing lead con-
sistently were added to the oil in an effort to foster drying, but neither the pro-
portion of binding medium to pigment nor the tinting seems to have followed
a regular workshop practice, nor was a uniform recipe recorded, such as that
in the Tegernsee Manuscript.32 Perhaps Cranach was sometimes using the
accumulated unused remains of paint on the palette and from the cleaning of
brushes and palettes as a basis for mordants.33 Evidence for this hypothesis is
the fact that the number of different pigments in the adhesive usually exceeds
that in other mixtures of paint of almost the same colour.

Only once, in 1538, did Cranach charge four groschen ‘fur die goltfarb’ (app. II,
239). As the weight or the amount of goltfarb is not specified, no value can be
attributed to this material. Fifteenth- and sixteenth- century German treatises
use the term golifar (gold colour) to refer to, among other things, differ-
ent mordants, yellow paint, yellow-tinted lacquers and mosaic gold (SnS4).34
Because of this, it is impossible to further narrow down the composition and
use of the golifar invoiced by Cranach.

Already in his earliest works, Cranach depicted precious stones by applying
red, green or blue semi-transparent paint over gold leaf (fig. 96). Due to the
transparency of the glaze, they acquire a particular depth and brilliance.35
On the Fourteen Helpers in Need (c. 1505/07), he gave spatial effect to the metal
leaf by extensive red-brown glazing (figs 34, 187). He might have followed
the instruction of the Tegernsee Manuscript on how to make golpraun with
paris rot.36 Depending on the intended effect, Cranach used black, green
or brown to create an illusion of brocade, candle flame, dragons’ eyes, wire
cap, imperial orbs or precious stones (fig. 95). He manipulated the contrast
between opaque and translucent paint and varied the application of glazes
to large areas, sometimes smudging it with his fingers or in other cases draw-
ing ornaments with a fine-pointed brush. Cranach was a master in the use of
glazes and knew how to create shimmering metal effects with great brilliance
to achieve a powerful impact. By contrast, the Altarpiece with the Martyrdom
of St Catherine from 1506 (fig. 77) suggests that at the time, he preferred, in
accordance with Alberti’s writings,37 the refinement of skilful painting to that
of precious material. There seems to be no other explanation for the fact that
Detail from *Altarpiece of the Holy Kinship*, 1509 (fig. 115).
he only gilded the costumes of the saints on the outer faces of the wings of this altarpiece, while using refined painting techniques on the inside; this is a reversal of the principle of the precious material being reserved for the inner faces of the altarpiece, shown on feast days only. However, on the Martyrdom of St Catherine (c.1508, figs 183, 184) the garments were again gilded and painted in a particularly refined manner. The use of gold and paint alternates again and again. For example, the rays of the haloes on the Martyrdom of St Catherine (c.1508, fig. 171), the Holy Kinship (c.1509/10) and the Princes’ Altarpiece (c.1510) are depicted with paint, while those on the Resurrection (c.1509, fig. 98) and the Altarpiece of the Holy Kinship (1509), which were painted almost contemporaneously, are mordant gilded, without it being possible to infer whether they were executed by Cranach himself or by a workshop assistant. Occasionally, he engages in the dichotomy between the quality of material and the quality of technique (fig. 99)38 even within one panel. The Karlsruhe Virgin (c.1516) stands before a burnished gold ground while Elector Friedrich III the Wise is depicted adoring her in front of a gold brocade curtain painted with yellow paint. On the Virgin Standing on a Crescent Moon, in Aschaffenburg (FR Sup 13), which was executed by one of Cranach’s pupils, the background is rendered with yellow paint and the aureole with gold leaf.

**Zwischgold**

To produce the so-called zwischgold (a gold-silver laminate), a very thin gold leaf and a silver leaf were beaten together. Cranach seldom invoiced for zwischgold 39 – there is evidence of no more than five-and-a-half books. Its use is specified in one instance for panelling work (*brust tefel in die kalaunen*). At the price of one gulden and 15 groschen in 1509 (app. II, 37) and one-and-a-half gulden in 1537 (app. II, 227), a book of zwischgold cost clearly less than half the price that the court painter charged for gold leaf. Disadvantages were to be expected for the lower price: such thin gold foil could not permanently prevent the underlying silver from converting into brown-black silver sulphide. For this reason, some guild ordinances (Munich, 1461; Hamburg, 1488; and Lüneburg, 1497) forbade the practice of improvising with zwischgold when gold was the specified material.40 It was frequently used in a subordinate role or, for example, on relief brocades, under a protective coating of tinted lacquer.41 In comparison with gold, zwischgold has a somewhat lighter shade because of its base of silver. This tonal difference might explain why Cranach occasionally chose it. On the Altarpiece of the Virgin (c.1515/20) in Aschersleben he covered the background and the haloes with gold leaf, while using zwischgold for the crescent moon and the Virgin’s shoe (red poliment serves as a preparatory layer and adhesive for both metals). On the panels
with the *Virgin and Child with St Anne* (c. 1515/16) and the *Saviour* (c. 1515/16, fig. 120), haloes have been depicted with burnished gold and borders of robes fashioned with *zwischgold* on a light-red mordant (in the case of the latter panel, a mixture of red lead, lead-tin yellow, iron oxide red and calcium salts). Obviously *zwischgold* served not only as a cheaper substitute material. The *Ortenberg Altarpiece* (c. 1420) is early evidence that the enriching of the colour effect with the use of differently shaded metal leafs was no exception in German panel painting.

**Powdered gold**

The application of powdered gold was one of the most seldom and at the same time the longest-used techniques of the Cranach workshop. We find it both on the *Crucifixion* of c. 1500 as well as on the *Crucifixion* (FR 377A) painted some 40 years later. Powdered gold is not mentioned in any of the documents examined so far. It may have been produced in the painter’s workshop itself. *Gemalen gold*, according to Boltz von Ruffach, is simply gold leaf ground to a powder. This is applied to the paint surface with a medium such as a gum or egg white. Often it is called ‘shell gold’ because it was kept, bound in a gum, in a mussel shell. Under the microscope it appears as small, irregular, flat flakes. The use of powdered gold was known to German illuminators as early as the eleventh century, and in Italy it had already been used, for instance, on the San Pier Maggiore Altarpiece by Jacopo di Cione.
from 1370/71. It was used most effectively on northern Italian and Cologne paintings in the fifteenth century. Following this tradition, Cranach used shell gold on his first known painting, the Vienna Crucifixion (c.1500), to paint radial haloes, embroidered edges and bridles. On the Holy Family (1504) there are haloes (fig. 101) and delicate shot effects in draperies and on the angels’ wings. On none of the panels painted later is powdered gold deployed in a similarly subtle way. In the first years in Wittenberg, the painter seems to have made no use of powdered gold; but as of 1510/11, it is occasionally encountered, for example on the shutter paintings St Catherine and St Barbara (c.1511/12) and on the Virgin and Child (c.1512/14, FR 38) for thinly lined haloes, hairnet and embroidery edges.

**Silver and silver-coloured metal leaf**

Silver leaf was another alternative to gold and zwischgold. Despite its well-known propensity to tarnish, silver leaf was valued for its intrinsic decorative qualities. It is often found in Gothic panel painting as the basis for yellow-tinted or other coloured glazes. In Cranach’s invoices, it mostly appears along with gold leaf, although in smaller amounts (app. II, 4, 37, 167). In 1509, one book of silver cost 12 groschen, that is to say, one-seventh of the price of a book of gold leaf and one-third the price of a book of zwischgold. Since tin tarnishes less rapidly than silver, it was natural to use tin instead. Tin was expressly recommended by Cennini and tin foil is mentioned relatively frequently in medieval painters’ manuals. However, it is not alluded to in any of Cranach’s invoices that have, as yet, been investigated. Just one invoice for a slate roofer in connection with the building of the castle and church at Torgau during the years 1543/45 quotes, together with different pigments: ‘21 gulden 10 groschen 10 denaren for 85 leaves of tin (staniol), 10 leaves per gulden’ (app. II, 259). In this instance, one leaf of staniol cost roughly seven-and-a-half times the price of a leaf of gold. However, since there is no information as to the size and the thickness of the material, the leaves could have been much larger and heavier, which was to be expected when used in the context of a roof.

The listing of silver leaf in the electoral accounts is an indication of its use on Cranach’s panel paintings: on the paintings investigated, silver-coloured metal leaf always appears combined with gold and not much more frequently than zwischgold. It was not possible in the course of this research to scientifically identify whether silver or tin leaf was being used on the paintings. The earliest appearance of a metal leaf of silver colour on a Cranach painting is on the Resurrection triptych (c.1509). On the outer faces of the wings it serves to fashion the coats of arms of Landgrave Wilhelm II of Hesse and his
wife, Anna of Mecklenburg (fig. 186). The materials and techniques used to carry out this task are particularly diverse: background and details are alternately gilded or ‘silvered’, with metal leaf. The heraldic motives have been painted in white, red, brown, blue and black or modelled by covering the metal leaf background surrounding them. On the portrait of the Duchess Katharina of Mecklenburg (1514), painted a few years afterwards, the use of gold leaf dominates. Only a few details such as parts of the cap (fig. 100) and a ribbon around the hips are laid on with the silvery metal leaf covered partially by red glazes and by ornamental drawing in white.

The Frankfurt Virgin (c.1515/20, FR Sup6H) and the Virgin on a large altarpiece with shutters in London (c.1520, FR Sup1C) are standing on silver-coloured crescent moons. Again the techniques differ: on the portrait of the Duchess Katharina there is mordant ‘silvering’, while on the Frankfurt Virgin it is poliment ‘silvering’. The rainsill bases of the frames of the Neustadt Altarpiece (1511-13), the Zwickau Altarpiece (c.1518) and the Crucifixion in Mahlis (c.1520/30) are embellished with metal foil of the same colour (fig. 55). We find the most extensive use on polychromies, that is, on the retables in Neustadt/Orla (fig. 215) and Kade (c.1513/20). Here, the silver-coloured objects are represented with silver-coloured metal leaf, which appear on the investigated panel paintings to be depicted instead with varying shades of grey paint.
**Paper**

Another feature, often used for application on paintings and frames during the late Middle Ages, were small round tiles, punched out of gilded parchment or paper and glued to the paint layer. On the altarpieces in Kade and Brandenburg the painters applied them to polychrome sculptures, but there are no examples known on Cranach’s panel paintings. The most likely reason for applying paper to panel paintings would be to link text and image and to improve serial production. Traditionally, inscriptions were carried out using brush and paint on completion of the painting process. However, paper carrying printed texts was glued onto some of Cranach’s paintings from the 1530s and 1540s before the paint was applied. Amongst these were double portraits of both electors, Friedrich III the Wise and Johann the Steadfast, produced in 1532 and 1533 and to which a payment of 109 gulden and 14 groschen on 10 May 1533 refers: ‘60 pairs of small panels on which both electors are painted in praise and blessed memory’ (app. II, 171). The poems praise the electors’ activity during their reign. Occasionally the inscriptions are complemented by printed nameplates. On the reverse of some of these panels, woodcuts of coats of arms from the Heiltumsbuch have been preserved. The link between portrait and text follows earlier examples and can be compared to the propaganda purpose of, for instance, Roman monuments. The Hamburg Electors’ triptych (c. 1535) belongs in this category. On its centre panel and the left wing that represent the electors Friedrich and Johann, there are several pieces of paper covering more than one-third of the panel’s surface. On the Nuremberg variant the panegyrics were glued to the versos of both the outer portraits.

Although Cranach introduced and applied printed inscriptions first onto some portraits, this form of collage found its way also into paintings with other subjects as well. In the Allegory of Redemption (c. 1535/40), he elucidated the vivid motifs with extensive biblical quotations and thus succeeded in faithfully illustrating the central ideas of Luther’s theology of redemption, producing the most significant Protestant mnemonic and didactic picture. On the Nuremberg variant the biblical texts, as a result of a change of plan during the painting process, seem to have been covered again with paint. However, in the lower boundary of the painted stone parapet with its marble sections, due to the increased transparency of the aged paint layer, the texts today can be read in parts with the naked eye. Later examples are St John the Baptist Preaching (1549), on which two bible quotations printed on paper elucidate the theme, and a portrait of Martin Luther from the workshop of Lucas Cranach the Younger where a balustrade carries a Latin inscription on paper.
With the application of gold leaf, *zwischgold*, powdered gold, silver-coloured metal foils and printed paper, Lucas Cranach the Elder made exhaustive use of a broad spectrum of decorative possibilities. Examples of applied relief gilding have not survived from his workshop; instead of engraved gilded backgrounds, he preferred freely drawn textile decorations. The different material qualities of gold, the manifold ways to use paint to change or imitate it, and the ways to influence the reflective qualities of laid-on gold and other metal leaf by burnishing and glazing must have fascinated the painter as well as his commissioners. Otherwise, there is no explanation for its multifarious use in the panel paintings or for his experiments with ‘gold prints’, which began around 1507.\(^{63}\) Between 1515 and 1520, when producing retables for numerous town and village churches, he reverted to traditional burnished gilding and gold backgrounds. Apparently many commissioners outside the court demanded not only traditional subject matters but also conventional use of materials. It is therefore striking that these techniques were banished abruptly from his repertoire in the early 1520s. Most probably, Cranach was influenced in his choice of materials and techniques by the new body of religious thought forwarded by the Reformation. The first portrait of Luther was painted in 1520. Early in 1521, Cranach was busy with the preparation of the *Passional Christi et Antichristi*, the first and most vehement polemic of the Reformation\(^ {64}\). At the same time workshop assistants were, once again, carrying out extensive burnished gilding on the *Altarpiece of the Virgin Glorified*, which was presumably created for the cathedral in Prague.\(^ {65}\) Subsequently, however, Cranach’s use of metal leaf on paintings came almost to an end. As the preserved works for the Stiftskirche at Halle/Saale prove, he even dispensed with the use of gold on retables for opponents of the Reformation such as Cardinal Albrecht of Brandenburg.\(^ {66}\) In this, his practice contrasts to Grünewald who, when producing the *Erasmus-Maurice-Panel* (c.1520/22)\(^ {67}\) for the same commissioner, Cardinal Albrecht of Brandenburg, at the same location, the Stiftskirche at Halle/Saale, exploited the entire gamut of decorative techniques, including metal leaf. In the decades to come, Cranach’s Wittenberg workshop restricted the use of gold leaf mainly to the polychromy of architecture. When in 1532 Melanchthon\(^ {68}\) described Cranach’s works as ‘pure in their simplicity’ (*schlicht*), compared to those by Dürer and Grünewald, he was expressing not only a difference in significance and quality, but, at the same time, commenting on the use of materials: during this period Cranach was both increasing the intensity of pictorial statements in favour of the Reformation’s religious conception and thought, as well as increasing his works’ pertinence and efficiency by incorporating relevant texts printed on paper onto the pictures, in conscious disregard of artistic bravery and precious material, and even at the expense of the virtuosity of his brush.
Friedrich
Cämmerer
Maler

1. Øj f. j. er lack
øj f. j. at meddele

2. Øj f. j. at brug til beim
at brug at vide f. j. at

3. Øj f. j. at vide f. j. at
vide f. j. at vide f. j. at

4. Øj f. j. at vide f. j. at
trank f. j. at vide f. j. at

5. Øj f. j. at vide f. j. at
vide f. j. at vide f. j. at

6. Øj f. j. at vide f. j. at
vide f. j. at vide f. j. at

7. Øj f. j. at vide f. j. at
vide f. j. at vide f. j. at

8. Øj f. j. at vide f. j. at
vide f. j. at vide f. j. at

9. Øj f. j. at vide f. j. at
vide f. j. at vide f. j. at
Paint, palette and brushes

The painting materials used by Lucas Cranach the Elder and his workshop are recorded in detailed invoices that have survived in several archives. Unlike the textbook by Albrecht Dürer, Lehrbuch der Malerei, for which the handwritten drafts provide little insight into the paints used by the artist, these invoices reveal a wealth of information on Cranach’s painting practice. A receipt for payment dating from 1523 (app. II, 119, fig. 103) and the accounts in connection with the building of Schloss Hartenfels in Torgau (1535-38) are among the most comprehensive invoices preserved from the first half of the sixteenth century that deal with pigments. Not only do they list the amounts used and the prices of at least 20 different colourants, they also list more than 1500 pfund (c.700 kilograms) of painting materials, which were used predominantly for decorative purposes. Although earlier publications have reproduced the lists of materials, these have been mere summaries and unfortunately some include mistakes in transcription. For instance, colophony has been the translation for kadlofram (chimney soot), litmus for lack (red lake pigment) and ultramarine for blawglasurt farb (azurite or smalt). Until now these lists have received very little consideration in art technological research but in their newly transcribed form, they can be appreciated in the context of this study. The purpose here is to examine and compare them with results from the examination of Cranach’s panel paintings. Such comparative research will broaden knowledge of the diversity, production, sources of supply, qualities and prices of more than 25 different colours used in the Cranach workshop.

It ought to be mentioned in advance that some of the invoiced materials could not be identified in the paintings. The use of pigments of lower quality (e.g. ascherblau – presumably an inferior azurite or synthetic copper blue) or those of insufficient lightfastness could have been ruled out on easel paintings. On the other hand it is possible that plant dyestuffs, such as saftgrün (sap green) were used in glazes but evidence of these might either have been lost in the course of cleanings or they were not detected during instrumental analysis. The enduring problem of pigment nomenclature must also be considered. Relating terms that have been inconsistently interpreted in secondary literature on painting technique, e.g. schifergrün or kesselbraun, to the results of the analysis is to be approached with caution. However, a study of the colours in association with historic written sources can provide new insight into their preparation and use. It should be noted too that some pigments have been identified that were not mentioned in the invoices.
Based on well-established traditions, pigments and lakes in the sixteenth century were prepared from naturally occurring earths and minerals as well as from plant and animal products, while some pigments like lead white and verdigris were artificially made. Cranach was well acquainted with minerals and, indeed, Martin Luther drew on his expert knowledge of precious stones when translating the bible. Although no evidence of pigments made in the workshop itself has been found, it may be that carlof rahm was processed into bistre there or yellow ochre was burnt (see below). The court painter was probably able to buy more common pigments (like yellow ochre or woad) in Wittenberg itself. However, it is known that he repeatedly obtained his painting materials and metal leaf from Leipzig. Situated some 65 kilometres from Wittenberg, Leipzig had been accorded trade fair status by the emperor and in the sixteenth century was permitted to hold markets three times a year, each for a period of eight days. Two long-distance trade routes crossed in Leipzig, the Hohe- or Königsstraße, linking Western Europe to Russia and the Reichsstraße, leading from North Germany to Italy. Works of art and painting materials of differing origin and quality were traded at the markets. In the early years, Cranach’s assistants obtained relatively small amounts of material from Leipzig. In 1505, Christof Maler von München, who was employed in the workshop, spent 12 gulden on ‘paint, glue and other materials as per a list’ at the Michelsmarkt (app. II, 5). Occasionally the material was brought by messengers (app. II, 205, 224), an indication that Cranach was able to rely on pigments of suitable quality.

Detail from St Jerome, c. 1515 (fig. 246).
On 6 December 1520, Cranach was granted the right to set up a pharmacy, which gave him the sole authority in Wittenberg to sell, among other items, ‘ground spices, confectionery, sugar and coloured wax’ outside the markets (app. II, 98). During the sixteenth century, several painting materials were considered pharmaceutical items. As far as the running of a sizeable workshop was concerned, there must have been organisational and financial advantages to purchasing pigments and pharmaceutical preparations at large trade fairs. Using the pharmacy to provide the workshop with materials and to supply the city council with paper, ink and sealing wax possibly generated even more profit than the sale of the range of items typically available there.

In a letter to the elector, Cranach mentions that he obtained his wares not only from Leipzig but also from Frankfurt am Main and, in a communication from 10 October 1525, the court painter and Christian Döring agree on the payment for paper and other materials worth more than 800 gulden to Friedrich Precht, a citizen of Strasbourg. Cranach clearly had a wide range of imported products at his disposal and as a result of extensive work in decorative painting, he bought increasingly larger amounts of materials, surpassing most contemporary artist’s workshops in this respect. For example, over the course of four years he drew up invoices for more that 350 pounds of blue pigments worth about 370 gulden just for the work carried out in the castle at Torgau. According to his own testimony, he paid out the costs in advance and as early as 1513 he charged for a painting described as ‘executed with his own paints’ (app. II, 56). In the letter to the elector already mentioned he indicated that he bought the materials for cash and, unlike other apothecaries, did not borrow material from one trade fair to the next. Contrary to this assertion, the estate of Heinrich Ackermann, a tradesman, revealed claims of unpaid debt against Cranach of 1300 gulden from 1535 amounting to 1352 gulden in 1544. In addition, it appears that some pigments were not always available in the required amount in the periods between the markets. Completion of a commission from the elector to paint a garden house green was delayed through lack of paint (aus mangel der farbe, app. II, 186).

Since the thirteenth century, local governments required German pharmacies to provide a price list (taxa) of all their products. No such taxa is known to exist from the pharmacy of Lucas Cranach the Elder and in the preserved receipts the prices of the painting materials fluctuate too wildly as to be based on a list. The invoices made out to the court apparently continue to reflect different qualities and purchase prices and on occasion, with an increase in the amount of pigment, costs drop. A direct comparison between Cranach’s invoices and preserved price lists, and the inventory of the estate of Meister Mathis Nithart or Gothart, alias Grünewald, is difficult for a number of
reasons. For instance, the units of measurements relate to differing standards, there are local differences in purchasing power, uneven rises in prices and fluctuations in currency.\textsuperscript{18} However, if these influencing factors are disregarded, it appears that Cranach’s prices are repeatedly lower than those in the pharmacy price lists in Memmingen (1519) and Dresden (1553).\textsuperscript{19} Cranach’s best-quality azurite cost the electoral court less than a half the price of that listed in the Memmingen price list, which supports the assumption that Cranach was able to purchase painting materials at a lower price via the wholesale trade and thus he also strengthened the financial situation of his workshop and business.

\textbf{White pigments}

White pigments are the equivalent of light in panel painting and as such would have played a central role in Cranach’s compositions. The daytime sky was painted with blue considerably enhanced with white. To depict illuminated materials, white pigments are often mixed in with the local colours. Cranach used pure white to convey reflections of light (on metal or in the eyes) whereas white toned down with black, blue and/or brown was used to depict colourless, silver-coloured or grey materials. White pigments were the essential component of his lighter flesh paint and the white \textit{imprimatura} served to reflect light and heighten the brilliance of colours. Like other sixteenth-century painters, Cranach had lead white and white calcium carbonate at his disposal. Since chalk has poor covering power when mixed with an oil medium, lead white was of greatest importance.

\textit{bleyweiß} – lead white

Lead white has a long history as an artificially prepared pigment and the methods for its preparation have been described in detail in many sources.\textsuperscript{21} Chemically, the product is a basic lead carbonate (2PbCO\textsubscript{3}\cdotPb(OH)\textsubscript{2}), which often contains a trace of neutral lead carbonate (PbCO\textsubscript{3}). On Cranach’s paintings, the particles appear to be of different sizes. The more fine-grained material is usually associated with larger and rather pearlescent particles.\textsuperscript{22} On some paintings, lead white was found in association with varying quantities of calcium compounds. It seems possible that chalk was occasionally added as an extender.\textsuperscript{23} The painters’ manual from the Karmeliterkloster in Bamberg (c. 1500) recommends a mixture of lead white and chalk for lightening other colours.\textsuperscript{24} Whether Cranach bought the lead carbonate in different qualities is uncertain. Between 1523 and 1538, he charged for more than 76 pounds of lead white (\textit{bleyweiß}), at a nearly constant price of about 3 groschen per pound. When converted, this comes to 2-2.5 pfennig an ounce (cf. table 5). By contrast,
the pharmacy price lists in Memmingen (1519) and Dresden (1553) rate lead white as being somewhat more expensive at 3 or 6 pfennig per ounce, respectively. One pound of lead white cost Cranach about three times what he paid for red lead and double what he paid for lead-tin yellow (bleygel).

*kreiden* – chalk and other calcium salts
Calcium carbonate was of minor significance as a white pigment in panel painting because of its poor handling properties and transparency in oil medium (see p. 93). When used for lightening, it only worked in aqueous binders: in fact, the grey underpainting of the blue background on the *Altarpiece with the Coronation of the Virgin and Saints* in the Royal Collection in London (c. 1520) is a mixture of chalk and black pigment without the addition of lead white and this underpainting and the subsequent layer of azurite are bound in a aqueous proteinaceous medium.

In addition calcium salts were detected in many oil paint layers. It is known that aluminium hydroxide, calcium carbonate and calcium sulphate served as substrates for red lake pigments. They may also have had another use as a modifying agent. Small amounts would add body to a glaze-like paint without inducing a great change in colour. This may have been the function of calcium compounds identified in several green glazes. It is also conceivable that in this case they acted as a substrate for plant-derived yellow dyestuffs incorporated into mixtures with other pigments. In finely grained azurite painted in oil the virtually transparent material may also have improved the handling properties of the pigments, or it may result from the processing of the blue pigment. The Strasbourg Manuscript describes, for example, the purification of *lazur* with limewater. Calcium compounds were also detected in most of the black paints – in the layers of underpainting, in drapery, backgrounds and coatings on the panel versos. It could be that chalk or other calcium compounds were added as an extender and possibly to improve the drying properties of the paint (see pp. 163, 169-170).

**Yellow pigments**
Contrary to the limited choice of white pigments that were known to be appropriate for the use in oil medium in the late Middle Ages and early Renaissance, there was a wide range of yellow colours. However, only two of these have been identified on panels by Lucas Cranach the Elder – lead-tin yellow and yellow ochre. The use of orpiment in the Wittenberg workshop is by no means certain. As yet the only analytical evidence of yellow arsenic sulphide is established on the portrait of Elector Friedrich III the Wise (FR 64A), but unfortunately its authenticity as a Cranach is justifiably disputed. The result
of the analysis as well as the fact that the support is unusual for Cranach (see p. 67) tends to substantiate the hypothesis that this painting is a later copy.\textsuperscript{33} The yellow pigment in the oil-mordant in the grotesque frieze in the Chamber of Mirrors at Schloss Hartenfels has been interpreted as unstable lead oxide, massicot,\textsuperscript{34} however, later examinations disproved this assertion.\textsuperscript{35} On the panel painting \textit{Virgin and Child with Saints} (1516, fig. 22), analysis indicates that in this instance a paint containing a yellow lake pigment was perhaps used to depict the foliage,\textsuperscript{36} but the precise nature of this pigment has not as yet been established.

\textit{bleygel}\textsuperscript{37} – lead-tin yellow

On Lucas Cranach’s panels the pigment lead-tin yellow is used most in yellow draperies (fig. 106) and is also applied to depict gold such as gold threads woven in brocade fabrics, as well as for halo rays or in background passages. Signatures, dates and inscriptions on paintings from the Cranach workshop are executed predominantly with lead-tin oxide (cf. figs 229-240), which is also the pigment used for lightening green colours, hair and a distant sky. It was possible to identify lead-tin yellow, type I (Pb\textsubscript{2}SnO\textsubscript{4}) on the Altarpiece with the Martyrdom of St Catherine (1506)\textsuperscript{38} and the portrait of King Christian II of Denmark (1523). The yellow pigment occurs in different shades.\textsuperscript{39} Occasionally, lead white is added to lighten the colour, while finely ground red pigment (vermilion or iron oxide red) is mixed in to shift the shade to a darker hue. Cranach’s invoices refer exclusively to \textit{bleygel}. In today’s usage, ‘lead yellow’ means lead oxide or litharge (PbO). However, this material is not sufficiently lightfast to be used as a pigment and has not as yet been detected on panel paintings.\textsuperscript{40} According to Fuchs and Oltrogge,\textsuperscript{41} the pigment described as

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\textbf{Neustadt Altarpiece, 1511-13} (fig. 215). Cross-section from the background of the predella, painted in lead-tin yellow. The chalk ground is visible beneath.

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Detail from \textit{Altarpiece of the Holy Kinship, 1509} (fig. 115).
blygel in the Göttinger Musterbuch (fifteenth century) proved to be lead yellow mixed with lead-tin yellow. The aforementioned authors suspect that it was obtained from lead contaminated with tin – possibly as a by-product in the course of cupellation of silver or by heating lead white. At a price of 2–3 groschen for a pound of blygel, Cranach charged on average double the price compared with that of red lead oxide (Pb₃O₄) and only about two-thirds of what he charged for lead white (2PbCO₃·Pb(OH)₂, cf. table 5). Such calculations exclude the likelihood that the invoices refer to lead-tin-yellow-contaminated lead oxide. The differences in price might rather confirm that the blygel mentioned in the invoices is the lead-tin yellow detected during analysis.

According to Kühn, lead-tin yellow could be processed by melting either lead monoxide, minium or lead dioxide with tin dioxide at temperatures between 650°C and 800°C. It is also possible that historical methods of manufacture were based on metallic lead and tin. The blygel in the invoices is most probably identical not only with the lead-tin yellow (type I) identified on Cranach’s panel paintings but also with the blygel in the Dresden pharmacy price list (1553) and with the masticot (massicot) referred to in Dutch and French written sources. However, it cannot be ruled out that in the sixteenth century yellow lead oxide was described as pleigeel.

ockergel – yellow ochre
Naturally occurring yellow ochres (hydrated and anhydrous ferric oxides) are among the oldest pigments used for painting, and Agricola in 1556 describes the processing of okergel (ochra) in the German mountain site called Harz, not far from Wittenberg. Cranach charged two gulden for half a zentner of ocker gel, thus indicating that yellow ochre cost roughly one-third of the price of blygel. Cranach valued this pigment primarily in the decoration of architecture. Yellow ochre was identified as a component of mordants and, in some instances, in green or yellow-brown layers of paint as well in the shadow tones of flesh paint on panel paintings from the Wittenberg workshop.

Red pigments
For passages of red, Cranach could choose between several opaque pigments and translucent lakes. The invoices refer to mennige (red lead), zinober (vermilion), parißrot and lack (both red lake pigments). The silicon-rich red iron oxide was also detected on the panel paintings.
mennige – red lead

The Cranach workshop employed red lead oxide (Pb₃O₄) mainly to decorate architecture, but on occasion also in panel painting. Red lead is the colourant in pink imprimature (fig. 85) and also in the reddish grounds on the St Jerome (1502) and the Holy Family (1504, fig. 71). Cranach occasionally used this pigment for underpainting, in combination with others, and more rarely to depict red shadows in yellow drapery.

Of the red pigments that appear in the invoices, red lead was the cheapest. Cranach consistently charged one groschen for a pound (1523, 1535-38). Vermilion, which is brighter in colour, cost the painter at least nine or ten times as much. This difference in price favoured the use of red lead in decorative painting despite the fact that it tends to discolour, particularly in aqueous binding media. The accounts for the building of the castle at Torgau (1535-38) list five times the amount of red lead (114 pounds) than for vermilion.

Several medieval written sources recommend producing red lead oxide artificially by burning lead white. In the early sixteenth century there is evidence of this practice as we know from the text of a special regulation in Nuremberg. Fifteenth-century German treatises describe a process to manufacture red lead directly from the metal. This is a multi-stage process in which litharge is the intermediate product. As Cranach charged for red lead only about one-third of the price of lead white, we can assume that it was produced by burning metallic lead and not from basic lead carbonate. The price ratio in his invoices corresponds to that in the Dresden price list of 1553 and is evidence not only of professional production using this process but also of its widespread use.

zinober – vermilion or cinnabar

Cinnabar is a red compound of mercury and sulphur, which occurs naturally as a mineral but is identical in colour and composition to vermilion (red mercuric sulphide, HgS). Vermilion has for centuries been produced synthetically from mercury and sulphur. Whereas sixteenth-century German workshop texts barely distinguish between the two forms, the Frankfurt trade fair catalogue (1582) differentiates mountain cinnabar, artificial vermilion and ground cinnabar or vermilion. Significantly, the synthetically produced pigment was listed at a higher price than the natural product. Over the years, other pharmacy price lists have quoted zinnober, with no further detail given, at the relatively constant price of 12 pfennig per ounce. Between 1523 and 1538 Cranach charged 9-10.5 groschen per pound (on average about 7 pfennig per ounce) and in 1528 the executors of Grünewald’s estate also listed the price of zinnober at 7 pfennig per ounce, obviously lower than in the pharmacy ordinances.
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Detail from *Altarpiece of the Holy Kinship*, 1509 (fig. 115).
Red mercuric sulphide, either natural or synthetic, is the red pigment most often used by Cranach in panel paintings. It is a component of most flesh tints and the colourant in many red robes (fig. 84). This pigment was identified on almost all the paintings examined, although differentiating between the natural or synthetic form is difficult if not impossible. On the Portrait of the Wife of a Viennese Scholar (1503), which was painted during Cranach’s stay in Austria, the particles are uneven in size and have a distinctly fractured appearance. By contrast, synthetic vermilion, with a smaller particle size, is likely to have been used on some Wittenberg works. Arsenic seams have been noted in the pigment particles found on three paintings, suggesting the presence of dry-process vermilion.62

Red earth pigments
In contrast to the brilliant red of vermilion, red ochre and other iron oxide pigments63 appear as more subdued colour tones. The naturally occurring earth colours were ground, washed and levigated to prepare them for use as pigments. Red iron oxide can also be obtained by burning yellow ochre. In its best form it is almost entirely anhydrous ferric oxide. There is no evidence in Cranach’s invoices for the use of red earth pigments despite the fact that these pigments can be detected to varying degrees on his panels. It is quite possible that the red-brown tones were produced by burning ocker gel in Cranach’s own workshop.64

The silicon-rich iron oxide red determines the colour of the red-brown cloak of St James the Greater on the left wing of the Princes’ Altarpiece (c.1510, fig. 4) and also that of St Catherine’s dress on the panel painting of 1516 (FR 85, fig. 22). Occasionally we find iron oxide in red and black underpainting, in black layers of paint as well as in mordants. Red iron oxides are the colouring component of the poliment for burnished gilding and in the 1530s (at the latest) red earth pigment in the form of red chalk was also used for underdrawing (see p. 106).

lack and parißrot – red lake pigments
In the sixteenth century, translucent red lake pigments were obtained from plant or animal sources, most frequently brazil wood (various Caesalpinioi-dae species), madder roots (Rubia tinctorum L.), scale insects, for instance, different species of cochineal (Porphyrophora polonica L., Porphyrophora hameli Brandt et al.) and kermes (Kermes vermilio Planchon), as well as from lac, a secretion of Kerria lacca Kerr.65 The making of lake pigments was fairly common practice, and its description can be found in numerous recipes.66 The dyestuffs were extracted from the raw material or dyed textile waste and
precipitated on to a suitable inorganic substrate. The Cranach workshop used red lake pigments prepared from various dyestuff sources and substrates. However, their identification presented several problems. The invoices do not document red lakes according to dyestuff type but only by name. Lack and parisrot are listed at different prices. In 1523, Cranach charged 10 groschen and 6 denaren for 2 lot of lack, which was thus 3.5 times what he charged for the most expensive blue pigment. The parisrot listed on the same sheet (fig. 103) as well as the lack on latter invoices is clearly cheaper. The great difference in price of red lakes from scale insects compared to the price of madder or brazil wood makes it probable that in 1523 Cranach invoiced lack of a higher quality, containing dyestuff from kermes, a species of cochineal or lac. Such translucent crimson pigments could apparently not always be obtained in the required quality. Proof of this seems to be that, during Titian’s stay in Augsburg in 1548, he had to arrange for a ‘lacca di quella si ardente e splendida nel proprio colore de la grana’ to be sent from Venice.68 Some possible explanations for the much lower price of lack in Cranach’s invoices from the 1530s could be that it was of an inferior colour, or that there were changes in trading conditions, or perhaps it was substituted by another dyestuff, for example, the much cheaper madder.69 The Munich Painters’ Ordinance (1461) states that lack, a higher-quality red lake, should not be substituted by rösel or parisrot.70 Written sources provide various recipes for the production of parisrot: the Strasbourg Manuscript71 and the Liber illuministarum72 mention an extract from a ‘a species called lagga’. The Liber73 also describes production from brazil wood, as does Boltz von Ruffach.74 The Nuremberg Kunstbuch as well as the Bamberg Manuscript recommend good red wool to obtain paresrot.75 Since wool or rags could have been dyed with different colourants, however, the word parisrot obviously describes a particular quality of colour rather than the actual dyestuff.76 The consulted sources lead to the conclusion that compared to parisrot, lack indicates a more intense crimson-red translucent pigment and it seems unlikely that the painter would always be aware of its specific source.

Translucent red glazes are present in almost every Cranach painting examined (fig. 84). Major difficulties in analysing the dyestuff type were related to the small size of samples available and the low concentration of dyestuff present.77 While earlier reports refer to madder,78 the HPLC analysis79 carried out as part of this research did not lead to the dyestuff types being identified. Examination with EDX confirmed the presence of different substrates containing alumina and calcium. On some paintings, red lakes prepared on different substrates are used and occasionally these different lakes are found superimposed in layers.
The red lakes usually show dissimilar drying and ageing properties. All lake pigments require a fairly high proportion of oil medium and are known to be poor driers. When they are used without being mixed with other pigments or additives, distinct drying cracks may occur – a phenomenon that can be observed in various red passages on Cranach’s paintings. Today, some of these glazes appear brilliant red, while others are badly faded or have turned brown. Discernible shifts in the appearance of the picture can, for instance, be detected on the Resurrection (c. 1509, fig. 109) and the Ten Commandments (1516, fig. 64). On the latter painting, the original splendour of the colours of the rainbow can only be imagined and virtually reconstructed on the basis of the technical analysis.

Purple fluorite
During his stay in Austria, Cranach used the purplish mineral calcium fluorite (CaF₂) on a few paintings. On the St Jerome (1502) and the Cuspinian portraits (1502/03), the sky has been undermodelled with a mixture of lead white and fluorspar (fig. 128).80 According to analysis, the faintly coloured mineral did not play a significant part in the depiction of purple robes. Until now, fluorite as an artist’s pigment has been identified only rarely on paintings dating
mainly from the late fifteenth and early sixteenth century. In most of the published cases it occurs on panel paintings, polychrome sculptures and wall paintings from the Tyrol and southern Germany. Recent investigations, however, show a more widespread use of fluorite in Europe and therefore further discoveries can be expected.81

Green pigments and glazes
Analysis shows verdigris to be the principal green pigment used by Cranach to achieve intense tones for landscapes and drapery in panel painting. His invoices do mention grünspan (verdigris). However, bergkgrün (mountain green) and schifergrün are listed far more frequently, while schifergrün is roughly three times the price of grünspan and bergkgrün (cf. table 5). This high price would seem to suggest that the pigment was costly to prepare, having high colour intensity and/or particular properties that were valued in painting. Within the course of this investigation, relating the term schifergrün to the results of analysis has been a significant problem. The pigment has been variously interpreted in secondary literature as a more vivid shade of malachite (basic copper carbonate, CuCO₃·Cu(OH)₂),82 the material known today as chrysocolla (a copper hydroxysilicate, (Cu,Al)₂H₂Si₂O₅(OH)₄·nH₂O),83 copper vitriol (a copper sulphate, CuSO₄·5H₂O),84 green earth (the iron-containing mineral glauconite or celadonite)85 or Grünschiefer (an amphibolite rock containing green minerals).86 The following section evaluates contemporary written sources, literature on artists materials as well as the reports from analysis in more detail and offers a new interpretation of the term schifergrün.87

schifergrün88 and bergkgrün89 – malachite?
In fifteenth- and sixteenth-century German documentary sources on painting techniques, the terms schifergrün and bergkgrün are common, as for example in the Göttingen Model book,90 the Berlin Model book (fifteenth century),91 in Stephan Schriber (1494)92 and in the Liber illuministarum (c.1450-1512).93 Boltz von Ruffach (1549) distinguishes berggrien as ‘a slightly pale green colour’ (ein lychte bleich grien farb) from schifer grien ‘one more beautiful than the other, a heavy material like lasur’ (eins schöner dann das ander, ist eine schwere matery wie lasur).94 The pharmacy price lists in Worms (1582)95 and Liegnitz (1583)96 refer to schiffergrün together with other green pigments with no more detailed specification. Following the death of Meister Mathis Nithart or Gothard, alias Grünewald, in 1528, two judges drew up an inventory in his workshop, listing amongst others span-grin (verdigris), schifer-grun, berkgrün (mountain green), alchemy grun (a pigment that remains unidentified), and schefergrün.97 Schefergrün could be identical to schifer-grun; both are quoted at six times the price of verdigris.
Considering these sources, *schifergrün* must have been a pigment that could be distinguished from mountain green and verdigris. This assumption is confirmed by Cranach’s invoices: the first orders for payment referring to *schifergrün* date from 1523, in this particular case, half a pound cost 15 groschen and 9 denaren (fig. 103). Between 1535 and 1538, *schifergrün* was invoiced together with *schon bergkgrun, grünspan* and *grünsaft* (sap green). The price fluctuated between 21 and 36 groschen for one pound (cf. table 5). In line with the executors of Grünewald’s estate, the court painter on average charged one gulden per pound, which was roughly three times the price of *bergkgrün* (5.25-8.4 groschen per pound), *grünspan* (5-7 groschen per pound) and *grünsaft* (4-7.25 groschen per pound). Thus a pound of *schifergrün* cost about as much as a medium-quality azurite.

To which pigment could the term *schifergrün* have applied? Boltz von Ruf-fach suggests that it is ‘made of ore rocks’ (*uss den erztsteinen gemacht*) and that it should not be ground too finely, otherwise it would lose its beautiful green colour,98 meaning that this was, in all probability, a mineral pigment. Some writings apply the term *terra viridis* (green earth)99 to *schifergrün*, but green earth and amphibolite rocks can be discounted here because of their relatively low colour intensity. Since the Middle Ages, different copper minerals such as posnjakite (Cu₄(SO₄)(OH)₆·H₂O) and brochantite (Cu₄(SO₄)(OH)₆) have been processed into pigments,100 and therefore the possibility cannot be totally ruled out that *schifergrün* and *bergkgrün* were descriptions of different copper salts. In contrast to this, Fuchs and Oltrogge identified only malachite and different silicates in a colour sample from the Göttingen Model book described as *schiffergrün/berggrün*.101 The suspicion is that both terms refer to one and the same mineral but categorise different intensities of colour.102 The effect of the colour could depend on various factors such as the degree of contamination, particle size and shape. Thus Beckmann reports that pigment manufacturers in Tyrol divided the raw material that they received from the miners into three groups, depending on the quality: the best of these was the *Malachitgrünsteinwerk*, the second *Oelgrünsteinwerk* and the third common *Berggrün* or *Grundgrünsteinwerk*.103 The qualities were further differentiated at the stage of grinding and subsequent levigation of the pigments.

Several authors derive the term *Schiefergrün* from the copper shale (*Kupferschiefer*) occurring in large areas of central Europe.104 Especially in the Harz region, this sedimentary rock was so rich in copper that it was mined in order to extract its copper content.105 In 1565, Konrad Gesner describes the occurrence of both mountain green and mountain blue in copper shale from
the Eisleben area, calling them *schifergrün* and *schiferblau*, respectively. Accordingly, Prange remarked in 1782: ‘If it is found hard and like stone and either similar to schist or mixed with schist, then it is called *Schiefergrün* – the same as found in Tuscany, near Massa or as in Meissen and other places’. Several eighteenth- and nineteenth-century authors emphasise the fact that there were different sorts of mountain green and that the best *Berggrün* or *Schiefergrün* comes from Hungary. According to Schreger, pure mountain green from Hungary contains much more copper and was more beautiful in colour than that from Tyrol, while Schmidt remarks that the best sort of Hungarian mountain green surpasses that from Tyrol threefold in quality. It was traded under the following designations: (1) fine green or bark colour such as forms in gulleys; (2) dark grass green and (3) *schiefergrün* as the worst. It was obtained in large amounts in Neusohl, Schmöllnitz and Herrengrund.

The fact that Agricola, as early as 1546 and 1556, described in detail the processing of copper green (*chrysocolla nativa*) in Neusohl is especially significant in this context. In *De natura fossilium* (1546) he writes: ‘Native chrysocolla originates in veins and veinlets, and is found mostly by itself like sand, or adhering to metallic substances, and when scraped off from this appears similar to its own sand. Occasionally it is so thin that very little can be scraped off. Or else it occurs in waters, which, as I have said, wash these minerals, and afterward it settles as a powder. At Neusohl in the Carpathians, green water flowing from an ancient tunnel wears away this chrysocolla with it. The water is collected in thirty large reservoirs, where it deposits the chrysocolla as a sediment, which they collect every year and sell [as a pigment].’ In *De re metallica* (1556) Agricola refers back to this description (fig. 110) and here the first German edition of 1557 translates *chrysocolla* as *berggrün und schifergrün*. This is an indication that *berggrün* and *schifergrün* were obtained in the vicinity of Neusohl as early as the sixteenth century. Neusohl (Banská Bystrica) is situated in the Carpathian Mountains in Slovakia, previously known as the lower Hungarian ore-mining centre some 160 kilometres northeast of Bratislava. The important copper ore mines were 8 to 12 kilometres north of Neusohl between Herrengrund (Špania Dolina), Sandberg (Piesky) and Altgebirg (Staré Hory). In 1494, Jan Thurzo from Krakow and the Fugger family from Augsburg founded a trade company, which led to an enormous increase in production. After the Fugger family left in 1546, mining continued with varying intensity until the twentieth century.

In 1842 – almost 300 years after Agricola – Zipser provides an exact description of the pigment production in Herrengrund:
‘The mountain green water is collected at its source in gulleys, brought up through the so-called colour tunnel (Farbstollen) and conducted into a commensurate number of troughs lined up next to each other. Here precipitation takes place in the residue of the water. The perfect arrangement for producing mountain green is above ground with the carbonate-rich and crystal clear water being conducted through the 29 troughs, so arranged that it can flow from one to the other or into several at a time. The colour is collected from the troughs once a year as follows: as it flows in, the water is diverted from several troughs and conducted into others by means of gullies placed in front of them. After standing for some time, the water is gradually drawn off, with the sides of the trough being carefully brushed down each time until the precipitated colour is concentrated in a little of the remaining water. Then, after being ladled out, it is emptied via gullies into the two final and biggest troughs. The water is again drawn off into the troughs from which it came and what remains is scooped out in the same way. The thickened colour is now taken to the floor of the colour house where it is spread out to dry and finally packed, ready to be sold.’\textsuperscript{117}
This description is preceded by reports by, amongst others, Zedler (1733), Born (1774) and Ferber (1780). Ferber states that ‘The green earth colour or natural mountain green, which is obtained at Herrengrund originated partly from the pit water of the mines located higher in the mountains and partly from the surface water of a fountain, the rain and suchlike, which is conducted through the tailings on which the houses of Herrengrund stand and then through gullies into 12 square wooden troughs, each several lachter in width and arranged one below the other’. The pigment is documented at 55 floren per zentner (one Viennese zentner = 56 kilograms) in 1618 and 31 floren per zentner in 1640. Between 1697 and 1721, production of at least 153 zentner 11 pfund of green colour is documented from Sandberg and Lybethen mines, and between 1736 and 1745 a total of 203 zentner and 14.5 pfund berggrün was obtained at Herrengrund, a yearly production of about 20 zentner. This pigment was exported for the price of 41 floren and 15 kreuzer per zentner to Vienna. A document from Herrengrund reports an average annual production of 30-50 zentner of berggrün as late as 1829.

Some authors thought that the water from which the pigment was obtained was sulphate-rich and thus the pigment might have been a form of copper sulphate, whereas Zipser stated that the solution was carbonate-rich, and different from the sulphate-rich water in the same area (vitriolisches Cementwasser) in which copper was extracted by means of iron. Indeed, an attempt to precipitate the pigment artificially from a copper sulphate solution failed: ‘In 1752, a separate building was erected at high costs in which mountain green was to be produced by artificial precipitation from pumped cement water. However, these attempts by a Dutch man (de Witt) diminished, since the mountain green obtained by this method was unstable and turned black.’

The copper ores in this area are predominantly sulphides: tetrahedrite and chalcopyrite. In the presence of water and oxygen, assisted by certain bacteria (genus Acidithiobacillus), the sulphides can rapidly oxidise, causing the water to become acidic and sulphate-rich. Heavy metals from the ore, including copper, are leached out into the water. The subsequent processes depend on the balance between acid generation from oxidation of the sulphide minerals and the neutralisation potential of the rocks that the water passes through or over. Minerals such as calcium carbonate can buffer or neutralise the acidity. As the acid mine drainage is neutralised, the copper can precipitate out of the water, forming copper carbonate (malachite) and, in some conditions, other copper compounds such as copper sulphate.
In this region, dolomite and calcareous rocks cover the ore-containing layers, and thus provide good conditions for the development of malachite. X-ray diffraction analysis of a green mineral collected recently from the Sandberg (Piesky) tailings found that it was composed of large quantities of malachite associated with dolomite. The geological conditions, and the fact that, in the historic descriptions, the precipitate was ready to use as a pigment after drying, makes it possible to hypothesise that spherulitic malachite could form. Particles growing unconstricted in water can develop a spherical form due to the splitting of crystals.130

Crucial further evidence for this hypothesis has come from the occurrence of spherulitic malachite (confirmed by Raman microscopy) in remnants of a wall painting in a former merchant house in the main square in Neusohl.131 The painting, which is considered to date from the late fifteenth century, is typical of the so-called ‘green room’ decoration common in the mining towns of this area. The spherulitic malachite is associated with a few particles of posnjakite, some black copper sulphide, and potassium aluminium silicate. The presence of silicates suggests that it was formed in a natural environment. Both posnjakite and dolomite are present in the hills near Neusohl. Spherulitic malachite has also been found on other paintings close to Neusohl, including a painting in Zvolen castle from 1491-1510 when the castle was owned and renovated by Jan Thurzo.132

In addition, malachite has been identified (by XRD) in paint samples taken from Schloss Colditz (Saxony), for the decoration of which Cranach had been responsible, as well as from one of his houses in Wittenberg, Markt 4.133 Whereas the pigment taken from the house in Wittenberg seems to suggest that it was the secondary mineral because of the fractured particle shape, the sample taken in Colditz is a malachite of more intense colour, and with a distinct spherulitic shape suggesting that it was obtained by precipitation.

Findings from evaluation of documentary sources and analysis thus lead to the conclusion that schifergrün is a term frequently applied to a natural precipitate from water containing copper and dissolved carbonate and which is predominantly spherulitic malachite (CuCO₃·Cu(OH)₂). According to changing conditions, it may be found in association with other copper salts or modified subsequently. Schriber,135 the Göttingen Model book136 and the Trier Manuscript137 remark that, before being ground, schifergrün should be steeped for one night in vinegar or white wine. This practice, which applies rather to a copper carbonate than to a sulphate or a silicate, possibly generated copper acetate and thereby apparently heightened the pigment’s intensity.
Compared to the malachite formed in rocks, which had to be ground and levigated, spherulitic malachite developed particular colour intensity presumably due to its spherical form and less contamination. Once the powder had dried, it was ready to be sold as a pigment. Accordingly, Boltz von Ruffach wrote that schifer grien should not be ground too vigorously or else it would lose its beautiful colour, which applies to several mineral pigments but was not mentioned by him for berggrien. However, the particle form and size may have varied according to changing conditions of precipitation (the pigment collected in gullies was regarded as the best) and the extent of grinding. As a result, the ready-prepared paint may have contained both jagged and even-sized spherulitic particles.

The fact that it has not been possible to detect the use of this pigment on Cranach’s panel paintings so far does not exclude the possibility of its being the material described as schifergrün and having been used. Malachite with spherulitic particle shape was widely used north and south of the Alps. It has been identified amongst others on easel paintings by Cosimo Tura, Giovanni Bellini, Francesco del Cossa, Matteo di Giovanni and Sandro Botticelli. Given the trade routes to many different parts of Europe, it seems possible that artists could have used naturally precipitated malachite from Neusohl. During the fifteenth century, large quantities of copper from Neusohl were transported northwards to Flanders and south to Venice. Leipzig, Frankfurt and particularly Antwerp became important trading centres of Hungarian copper in the sixteenth century. Alternatively, the spherulitic malachite could have come from another source where the pigment was being produced in the same way.

The term schifergrün is possibly derived from copper shale (Kupferschiefer) or slate (Schiefer), which abounds in Herrengrund region. However, the written variations schiffergrün, scheffer groyn and scheppfergrün are worthy of note. They indicate that this pigment was scooped or shovelled from troughs (cf. schiff, scheppfen and scheffeln). The fact that the meaning of the term was obscured might have to do with an interruption in production or trade. As early as the sixteenth and seventeenth centuries there was some confusion about the term schifergrün, and it seems likely that occasionally the term was applied to different shades of colour as well as different pigments. In the eighteenth and nineteenth centuries the pigment from the Herrengrund region was often referred to less specifically as berggrün (mountain green) from Hungary.
In Cranach’s invoices, the term *bergkgrün* in all likelihood referred to the crushed secondary mineral malachite obtained in copper mining. In line with the different qualities of azurite, the ‘beautiful mountain green’ (*schon bergkgrün*) probably denoted more colour-intensive and more expensive fractions of the mineral. The fact cannot be discounted either that occasionally also a precipitated malachite of lower quality or other copper salts were traded under this name.152 Whilst we were not able to identify any trace of malachite on the panel paintings examined in the course of this project, other authors record this pigment as a component of green paint used by Cranach for robes and landscapes.153 There is no doubt, however, that *schifergrün* and *bergkgrün* do not appear to have been used in Cranach’s panel painting nearly as extensively as *grünspan*. It seems likely that verdigris was a more satisfactory green in oil-based media. Within this context the conversion of *schifergrün* into copper acetate as described in treatises still needs to be examined in further detail.

*grünspan*154 – verdigris and copper green glazes
The term *grünspan* (verdigris) may be related to *Spanisch Grün* (translation from *viride hispanicum*) or to the copper strips from which the green pigment had been manufactured since ancient times.155 Depending on the preparation process, basic and neutral copper acetates as well as other copper salts156 are formed, differing in green-blue shades of colour and stability. Neutral verdigris, which is often used in painting (copper acetate monohydrate, Cu(CH₃COO)₂·H₂O), can be prepared by dissolving copper strips or unrefined basic copper acetates in vinegar and then evaporating the solution. Verdigris is the most frequently detected green pigment on Lucas Cranach the Elder’s paintings but Lucas Cranach the Younger also used it, for example, on the altarpiece in the chapel of Schloss Augustusburg depicting *Elector August and His Family before the Crucifixion*, completed in 1572.157 Between 1523 and 1545, Cranach the Elder charged between 5 and 7 groschen per pound (3.75 and 5.25 pfennig an ounce; cf. table 5). By comparison, the pharmacy ordinances in Munich (1488) and Memmingen (1488) list verdigris at 6 pfennig an ounce. The Dresden price list (1553) quotes it at 8 pfennig an ounce.158 Verdigris can thus be considered as a pigment in the medium price range. It is the predominant pigment in green drapery, foliage, landscapes and monochrome backgrounds (fig. 111). Since verdigris is an intense colour, but has little covering power, it was mostly mixed with lead-tin yellow or lead white, often both, in various proportions, and applied in several layers. Occasionally we find additions of black and, rarely, yellow ochre.159 Additions of azurite underpin the spatial depth of the landscapes. Lead-tin yellow and lead white
increase its hiding power and vary the colour and brightness. Opaque layers of green paint often contain particles of different green or green-blue shades and of varying transparency. Opaque modelling is followed by layers of glazes, giving the paint depth and saturation. These glazes are prepared with copper acetate containing a high proportion of binding medium.\(^\text{160}\) White and Pílč analysed linseed oil in green paint samples from the background of \textit{Johann the Steadfast} (1509) and from the sleeve, bottom edge of \textit{Johann Friedrich I the Magnanimous} (1509, fig. 164), but found no resin.\(^\text{161}\) So far, research and analysis on this subject have not been carried out but it would be well worthwhile to study the composition and the colour changes of these glazes in more detail.\(^\text{162}\) Whereas these coatings on some of the paintings still appear in a brilliant green today, on others they have turned brown and have been partly or wholly removed\(^\text{163}\) in the course of earlier restorations. On some paintings we found both green and brown glazes preserved.\(^\text{164}\) It may be that, in these cases, green or yellow lakes were added: the Bolognese Manuscript\(^\text{165}\) and a German codex from the fifteenth century\(^\text{166}\) contain recipes to improve verdigris with plant juices. The calcium salts detected in the layers that have now gone brown might have acted as a substrate or additive for these fugitive lake colours.
saftrün – sap green

In the late Middle Ages, different plants were recognised as sources for grun-saft or saftrgrün. The Göttinger Musterbuch describes the use of juice from the rüten krüde (rue, Ruta graveolens L.). The Strasbourg Manuscript refers to wechselber or tintenber (buckthorn, Rhamnus catharica L.) and the Colmarer Kunstbuch describes a procedure for making saftrgrün from vogel beren (common privet, Ligustrum vulgare L.). Further plants might have been used. It has, as yet, not been possible to identify any saftrgrün on Lucas Cranach’s paintings although its price, 4-7.25 groschen per pound, was almost the same as for bergkgrün (mountain green) and grünspan (verdigris, cf. table 5). Considering the low lightfastness of these vegetable dyestuffs, its use should not yet be discounted.

Blue pigments

Cranach made use of a wealth of blue pigments. His invoices confirm different types and various grades: schon blaw, lasur plaw, blau von feldung, gering plaw, oelblau, ascherblau, blaw glasurt farb, indich and waiblaw. On panel paintings we were able to detect ultramarine, smalt and azurite in various grades. On the early Wittenberg paintings, the proportions and qualities of blue pigments varied: on the Fourteen Helpers in Need (c.1505/07, fig. 34) and the Altarpiece with the Martyrdom of St Catherine (1506, fig. 77), Cranach used azurite only – and sparingly. On the other hand, the appearance of the Altarpiece of the Holy Kinship (1509, fig. 115) and the Princes’ Altarpiece (c.1510, fig. 4) is determined by deep ultramarine blue. Was it possible that the colour composition was dependent not only on artistic intention, pictorial tradition and the commissioner’s expectations, but also on the availability of the pigments?

Ultramarine

The most intense blue pigment on Cranach’s palette was natural ultramarine, a complex sulphur-containing sodium aluminium silicate, \((\text{Na},\text{Ca})_{8}(\text{AlSiO}_{4})_{6}(\text{SO}_4,\text{S,Cl})_2\), made from the mineral lapis lazuli. In the fifteenth and sixteenth centuries, the main source was Badakshan in modern Afghanistan and, via Venetian merchants, the pigment was traded in Europe at a very high price. In Cranach’s oeuvre, the application of ultramarine is limited to highly important commissions by the court, such as the Altarpiece of the Holy Kinship (1509, figs 113-115) and the Princes’ Altarpiece (c.1510, fig. 4). However, no ultramarine is listed in the transcribed invoices. To judge from price comparisons, Lasur blaw or best blaw can only mean particularly good quality azurite. The name ultramarine, with its allusion to its origin overseas, can seen as an
indication that this pigment had been shipped to Venice and from there been transported to northern Europe. In comparison to Netherlandish panel painting – where it was frequently, if not exclusively, used by Jan van Eyck, Rogier van der Weyden, Hans Memling, Gerard David, Quinten Massys and Jan van Scorel for example – its use in sixteenth-century Germany appears to have been much less common. It is possible that it was not generally available. Cranach’s use of this pigment immediately following his travels suggests that he acquired it in the Netherlands, as did Albrecht Dürer during his later visit to Antwerp. What is noticeable is the uncommon hatching application of the ultramarine in the Virgin’s robe on the Altarpiece of the Holy Kinship (1509, fig. 147). This technique of applying paint obviously reflects practices picked up during his travels. Cranach’s path also took him via Nuremberg, where at that very time Albrecht Dürer was using, in his own words, ‘good-quality ultramarine’ (guten ultramarin) on the Heller Altarpiece.

In fifteenth- and sixteenth-century pictures, the high-quality ultramarine has often been reserved for the robe of the Virgin. Cranach instead used this expensive blue pigment on the Altarpiece of the Holy Kinship (1509) not only for the Virgin’s robe but also for other motifs and more strikingly to paint the sky (figs 113, 114, 116). On the Princes’ Altarpiece (c. 1510) it is the dominant blue pigment in white, light blue and dark blue drapery. In this instance,
he does not underpaint with a less expensive pigment, nor does he play with the contrasts between different blue pigments. There is use of small quantities of azurite, but restricted to colour mixtures which are not blue. None of the other examined works follow this extravagant use of ultramarine. It was detected on a Crucifixion, dated 1532, but in light of all the technical analysis provided, this work cannot have been produced in Lucas Cranach the Elder’s workshop. Attribution to him should be disregarded because of significant differences in the choice of materials and techniques.

**laserblau – azurite**

Natural azurite (basic copper carbonate, $2\text{CuCO}_3\cdot\text{Cu(OH)}_2$) was the most commonly used blue pigment in Lucas Cranach the Elder’s workshop. Sixteenth-century German mines, such as those in Wallerfangen and Goldberg, supplied large quantities of the mineral. In comparison to ultramarine it was widely available. Azurite was traded in different shades of colour based on differences in impurity content, particle size and probably also particle shape. In the invoices, the descriptions of the blue pigments follow different criteria, such as quality of colour (gering blau, schon blau and best blau) and use (blau, das man erstlich anstreicht, blau von feldung). These terms might describe different qualities of natural azurite, but synthetic copper blue pigments cannot be discounted. The bulk of the blue pigments served to decorate walls and ceilings in the rooms at Schloss Hartenfels such as in the saalstube (38 pounds of blau and 43 pounds of gering blau for the first coatings) and in the hofstube (12 pounds of plaw). Forty-four pounds of plaw were used to paint a whole house and cloths. The remains of glue-bound azurite on grey underpainting are preserved today in the background on the grotesque frieze in the castle’s Chamber of Mirrors, completed in 1537 (fig. 211).

In most panel paintings by Lucas Cranach the Elder, high-quality azurite is the only blue pigment used for the draperies, for the sky paint and for the backgrounds of portraits (figs 57, 72). Azurite has been found in small quantities, for example, in the flesh paint or in the whites of eyes. For modelling purposes, the pigment is usually lightened with white, only rarely mixed with black and often applied on grey underpainting (figs 117, 129). Usually it was used in an oily binding medium, but it is also found in aqueous systems. To avoid colour changes in oil, it is possible that the pigment was ground first in a proteinaceous medium. Generally, the particle sizes of the pigment in Cranach’s earliest works are rather coarse compared to the workshop production of later decades (cf. figs 117, 119). The finely ground azurite is usually applied in very thin layers. The different shades of colour across different
commissions have been determined in the course of this research, but hardly ever within a single passage of painting. In contrast to the regular practice, whereby inferior qualities were used for underpainting when decorating architecture, Cranach’s studio palette – as a rule – contained only the best-grade azurite with very few impurities.188

In 1523 Cranach drew up an invoice for *schlicht blau feldung* and *blau von feldung*, and one in 1545 for *feldun plaw* (app. II, 119, 272 and table 5). The 1523 invoice makes it clear that this pigment was also traded in different colour intensities.189 A pound of *blau von feldung* cost more than a gulden while a pound of *schlicht blau feldung* cost only 9 groschen. An examination of the written documents on the technology of art does not provide any conclusive explanation regarding such a pigment, the form of its preparation or its application. In general terms, a *feldung* meant ‘divided off’; enclosed areas in walls, doors, shields, coats of arms, letters or paintings.190 The Strasbourg Manuscript, referring to *zu veldunge in buchstaben* – for laying in the flat tints of letters – recommends *liecht lazur*.191 The *Liber illuministarum* uses the word *feldung* in connection with relief brocade applications and an instruction for burnished gilding.192 Thus *feldun plaw* and *blau von feldung* in Cranach’s invoices might denote a pigment for decorating monochrome blue passages of paint. We did in fact find in the background passages of various paintings...
an azurite, which differed from others in the particular size of its particles (figs 118, 120). The average size (30-60 μm) exceeded more than tenfold that of the finest sorts used in drapery and areas of sky. This large-particle azurite appears in the backgrounds of the panels with Virgin and Child with St Anne (c.1515/16), the Saviour (c.1515/16) and the Altarpiece with the Coronation of the Virgin and Saints (c.1520). A similar grade served to decorate the predella box on the Neustadt Altarpiece (1511-13). It was used on the retables in Kade (c.1515/20) and Brandenburg (1518) to paint the rear wall of the shrine and to polychrome the sculptures. Unfortunately, due to a lack of understanding, most of these blue passages have been damaged by cleaning or varnishing and consequently have been completely overpainted so that the original effect can only be a matter of conjecture. The positive results of staining cross-sections, the analogous type of damage and the underpainting with a mixture of calcium carbonate and black pigment (see p. 133) confirm that the original work was carried out in an essentially aqueous proteinaceous medium. In all probability, the feltdun plaw occurring in Cranach’s invoices refers to this azurite fraction, coarsely ground and thus particularly blue in appearance. The large particle size meant it was too coarse to be used for modelling purposes except for decorating monochrome passages. Binding it in a
proteinaceous glue would have produced a particularly velvety effect, which contrasted with the burnished metal leaf and shiny layers of paint. After 1510, Cranach thus transposed a technique traditionally practised in the polychromy of sculptures and architecture to his panel painting.

The invoices indicate that blue pigments were sorted according to grain size as well as intensity of colour and degree of purity. Coarsely ground dark blue azurite did not constitute the highest quality and therefore most expensive pigment; those were reserved for a purified fine particle size with good properties for modelling tonal values. Between 1535 and 1538, Cranach charged half a gulden for a pound of gering blau and plaw das man zum ersten anstreicht (blue for first coating). Comparable to the price of blau von feldung, a pound of blaw or schon blaw usually cost one or one-and-a-half gulden and, for the most expensive azurite, Cranach charged 48 groschen a pound (36 pfennig an ounce).

The terms ascherblau and oelblau appear ambiguous in this context: a pound of ascherblau cost 7 groschen in 1523 and this is only one-third of the price of lasurblau. The name ascherblau possibly referred to a greyish, contaminated azurite (cinis lazurii) with small particles, which Boltz von Ruffach called eschplo. It could, however, have been an artificial copper blue. The pigment oelblau, which was invoiced at an only slightly higher price in 1523, may, according to its name, have been used in an oil binding medium. On the other hand, it is possible that the term was also used for an azurite of inferior quality or another blue pigment altogether.

blawglasurt farb – smalt?
In December 1505, Cranach received a payment of 10 gulden 15 groschen for 10 pounds and 3 viertel of blawglasurt farb (app. II, 6). Schade transcribed it as azurite and Müller-Wirthmann as Lasurfarbe, which has been interpreted as ultramarine. In 1515, the religious order, the Barfüsser Brüder in Wittenberg, received a payment ‘for a window in which my Lord’s coat of arms have been “glazed”’ (für ein fenster dar inne meines gnedigen hern wappen verglasurt). The use of the word verglasurt in connection with the production of stained glass could also lead to the conclusion that blawglasurt farb denotes the glass pigment smalt. Smalt is a blue potassium glass, which obtains its colour from a small amount of cobalt oxide added during manufacture. The glass was coarsely ground for use as a pigment. The history of smalt in European painting is not known with certainty. It has been identified on several panels from the fifteenth century but it became more important in the following century, when cobalt was being mined in Saxony. According to present findings, smalt was first used extensively in Lucas Cranach
the Younger's workshop, whereas azurite was the predominant pigment in Cranach the Elder's panel paintings. The reason for this could be the cost and difficulty of purchasing high-quality azurite, as well as a general preference for smalt in the second half of the sixteenth century. Smalt was identified by EDX-analysis on the canvas painting Christ and the Woman of Samaria (c.1552), on the Kemberg Altarpiece (1565)\(^{210}\), a triptych of the electors (1566?)\(^{211}\) and on the portrait of Elector Johann Friedrich I (1578), painted on canvas. The pigment was used on its own and in combination with others, for example with red glazes. The red robe of Christ on the painting Christ and the Woman of Samaria (c.1552, figs 193, 201) was modelled on a grey underpainting with a red lake pigment to which smalt has been added. The smalt gave a more purple colour and at the same time may have acted as a siccative. The same practice could be determined on a painting by Titian, Venus and Adonis (c.1560).\(^{212}\) It is not impossible that Cranach adopted this practice from Titian whom he met in Augsburg 1550/51.\(^{213}\) The examined paintings from the Wittenberg workshop reveal that the pigment has been partially or completely discoloured. This discolouration seriously impairs the original colour balance. Backgrounds that were originally blue today appear only grey (figs 194, 195).

*indich* and *wait plaw* – indigo and woad

For dyeing and painting, indigo was the most important blue plant dyestuff. It was obtained from *Indigofera* species growing mainly in parts of the Far East and had been imported since antiquity.\(^{214}\) In Europe, the blue dyestuff was also produced from *Isatis tinctoria* L. (known as woad and dyer’s woad), which was cultivated on a large scale in Silesia, Brandenburg, Thuringia and the areas of Magdeburg. Thus it must have been easily available to Cranach. Invoices list *wait plaw*, *indisch weit blumen* and *indich*. Owing to the very close similarity between the terms and the fact that all cost the same, it is not certain if, when using the word *indich*, Cranach actually meant Indian Indigo or indigenous woad. It is possible that the terms were used synonymously. Perhaps they also denote different shades of colours or conditions of preparation.\(^{215}\) At the price of one *gulden* a pound (1535/37) this blue plant colourant was among the more expensive pigments on a par with medium-quality azurite but in comparison it had rather little brilliance and lightfastness (cf. table 5).\(^{216}\) Blue plant dyestuff, which was probably used in decorative painting and for illustrations, is only of minor significance on the panel paintings of Cranach and appears infrequently in his invoices. In fact, indigo has not been identified on any of Lucas Cranach the Elder’s paintings,\(^{217}\) although its use should not be ruled out.
Brown paints and glazes
Orders for payment mention braun, kesselbraun and carlofrahm. Brown iron oxide with different silicon content and brown organic colourants have been detected on Cranach’s panel paintings, but it has not been possible to link sources and analytical results unequivocally.

kesselbraun – brown iron oxide and brown earth pigments?
In the years 1536 and 1537, Cranach’s workshop assistants used more than 70 pounds of kesselbraun in Schloss Hartenfels. In just one year, the price per pound rose from 2.6 groschen to 5.25 groschen (cf. table 5). Kesselbraun was thus more expensive than bleygel (c.2-3 groschen) and considerably more expensive than ochre (c.0.7 groschen). The term Kesselbraun was widespread in the sixteenth century. Among sources mentioning this colour without further comment are the Liber illuministarum, Albrecht Dürer, who acquired it on his visit to the Netherlands and the Liegnitz pharmacy price list of 1583.

Secondary literature in subsequent centuries describes totally different materials as Kesselbraun: in 1763, Bohn stated that Kesselbraun is ‘a brown earth, which coppersmiths and cauldron makers use to give their new work colour’ (braune Erde, womit die Kupferschmiede und Keßler ihrer neuen Arbeit die Farbe geben). Schreger equated Kesselbraun with Kupferbraun (copper brown) and la terre brune à éclaircir. He described it as ‘a thinner and finer copper hammer scale to coat dark- and light-coloured copper vessels’ (dünnere[n] und feinere[n] Kupferhammerschlag zum Anstrich der kupfernen Geschirre von dunkler und heller Farbe). On the other hand, in 1895, Cremer derived the term from the brown coal sludge that frequently settled at the bottom of cauldrons and equated it with Kasslerbraun (cassel earth). In 1984, Kühn also used Kessel-
braun and Kasslerbraun as synonyms. More recently, Burmester and Krekel have discussed the possibility that the Kesselbraun, acquired by Dürer in the Netherlands, might be burnt verdigris (es ustum or crocum veneris) since analyses of the brown colours of his paintings reveal a high copper content. A hitherto little-consulted manuscript from the fifteenth century, now in the Württembergische Landesbibliothek in Stuttgart, could provide another explanation to help solve the question of which pigment(s) denoted Kesselbraun in the Middle Ages and early Renaissance. The Stuttgart manuscript indicates that the pigment was iron based. Under the entry crocum martis, the author noted that ‘it is found on the large nails under the salt pans; it is a brown powder and it is called kessel brun (den findet man under den salzpfannen an den grossen negeln und ist ein pruns pulver, man nennet es kessel brun)’ and on the following page he emphasised: ‘The crocus martis which is the most precious for painting and no one can make it. It has to be brought from Venice or the sea. Take the rust found on old anchors. Burn it brown in a fresh coal fire and allow it to cool. Grind it on a stone and you will have a colour more brown than scarlet.’ A document from Tyrol dating from 1558 confirms these details: ‘the salt pan provides subtle keßlbraun’ (die salßphann gibt keßlbraun subtil). The brine was heated in stock pans until the water vaporised and salt crystals formed. In the medieval period, large pans made of lead or iron sheet were used. As a rule, they stood on stone pillars and were linked by long poles, called Dexen, to the ceiling beams. These were to prevent the bottom of the pan from warping while the liquid was boiling. At the bottom end, the wooden poles could be equipped with a piece of iron in the form of a nail. The head of this nail sat under the base of the pans. It is these nails that the writer of the Stuttgart Manuscript must have meant. In the warm, humid atmosphere, large amounts of rust doubtlessly formed, the colour of it being affected by the salt water. The iron pans would also corrode in a relatively short time and damaged metal sheets had to be replaced or new ones applied with rivets. The brown paint samples from Lucas Cranach’s paintings that were examined contained organic colourants or pigments based on iron oxide. No pigments containing copper could be detected. The organic brown colourants did not have the characteristic secondary components that indicate cassel earth, the source of which would be lignitic or peat deposits. The frequent presence of iron, silicon and aluminium suggested the use of inorganic brown earth pigments. A colour sample taken from the brocade curtain on the Altarpiece of the Holy Kinship (1509) contained large particles of an intense brown. Only iron could be detected by EDX (figs 121, 122). This could be kesselbraun. Not far from Wittenberg, west of the Elbe, there were several salt works, which means that in theory the brown iron oxide could have been obtained there.
carlof rahm – chimney soot / bistre

A receipt dated 1509 mentions 40 kannen (cans) of kadlofram for the relatively low price of one gulden, 8 groschen and 8 denaren. In 1536, for almost the same price, one butten (vat) of carlof rahm is shown (cf. table 5). The terms kadlofram or carlof rahm literally mean ‘the black substance in the chimney’, the residue containing tar, soot and resin from the combustion of wood. Schmidt determined the use of the blackish pigment bound in oil in the decoration of the wooden surfaces on sixteenth-century architectural elements in Schloss Colditz, for which Cranach was jointly responsible.

The fact that chimney soot was listed in connection with 700 roses and flames (rosen und flammen) printed on paper is a reason to suppose that Cranach used the material as a component of printer’s ink. A corresponding sixteenth-century recipe was recorded in Mathesius. Both the Strasbourg Manuscript and Boltz von Ruffach described the method of preparing wood soot for use as a lovely brown hair colour (russfarb zu harfarb). They recommended pouring a solution of lye over selected lumps of soot and heating until they dissolved. When the residue had settled out, supernatant liquors were decanted and used with gum medium. The sediment supplied a more substantial colour. Analysis has not confirmed whether Cranach used such a bistre in his panel painting.

In theory it is possible that the organic colourant identified in brown glazes or paints could come from a wide variety of natural products and their modified counterparts. Brown tars made from wood and resins had been produced in Europe since the early Middle Ages, and, as early as the sixteenth century, written documents on painting technique refer to asphalt as a glaze for areas of shadow in flesh paint. In addition, brown resins, balsams and mummy were deployed. A more detailed analysis of the materials used by Cranach presupposes highly refined analytical methods and for this reason is left to future research.

Black pigments

In 1555, Johann Neudorffer refers to the fact that Lucas Cranach was praised for his ability to paint velvet, ‘that he was able to paint it in black even blacker and the blackest of all’ (...das er den in schwartz noch schwertzer und aufs aller-schwerzist hat molen kunnen). The Nuremberg paymaster appended this statement to a recipe for the production of ivory black, and it seems reasonable to suppose that Cranach preferred this pigment for the black clothes worn by his sitters. In a 1995 publication, the analytical results of the black
pigment used on the *Fourteen Helpers in Need* (c. 1505/07) were interpreted as ivory black because of the high percentage of calcium that it contained.\(^{249}\) Research done for this book has, however, led to other conclusions.

*kyn ruß* – pine soot (carbon or soot black)\(^{250}\)

Pliny was among the first to describe soot production as the collection of what was found after incomplete combustion of resin, pitch and especially pine wood, achieved through burning in an enclosed space.\(^{251}\) A recipe from the *Bamberger Handschrift* (fifteenth century) is similar: ‘Take pine resin or other resin and burn it under a basin; a good black can be obtained from the soot’ (*Item nim kyn adder hartz unnd borne daz under eyn becken; von dem rame wirt Guth schwartz*).\(^{252}\) The product was a very fine deep black pigment. In 1536, Cranach’s invoices listed 26 *kannen of kyn ruß* at a cost of 13 *groschen*. Contrary to the assumption – still current today – that soot was used very seldom in easel painting,\(^{253}\) soot black was the pigment most often used by Cranach for underdrawing, black drapery, backgrounds and for coating the versos of paintings (figs 39, 51).\(^{254}\) Accordingly, in 1549, Boltz von Ruffach also recommended *kien schwartz* (pine black) with a little lead white and indigo for the black habits and caps of clerics.\(^{255}\) In addition to carbon, lead white as well as copper and calcium salts were found in different proportions in the paint samples. Since soots require a high amount of oil as binding medium and therefore dry very slowly, it is likely that verdigris was added as a siccative, as recommended by Armenini,\(^{256}\) Lebrun,\(^{257}\) De Mayerne\(^{258}\) and others. Correspondingly, analysis of black paint in various works by Cranach using EDX and light microscopy identified traces of copper green in these black paints.\(^{259}\)

Because of the high calcium content in the black background paint of the *Fourteen Helpers in Need*, Neelmeijer, Wagner and Schramm concluded that ivory black had been used.\(^{260}\) However, EDX examination of cross-sections showed that, although the black paint contains traces of white calcium salt, there is no phosphorus to indicate the presence of bone black or ivory black. There are various reasons why calcium carbonate would be present as a component of paint containing soot: it could be a residue from combustion, vestiges of calcium from the preparation process,\(^{261}\) or a mixture with an organic lake pigment containing chalk as an extender or substrate.\(^{262}\) It is also conceivable that chalk was added to the soot black, which is of small particle size, in order to improve its handling properties and/or to reduce the amount of binding medium. The addition of chalk would also improve the drying properties (see p. 133).
Carbon black of vegetable origin  
Carbon black was produced by charring wood (charcoal) or other vegetable matter such as vines (vine black) and peach kernels (charred peach stones)\(^{263}\) in an low-oxygen environment. The resulting material was finely ground with a pestle and mortar. The reason that this pigment is not found in Cranach's invoices might be that it was simple and cheap to produce in his own workshop. By comparison with the fine soot black, the particles of carbon black are larger and absorb less light. The hiding power of this pigment is also inferior. On Cranach's paintings, vegetable-derived carbon black was used less frequently to model black passages, but it served widely to tone down coloured pigments and to model white or grey passages of paint. It enhanced the cool half-tones of most of the flesh painting and was a component of his underpainting, from early years in Vienna and throughout his career (figs 116, 117, 129).

Bone or ivory black  
Bone or ivory black is prepared by charring animal bones or waste ivory in a closed crucible. The product is a deep blueish black composed of carbon, calcium phosphates\(^{264}\) and calcium carbonate – the residue of the structural material of which bone is built. Neudorffer was correct when he noted in 1555 that a pigment produced from ivory waste ‘is blacker than any black’ (schwerzer dann kein schwartz ist).\(^{265}\) However, his reference to Cranach's practice cannot be sustained. Ivory black was certainly not the pigment that gave the Wittenberg court painter a reputation for painting the best velvet. Bone or ivory black was identified on only one of the paintings examined: the Portrait of a Man, Perhaps a Mayor of Weißenfels (1515, fig. 206). Although this does not necessarily mean that ivory black was not used more frequently, analysis has confirmed that Cranach used soot or vegetable black to fashion almost all the black robes and in the underpaint for green and red velvet fabrics.\(^{266}\)
<table>
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<th>Date</th>
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<th>Price converted into pfennig per ounce</th>
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<td>1536/38</td>
<td>2 lb</td>
<td>21</td>
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<tr>
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<td>1 lb</td>
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<td>ascherblau</td>
<td>azurite</td>
<td>1537/38</td>
<td>2 lb</td>
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<tr>
<td>blau von feldung</td>
<td>azurite</td>
<td>1537/38</td>
<td>2 lb</td>
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<tr>
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<td>1537/38</td>
<td>2 lb</td>
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<td>Current terminology</td>
<td>Date</td>
<td>Amount</td>
<td>Price in groschen per pound</td>
<td>Price converted into pfennig per ounce</td>
<td>Occurrences on panel paintings</td>
</tr>
<tr>
<td>--------------------</td>
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<tr>
<td>blauglasur farb</td>
<td>smalt?</td>
<td>1505</td>
<td>10 lb 3 viertel</td>
<td>21</td>
<td>15.75</td>
<td>smalt hitherto identified only on canvases or panels of Lucas Cranach the Younger</td>
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<td>indisch weib blumen wait plaw</td>
<td>indigo/woad</td>
<td>1536 1535/36 1536/38 1537/38</td>
<td>1.5 lb 1.4 lot 0.9 lb 0.5 lb 0.2 lb</td>
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<td>1536 1536 1536/38 1537/38</td>
<td>40 lb 10.5 lb 12 lb 6 lb 2 lb</td>
<td>2.6 3 5.25 5.25 5.25</td>
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<td>organic brown pigment</td>
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<td>--</td>
<td>FR 11, 18, 20, 78, 191 et al.</td>
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<td>kadelofrahm/karlofrahm</td>
<td>chimney soot/ bistre</td>
<td>1509/36</td>
<td>40 kannen 1 butten</td>
<td>1 kannen = 0.74 gr 1 butten = 30 gr</td>
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<td>pine soot (carbon black)</td>
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<td>1 kannen = 0.61 gr</td>
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<td>--</td>
<td>bone black/ivory black</td>
<td>--</td>
<td>--</td>
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<td>--</td>
<td>FR 63</td>
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<tr>
<td>--</td>
<td>carbon black of vegetable origin</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
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<tr>
<td>leym</td>
<td>protein glue</td>
<td>1508 1526/27 1536 1536 1536/38 1537/38 1537/38 1545</td>
<td>4 lb 3 lb 2.5 zentner 3 stein 4 zentner 4 stein 3 stein 1 stein 13 lb 6 stein</td>
<td>1.63 1.67 1.34 1.34 1.34 1.34 1.34 1.37 1.43</td>
<td>1.22 1.25 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2</td>
<td>many</td>
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<tr>
<td>mel</td>
<td>flour</td>
<td>1536</td>
<td>3 scheffel</td>
<td>1 scheffel = 6.67 gr</td>
<td>only on canvases^264</td>
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^264 not identified
Vegetable and animal glues, drying oils and natural resins were some of the binding media used by Cranach. The type, ratio and physical characteristics of these materials, individually or in combination, directly influenced his painting technique, the optical properties of the painted surface, such as luminosity and transparency, and the ageing behaviour. Identification of organics in binding media calls for difficult and time-consuming analyses with expensive equipment and, as has already been discussed in chapter I, there is a lack of certainty in the description of these materials. Newer, more refined analytical procedures continually shed doubt on earlier results. In addition, consolidants and coatings added in the course of conservation treatments often complicate the interpretation of any analytical results. Within this research project there were few occasions to apply refined analytical methods, therefore the following remarks are restricted to an evaluation of the payment orders and a general classification of types of materials.

**Binding and paint media**

Vegetable and animal glues, drying oils and natural resins were some of the binding media used by Cranach. The type, ratio and physical characteristics of these materials, individually or in combination, directly influenced his painting technique, the optical properties of the painted surface, such as luminosity and transparency, and the ageing behaviour. Identification of organics in binding media calls for difficult and time-consuming analyses with expensive equipment and, as has already been discussed in chapter I, there is a lack of certainty in the description of these materials. Newer, more refined analytical procedures continually shed doubt on earlier results. In addition, consolidants and coatings added in the course of conservation treatments often complicate the interpretation of any analytical results. Within this research project there were few occasions to apply refined analytical methods, therefore the following remarks are restricted to an evaluation of the payment orders and a general classification of types of materials.

**leym – glue**

As early as 1505, Cranach obtained glue from the *Michelsmarkt* in Leipzig. In later years, the price was specified and fluctuated between five *groschen* for three pounds (1526/27) and seven *gulden* for one *zentner* (1536/38). Cranach used this material in great quantities in the decoration of Schloss Hartenfels. Normally, this would have been proteinaceous (animal) glue, but in one instance the amount of 1 *gulden* and 13 *groschen* was recorded for *leymledder*.
(glue leather) from the tanner (weißgerber, app. II, 207) indicating a pre-processed source. Cranach presumably bought the leather scraps so that he himself could produce a glue of high quality.\footnote{271}

Glues served as binding media in the decoration of architecture\footnote{272} and painting on canvas\footnote{273} (as indicated by invoices and analytical evidence), as well as in panel painting and polychrome sculpture. Fibre residue from animal skin, occasionally observed in grounds, together with a positive protein reaction during staining, suggests the use of animal glue as a binder. On the verso and the sides of the predella of the Neustadt Altarpiece (1511-13, figs 188, 215, see p. 220) the use of a water-based technique is suspected, based on visual appearance, but the hypothesis is untested. Analysis has proven, however, that there are both aqueous and oil paint layers on some easel paintings. In accordance with various written sources,\footnote{274} the monochrome azurite-blue background is repeatedly bound with a predominantly proteinaceous medium, whereas drying oil predominates in adjoining passages of paint (fig. 120, cf. feldun plau). At the present time it is only possible to speculate on the combined use of both media for certain pigments\footnote{275} or emulsified systems.\footnote{276}

Because of the broad spectrum of activity in which he was involved, Cranach was undoubtedly well versed in the application of other aqueous media such as egg,\footnote{277} gums and starch. Future examinations may resolve the question of whether and to what extent they were used in his panel painting. Starch mixed with protein glue for the priming of canvas paintings was detected through analysis and its use substantiated by Cranach’s invoices (see p. 245).

\textit{leynoel}\footnote{278} – linseed oil

Cranach applied linseed oil, which has been widely used as a medium in painting north of the Alps for many centuries, for different purposes: he charged 161 pounds of \textit{leynoel} at a cost of 1.15-1.5 groschen per pound in connection with painting and gilding work in Schloss Hartenfels (cf. table 5). In 1533 he sold 14.5 pounds to the Wittenberg Armoury for the same price. Linseed oil was identified in green, red and black paints on the portraits of Johann the Steadfast and Johann Friedrich I the Magnanimous (1509)\footnote{279} and there is no doubt that drying oils predominate in his panel painting.\footnote{280} However, there is at present little reliable data on how the oil was prepared and mixed.\footnote{281} Since the artist applied the paint in layers, an oil that dried (oxidised) quickly was required. This process could be accelerated with the addition of siccatives and the application of heat.\footnote{282} Heat pre-polymerised oil was used, for example, in the black background of the Portrait of a Man (1524, FR 181).\footnote{283} The presence of copper salts (presumably verdigris) detected in black areas of the picture indicates the addition of siccative.\footnote{284} It is possible that
finely grained glass was added for the same purpose. Occasionally a trace of pine resin was found in the oil paint, presumably to impart greater transparency, saturation and gloss. Such a paint would be much more effective as a glaze or a deep translucent shadow.

Some semi-transparent inclusions in the paint have been identified as metal carboxylates, most probably lead carboxylates or lead soaps, which are usually formed during the drying of oil paint in the presence of lead-containing pigments or dryers. It was not possible to characterise the organic inclusions in flesh paints in any more detail nor the intermediate layers with yellow fluorescence.

When the *imprimatura* was applied to the panel with *St Stephen, King of Hungary* (c. 1511) the paint clearly ran, indicating the use of additional binding medium or diluents. The paint could have been thinned by the addition of boiled or other forms of modified oils. Also, other diluents, for example spirits of turpentine, oil of lavender or petroleum (naphtha), were available at the time, but since these are difficult if not impossible to detect by analysis and they are not mentioned in any of Cranach’s invoices examined, their use cannot be confirmed. The paintings of the first two decades frequently reveal distinct drying cracks in the red and black paint as well as in the areas of painted flesh tones. There could be various reasons for such defects. For instance, they are often caused by paint applied in layers displaying differences in drying behaviour. However, most paintings, including those that appear to have been produced rapidly, are soundly painted and demonstrate Cranach’s highly sophisticated handling of oil paint systems.

The court painter mentions *tafeln* (panels) and *tuch von olfarben* (canvas of oil paint) in his invoices (app. II, 234, 316). Considering the fact that oil binding media predominate on all the panel paintings examined, then this technique can be described in a generalised way as oil painting. There are, however, some passages of paint where aqueous binding media predominate and additions of resin to the oil have also been detected. Thus it seems more appropriate to characterise the paint system as ‘mixed media’ – which it will be necessary to characterise in greater detail in the future.

**firma** – varnish
A coat of varnish was intended to protect both paint and metal leaf from environmental effects and physical damage, while at the same time fulfilling optical and aesthetic functions. At present there has been no research carried out on the materials used to produce varnishes and the practices of varnishing in Cranach’s workshop. At least two different qualities of varnish are recorded in the books of accounts. In the 1530s, the court painter charged
the price of one guilder per pound for guten firnus (good varnish) and about one-fifth to one-third of the price for firnus (varnish) or gemein firnus (ordinary varnish, see table 5). There are no details on the composition and so it is open to conjecture whether these were oil-resin varnishes with different resin components, which were quite usual at that time.\textsuperscript{297} Other written sources from the sixteenth century also distinguish between ordinary and good varnish, listing the addition of various resins such as amber, sandarac, mastic and pine resin.\textsuperscript{298} Knowing so little about the composition of the varnish, it was not possible to establish if all paintings received a coating of varnish before leaving the workshop.\textsuperscript{299}

\textit{Easel and palette}

In comparison with painting materials, the preserved works and invoices tell us little about the tools for painting. There is a woodcut with an illustration of Saint Luke’s workshop (1532, fig. 124)\textsuperscript{300} showing an easel, a palette, a mahlstick, a few brushes and some other tools and containers. It is likely that this interior reflects the basic implements that would have been present in Cranach’s studio. Another woodcut (1543/47) depicts a portrait of the artist with a palette and brushes.\textsuperscript{301}
The illustration of Saint Luke’s easel is similar to a modern three-legged easel. The front is made of a wide board with movable pegs to support panels or canvases of different sizes at the right height, possibly even in relation to standard formats.

A tool used by many painters was the mahlstick, a long stick with a padded end that could be leant against the picture or the easel, allowing the painter to support and steady his hand when painting fine details. Both woodcuts show a round palette, which corresponds in shape and size to other contemporary illustrations. Such a palette would hold a limited amount of paint and even if the size of the depicted palettes was reduced for compositional reasons, the sixteenth century palette barely allowed enough room for all the paints needed for a picture to be set out and mixed simultaneously. It was common practice to modify the tone and colour of a paint with a limited number of other pigments. Indeed, in most layers of Cranach’s paintings the mixtures found consist of only two or three pigments and minor quantities of modifying agents. In green, brown and flesh tones we also found four to five pigments and, in a few exceptional circumstances, six. One of the richest mixtures of paint is revealed in the flesh of the Saviour (c.1515/16). It contains lead white, vermilion, carbon black of vegetable origin, iron oxide brown, a brown organic colourant and traces of azurite. Van de Wetering concluded that in sixteenth-century painting palettes were set up separately for each passage and that there was a fixed formula for the depiction of the various parts of a painting. Furthermore, van de Wetering suggests that paint was generally ground and prepared specifically when it was needed for a certain passage of colour. Examination of the distribution of pigments in Cranach’s works reveals that although the variety of pigments present in individual layers of paint is small, the precise selection is not consistent. For example, we found in the flesh tones of some paintings only red lake, instead of vermilion, and yellow ochre was only rarely detectable in flesh paint. Bearing in mind diverse forms of division of labour in the studio and serial production, it would appear that an assistant ground and mixed specific pigments for the painter according to a fixed formula, handing them over ready prepared and laid out on the palette. However, this cannot be confirmed. Most pigments were presumably available to the painters in the large workshop already ground in a medium and from this stock, they were able to help themselves, as required, to appropriate amounts of paint, which they transferred from small containers to the palette. The results of various observations support this hypothesis: Cranach undermodelled every passage as a separate entity before he continued painting the volumes in greater detail. As a result, in one day he needed
a wide range of prepared paints and often only small amounts of them. They were in fact frequently so small that grinding them separately would have been difficult technically and not very economical: for instance, in some portrait paintings, green and blue pigments were used to paint individual pieces of jewellery only a few square millimetres in size. In addition, contemporary illustrations of sixteenth-century painters’ workshops, such as the woodcut of Saint Luke in the Luther Bible, show a good number of shells and small pots in which prepared colours were kept. In his invoices Cranach frequently listed farb tigel and topf, containers suitable for mixing and temporarily storing glue-based and oil paints. Such small pots made it possible to store prepared oil paint under water, thus preventing them from drying out. An appropriate instruction is preserved in the Tegernsee Manuscript.
**Brushes – ‘harbensel’ and ‘porspensel’**
Cranach painted with hair and bristle brushes of varying shapes and sizes. In the course of the building of the castle at Torgau, he drew up invoices for *fegschwentz*\(^{308}\) (squirrel tail) and *fuchsschwentz* (fox tail) as well as *borsten* (bristles) ‘from which to make brushes’ (*pensel darauß zu machen*, app. II, 220, 229). In other words, the court painter bought squirrel and fox tails\(^{309}\) as well as bristles (perhaps hog or boar) to make brushes in his workshop according to need. Boltz von Ruffach\(^{310}\) provides precise instructions on how to make brushes from *veech schwentzlin* (squirrel tail): he recommends bunching selected hairs together with silk threads and inserting them into moist quills of different sizes. A handle was then fitted to the other end. The possibility that Cranach also bought ready-made brushes cannot be discounted. An order for payment from 1545 contained 3 *gulden* ‘for bristle brushes and hair brushes’ (*vor porspensel und harbensel*, app. II, 272).

Wider bristle brushes were used to apply the *imprimatura*. The X-radiograph of the *Martyrdom of St Catherine* (c.1508) reveals that these brushes were more than three centimetres in width. To block in individual passages of paint, Cranach chose smaller sizes. On the *Altarpiece with the Martyrdom of St Catherine* (1506) a blunt bristle brush about 15 millimetres wide was used for the sky, and one or more brushes about seven millimetres wide were preferred for drapery and landscape.\(^{311}\) Depending on panel measurements Cranach’s works often indicate the use of brushes ranging from five to ten millimetres in width for the application of paint\(^{312}\) and smaller ones for subsequent modelling purposes. Brushes with trimmed blunt bristles allowed the characteristic stippling application of paint (see pp. 190-191).

Stray hairs embedded in the paint are proof that fine, pointed hair brushes were used for details. A single particularly thin hair can be found in the yellow halo of the infant Jesus on the *Virgin and Child* (c.1512/14) in the Thyssen-Bornemisza collection. To depict fur, Cranach and his assistants occasionally resorted to using hair brushes with split ends (see p. 192). Furthermore, Brachert and other authors\(^{313}\) consider the possibility of a woodcock plume being used for the fine hairlines on Cranach’s paintings. To date, however, there is no evidence of this practice in the paintings of Cranach.

**Conclusion**
This discussion of pigments and paint media demonstrates that the Wittenberg court artist made full use of a great wealth of materials. Colourants and techniques vary both within single works and across commissions. The pigments dealt with here were not all used at the same time by Cranach in any of the panel paintings examined and the use of some materials is likely to have
been restricted to decorative work or mural painting. At the same time, the mutually complementary invoices and results of analysis make it clear that Cranach had a wider range of pigments available to him than has been established in the case of his contemporaries Dürer and Grünewald. Examination shows that the selection of materials was influenced not only by tradition, the commissioner's wishes and his financial resources, but also by local sources, artistic exchange and trade. For example, Cranach only used fluorite on a few panels produced in Vienna and the use of ultramarine was apparently restricted to a short period after his visit to the Netherlands. Price comparisons of his colourants allow conclusions to be drawn about their production and trade. The example of feldung blau expands our knowledge of the most diverse qualities of azurite but also reveals how, from the 1520s, Cranach reverted to more traditional combinations of material in panel painting.

In addition, the examination of painting materials has confirmed that the original tones of some paintings differ greatly from their current appearance. As a result of restorations performed with insufficient knowledge of nature of the materials, flesh glazes as well as azurite backgrounds painted in a water-based medium have been damaged, while sections of pictures executed in unstable smalt appear grey in colour today. The analysis and interpretation of painting techniques that apply to this rich range of materials is the subject of the following section.
Techniques of painting

Almost all descriptions of the painting technique of Lucas Cranach the Elder written in the twentieth century have been inextricably linked with the practices of Flemish and Old German masters as described by Doerner in 1921.1 According to Doerner, these artists began their paintings with a monochrome underpainting using white pigment in egg or casein tempera, applied on a red, green or ochre *imprimatura* in an oleo-resinous medium. Despite the fact that no technical evidence has been found to support these assumptions, various authors remain convinced of its existence.2 Doerner’s description persistently influences the interpretation of X-radiographs. Wolters and Gronau, for example, describe a virtual ‘lead white relief’ where other strong X-ray-absorbent pigments, such as red lead and lead-tin yellow, are present in the underpainting.3 When the ochre brown *imprimatura* or the virtual ‘lead white relief’ were not detected during close inspection, it was concluded that Cranach occasionally abbreviated what was thought to be the medieval practice of painting in layers.4 Consequently, Gronau and Riemann interpreted what they describe as an ‘extended *alla prima* technique’ as a technical innovation.5 A more differentiated description of the Wittenberg court painter’s techniques will be qualified here. The application of paint, the underpainting, the modelling of light and shadow, the sequences of painting as well as variations and changes in the working process will be examined. Consideration will be given to the use of various techniques within one single work, as well as the innovations, changes and reversions in style in the course of the more than 50 years that Cranach the Elder painted. Since there was such an enormous variety of techniques, a comprehensive description of all characteristics is beyond the scope of this study.

Undermodelling6
Monochrome grey undermodelling is a characteristic but inconsistently applied technique of the Wittenberg court painter. It is used for modelling form and tonal values of individual areas of the composition and in particular passages of blue sky and drapery. Occasionally blue backgrounds have been worked-up on top of monotone grey. According to the available results of analysis, it was only in the 1540s that Cranach changed this practice and began to use *grisaille* as underpaint for all parts of the composition including the flesh painting.

The grey undermodelling usually consists of mixtures of lead white and carbon black of vegetable origin. However, there are exceptions. There is an opaque, pale purple undermodelling for the sky, with a mixture of lead white
In contrast to the Cuspinian portraits (1502/03), black pigment replaced the fluorite on the portraits of a Viennese Scholar and His Wife (1503), painted only a few months later (fig. 129). The greyish undermodelling of the sky was found frequently on paintings created between 1503 and around 1520. The tonal values in this layer are lightened towards the horizon almost to pure white and thus these heighten luminosity. Trees and landscape are generally not undermodelled in grey. It has not been possible to confirm whether the irregular use of this technique depended on the size of the picture, the subject matter, the commission or whether it was just the personal preference of the master and/or some of his assistants.

The earliest example of a grey undermodelled blue robe was found in the Virgin and Child in the Thyssen-Bornemisza Collection, which dates from around 1512/14. Such grisaille-type modelling for blue drapery appears to be common in Cranach’s workshop between around 1515 to 1520 (figs 127, 130). According to the available results of analysis, this practice occurred less often in the 1520s when the Cranach workshop attained its highest level of productivity. In addition to the grisaille undermodelling of the sky and drapery, there are also blue passages of background underlaid in monotone grey (fig. 120). Whereas the undermodelling for the sky and drapery was worked predominantly with drying oils, aqueous, proteinaceous glue was used to apply the grey underpainting for the blue background. On the Altarpiece with the Coronation of the Virgin and Saints (c.1520) in the Royal Collection, London, the underpainting of the background contains no lead white but chalk and vegetable-derived carbon black. However, most of the monochrome backgrounds on portrait paintings, carried out with comparatively finely ground azurite in oil, are not underlaid in grey.
Only very occasionally was grey underpaint identified in red and green passages. The pink garment draped over the arms and the red inner lining of the cloak (fig. 99) of the two princes on the *Altarpiece of the Holy Kinship* (1509) were first modelled in *grisaille* with white, blue and black pigment, while the red underrobe of the Darmstadt *Virgin and Child* (c.1516/18) is underpainted in grey to black-grey. Until the 1530s, the Cranach workshop mainly undermodelled red areas of the picture with red pigments or with monotone black (see p. 183).

To date, the only evidence of grey underpainting for a green robe was found in the *Altarpiece of Georg the Bearded* (1534).11 Within the investigated paintings are a reddish layer covered by the green background on the *Portraits of a Woman and a Man with a Rosary* (c.1508, FR 27, 56),12 a beige modelling under green on the *Holy Trinity* (c.1515) and a greyish layer under green on the Washington *Portraits of a Man and a Woman* (1522).13 On most of the examined works from the period before 1540, green passages are undermodelled in different shades of green or in black (see p. 186). *Grisaille*-like preparation

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of flesh tones remains rare during this period. Thus far it has been possible to identify its existence only in a cross-section of paint from the Virgin on the _Altarpiece of the Virgin_ in Aschersleben (c.1515/20). Over four decades, therefore, the grey underpainting served not so much in the tonal organisation of the entire painting, but mainly for the modelling of individual and particularly blue areas of the picture. Presumably it was the intention to paint the transitions between light and shade as smoothly as possible. Thus, _grisaille_-like preparation is often accompanied by stippled application of paint (see pp. 190-191). The monochrome underpainting seems to relate particularly to the handling and optical properties of the azurite, whereby this blue would appear more translucent and luminous by increasing its reflective properties. Although handling properties improve with lower particle size, the colour intensity diminishes as it does with the addition of white and black pigment. Various treatises mention the fact that blue should be ground with as little oil as possible and there was no lightfast blue lake pigment to harmonise the tonal variation. Consequently, the grey undermodelling provided an efficient technique for modelling blue passages. Cranach did not develop a new technique but continued and refined a tradition that was widespread in Western panel painting and polychromy. It is interesting to note that he followed the tradition in unbroken fashion but only for a limited time. The vigorously painted Viennese _Crucifixion_ (c.1500, fig. 16) and the retable wings representing St Valentine and St Francis (c.1502/03, figs 32, 33) did not require any grey undermodelling but the brilliance and smoothness of the paintings’ surface, above all of the second decade, seems inextricably linked to the _grisaille_-like preparation (cf. fig. 130).

It was only in the 1540s that a larger number of Cranach’s paintings appeared with complete _grisaille_ undermodelling, including the flesh tones, which corresponds to the increasing incidence of this practice both north and south of the Alps. In this fashion, Cranach produced mainly large format panel or canvas paintings depicting many figures (fig. 193). In order to efficiently rationalise production, a comprehensive tonal underpainting of the entire composition replaces the additive technique relying on varying local underpainting, which perhaps evolved from purely practical considerations related to workshop organisation. Under such a system, Cranach could easily supervise and, if necessary, interfere to correct formal and tonal elements of the painting before elaborating them in colour. This hypothesis is borne from the fact that, for example, the _Fountain of Youth_ (1546, FR 407), which Cranach the Elder is believed to have painted in its entirety, is not underpainted in _grisaille_.

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In 1555, Johann Neudorffer refers to Lucas Cranach as a painter who was praised for his particular virtuosity in painting velvet.\textsuperscript{23} These words of tribute are most probably associated with his practice of underpainting fabrics in black. Although this practice was not his own technical innovation,\textsuperscript{24} the frequency with which he employed monotone black underlayers is impressive. An early example painted partially on black is the purplish robe of \textit{St Valentine} (c.1502/03, fig. 33). Only a few years later, various dresses on the \textit{Altarpiece with the Martyrdom of St Catherine} (1506) were worked up over extensive black underlayers. In contrast to areas of grey underpainting – often mixtures of lead white and carbon black of vegetable origin – carbon black obtained from soot was frequently used.\textsuperscript{25} On this soot-black layer, draperies were modelled with bright opaque colours and completed with glazes (figs 131, 135). This technique allowed light and shade to be formed without subtractive colour mixing, thereby reducing the intensity. This sequence of painting was used routinely for red,\textsuperscript{26} green\textsuperscript{27} or deep purple\textsuperscript{28} clothes for at least four decades. The aubergine-Coloured robe of St Catherine on the Budapest martyrdom (c.1508) resembles in execution that of St Barbara on the retable in Erfurt, carried out around 1540 by a pupil of Cranach.\textsuperscript{29} Red robes painted on black were most popular in the 1520s. This technique of underpainting in black reflects both the artist’s inspired approach to the depiction of velvet as well the material properties of the pigments available. Its use presupposes the application of coloured glazes to harmonise transitions between light and shade. The lack of a brilliant blue glaze might be a reason why black underlayers are less frequently found under blue (fig. 131).\textsuperscript{30}

Using this technique, Cranach expanded his repertoire of depictable fabrics. The inconvenience has presumably been that the drying time of the black paint had to be respected before the next layer of colours could be applied, which could have delayed the completion of the whole painting. However, for a factory-like production, this practice was highly efficient and, for apprentices, easy to copy. Cranach’s pupils of the second decade, for example the Master of the Pope Gregory Masses, employ this technique so often and so mechanically in their own workshops that it becomes even more characteristic for their production than for Cranach himself. On some works, for instance the \textit{Altarpiece of the Virgin} in Halle (1529), outlines and folds of the drapery were even scored into the ground to keep them visible after the application of the black paint.\textsuperscript{31} On a few panels, both grey and black underpainting are present. With the advent of \textit{grisaille}-like undermodelling of the entire composition, the monotone black underlayers fell into disuse in the 1540s. Apparently Lucas Cranach the Younger did not prefer this technique. He avoided it after his father’s death, if not earlier.
Creating light and shade

Reproducing subtle visual phenomena requires technical experience and the capacity for minute observation. In order to achieve the intended effects, Cranach played with a multitude of methods for applying paint. Apart from the flesh paint (see below) no other passages reveal a greater diversity of painting materials and techniques than his red draperies. With vermilion, red lead, red iron oxide and at least two red lake pigments, as well as vegetable-derived carbon black, soot black, lead white and lead-tin yellow, the painter was able to depict various shades of red and to differentiate between fabrics made of wool, plant fibres and sumptuous silky material such as velvet, moiré and shot silk. Cranach and his assistants used these pigments on the examined paintings in more than 30 different combinations and sequences of application (cf. figs 132-135). There is usually a multi-layered structure: one or two layers of opaque paint superimposed by red glazes. Table 6 lists the most often applied techniques.32

Table 6:
Simplified table of layer sequences in red passages

<table>
<thead>
<tr>
<th>Layer sequence</th>
<th>Second layer</th>
<th>Third layer</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>A red lake (+ black)</td>
<td></td>
<td></td>
<td>FR 16 (fig. 95)</td>
</tr>
<tr>
<td>B red lake + white</td>
<td>red lake (+ black)</td>
<td></td>
<td>FR 16, 60 (fig. 68)</td>
</tr>
<tr>
<td>C red</td>
<td>red lake (+ black)</td>
<td>red lake</td>
<td>FR 20, 184, Posterstein Crucifixion</td>
</tr>
<tr>
<td>D red</td>
<td>red + black</td>
<td>red lake</td>
<td>FR 16 (figs 84, 134)</td>
</tr>
<tr>
<td>E red</td>
<td>white</td>
<td>red lake (+ black)</td>
<td>FR 4, 34, 89 (fig. 127), 89A</td>
</tr>
<tr>
<td>F red</td>
<td>white + red</td>
<td>red lake (+ black)</td>
<td>FR 10, 35, 49</td>
</tr>
<tr>
<td>G red</td>
<td>white + red + black</td>
<td>red lake</td>
<td>FR 129</td>
</tr>
<tr>
<td>H red</td>
<td>white + black</td>
<td>red lake</td>
<td>FR 18, 31, 89 (fig. 127), 107, 160</td>
</tr>
<tr>
<td>I red + white</td>
<td>red lake (+ black)</td>
<td></td>
<td>FR 1 (fig. 16), FR 8 (fig. 136), FR 9</td>
</tr>
<tr>
<td>J red + white + black</td>
<td>red + red lake</td>
<td>red lake + black</td>
<td>FR 18</td>
</tr>
<tr>
<td>K red + black</td>
<td>white</td>
<td>red lake (+ black)</td>
<td>FR 65, 68, 132 (fig. 130)</td>
</tr>
<tr>
<td>L red + black</td>
<td>red lake</td>
<td></td>
<td>FR 34, 68, 108</td>
</tr>
<tr>
<td>M black</td>
<td>red</td>
<td>red lake</td>
<td>FR 133, 282, 285D (fig. 135)</td>
</tr>
<tr>
<td>N white + black</td>
<td>red</td>
<td>red lake</td>
<td>FR 412B, 433,</td>
</tr>
<tr>
<td>O white + black</td>
<td>red lake</td>
<td></td>
<td>FR 97, FR 366C (fig. 201)</td>
</tr>
<tr>
<td>P red + yellow</td>
<td></td>
<td></td>
<td>FR 16, 47A, FR Sup1C, 214, 215</td>
</tr>
<tr>
<td>Q red + yellow</td>
<td>red lake</td>
<td></td>
<td>FR 78, 89, 285</td>
</tr>
</tbody>
</table>
Five groups can be distinguished. They are painted:
- primarily with transparent red lake pigments and lead white (A, B);
- primarily with opaque red pigments and red lakes (C-L);
- over black underpainting (M);
- over grisaille-like undermodelling (N, O); and
- primarily with yellow and red pigments (P, Q).

Red velvet painted on black demonstrates modelling from dark to light (M, figs. 131, 135), while red fabrics that are painted with lake pigments and lead white are elaborated from light to dark (B, fig. 68). In the group of fabrics modelled with opaque red pigments, the sequence of layers appears to be clearly differentiated: highlights and/or shadows clarify form and volume over a red local tone (C-H, fig. 134). Some of the tonal modelling was achieved directly by the addition of black or white pigment in the first layer (I-L, fig. 136). Red glazes, applied locally or to larger passages, refine the intended appearance on nearly all the robes. As a rule, Cranach painted in accordance with Dürer’s stipulation: ‘You must paint in such a way that a red object is overall red and yet sublime...and not in such a way that someone can say: look how beautifully red the garment is in one part but has white paint or pale spots on another... The shadow must also be done in such a way that no one can say that a lovely red has been botched with black...’33
Cranach employed a variety of techniques simultaneously to depict red drapery on his paintings. Three different techniques can be distinguished on the *Crucifixion* (c. 1500, fig. 17) and on the *Fourteen Helpers in Need* (c. 1505/07, fig. 34), while on the *Altarpiece of the Holy Kinship* (1509, fig. 115), at least four techniques are present. On the *Fourteen Helpers in Need*, Cranach underpainted the cloak of St Christopher with red iron oxide, red lead and vermilion (fig. 84), and the folds are defined with red iron oxide, vermilion and black paint. Shadows are deepened in black and illuminated edges are indicated with vermilion. Finally, luminosity was heightened by a red glaze applied over large passages (D, fig. 134). In contrast the robes of St Panthaleon, the infant Christ and the angel on the verso are given shape with lead white mixed with red lake pigments (B, figs 95, 187). The underlying paint is an opaque pink, layered over with semi-transparent shades and, finally, translucent red glazes. A higher content of white emphasises the folds and rich red glazes accentuate the shadows. Here the specific red lake pigment used for final glazing differs from that used in the underpainting (see p. 139). St Erasmus’ mitre and St Dionysius’ robe are again worked up in a different technique (figs 34, 95). Here the painter achieved the velvety effect simply with red glazes over black washes of the underdrawing (A). On the reverse of the same panel, the inner lining of the robe of the angel on the left, painted with red iron oxide and lead-tin yellow in yellow-red tone, demonstrates Cranach’s extensive repertoire (P). On the *Altarpiece of the Holy Kinship* (1509) only one of these techniques (D) is used in a similar fashion. In this instance, it is combined with three other forms of modelling for red drapery (fig. 133). These different systems thus are very flexible and allow for great subtlety. However, the multi-layer structure, the negative impact of vermilion and red lakes on the drying time and the rapid completion of the painting increased the danger of crack formation. This might have been the reason why St Margaret’s robe on the right shutter of the *Altarpiece with the Martyrdom of St Catherine* (1506) was obviously scraped off and redone. Distinct drying cracks are still present in some patches of paint, which have not been removed.

Moiré folds were drawn with paint or incised with a pointed tool while the paint was still wet. So-called pomegranate patterns were laid, both light and dark, on top of the local shade. In the particular case of the portrait of Anna Cuspinian (c. 1502/03, figs 19, 96) Cranach chose a lead-white-based shade and glazed it with red lake. On other works, the patterns were formed with red pigments and subsequent glazes, with mixtures of red pigment and glazes or only with deep-red lakes. On a few of the earlier works, the patterns follow the formations of the folds. More often, however, they span the fabric like a
net without regard for the folds. Far removed from reality, the semi-opaque application of paint on the portrait of Johann Friedrich I (1526) even creates an optical distance between the pattern and the fabric.

Like the red shades, green passages also reveal a complex layer structure. In general there is evidence of some three to five paint layers (fig. 111). Even on the *Fourteen Helpers in Need* (c.1505/07), which appears to have been completed relatively quickly, the angel’s green robe on the verso has been modelled with at least five separate applications of paint. However, compared with the red sections, there is less variation in technique and colour shade. The simultaneous use of several green pigments or mixtures of green glaze and lead white have not as yet been identified. The modelling also went from light to dark and vice versa (fig. 112). Occasionally both methods were used alternately. Frequently one or more glazing layers were used to give saturation and brilliance to light opaque paint (fig. 111).38 Dark green or black underpaint of velvet fabrics and landscapes were also followed by modelling with opaque green as well as translucent glazes (fig. 222). Copper acetate, the green pigment used most frequently, occurs in both layers (see pp. 148-149). Light paint contains additions of lead-tin yellow and lead white, while darker paint usually incorporates carbon black of vegetable origin. In far distant landscapes slight traces of red or brown colourants as well as traces of azurite are occasionally present. Mixtures to achieve a green colour, like with azurite and lead-tin yellow, were not among the characteristic techniques of the Wittenberg workshop.40 One green paint sample, though, from the green background of the portrait of Count Philipp von Solms (1520), contained significant amounts of yellow ochre. It may be significant that this painting was produced in the workshop of one of Cranach’s earlier pupils, Hans Döring.

On several early works the deep blue areas of the picture show a heightened relief-like effect.41 In these cases Cranach achieved deep blue predominantly with thick layers of azurite, which absorb the light, instead of adding black. This contrasts with his later technique whereby the depth of tone was often achieved by using a grisaille-like or black underpaint. The thickness of paint application could be reduced by using particularly good qualities of finely ground azurite and the occasional addition of black pigment, as this assisted the integration of the level of dark blue passages with other areas of the picture. The effect of lightening and optical differentiation of blue robes is based mainly on the mixture of azurite (in exceptional cases, ultramarine) and lead white (figs 147-149). The use of various shades of azurite or azurite of different particle sizes to model light and shade was not found.42 Red lakes are rarely
used to add a purple hue. Because of the limited choice of pigments, the range of blues used in drapery remains small. The handling properties of each pigment may also have influenced the colour composition of the paintings.

The Princes’ Altarpiece (c. 1510) represents the high point: on the central panel the Virgin’s cloak, deep blue in colour, is given nuance with multi-layered ultramarine glazes. This contrasts with the sleeve of St Catherine’s robe, which is light blue highlighted with white folds, as well as with the blue border of St Barbara’s shoulder trimming, which is glazed with a red lake. St Bartholomew’s robe on the left wing is a light, wet-in-wet modelled mixture of ultramarine, lead white and a red lake pigment (fig. 4). The underrobe of St James the Greater represents an intermediate stage between the two techniques described above. Cranach delineates various fabrics by means of different light/dark contrasts as well as by the deliberate use of opaque mixtures of paint to contrast with glazes of ultramarine and red lake.

This diversity in technique is by comparison the exact opposite of not only the Neustadt Altarpiece (1511-13, fig. p. 2), but of practically all other later works, where the approach is rather standardised. With increasing workshop production, the variety of techniques seem to have been sacrificed in the interest of more rational methods that could be easily communicated between master and pupils.

What are called ‘shot fabrics’ is the result of the differing colours of the warp and the weft materials. Therefore, to paint changeante effects, at least two colours are required. In those places to be averted from the eye or the light, they are not simply darkened but distinctly shaded with a different colour. In accordance with this approach, Cranach modelled the dress of an angel on the Holy Family (Rest on the Flight into Egypt) (1504) in pink and blue (fig. 89). A little later, on the Fourteen Helpers in Need (c. 1505/07) and the Altarpiece with the Martyrdom of St Catherine (1506), he shaded yellow with red. Although this manipulation of colour may not necessarily be intended to produce the shot effect, since gold cannot be shaded with gold and folds are often modelled with red glazes, it follows the same pictorial practice. In his early works, Cranach preferred to shade yellow drapery with brown; around 1509 he started using grey and black. On the Altarpiece of the Holy Kinship and the Resurrection (c. 1509) he distinguishes different yellow fabrics with red-brown (fig. 113) or grey folds (fig. 106). He used these yellow-red and yellow-brown colour combinations consistently for many years to come (cf. fig. 121).

According to Groschopf in the second decade of the sixteenth century, there was a shift in German painting concerning the endeavour to achieve a beautiful play between fabric colours gave way to achieving the perfect depiction of
shot silk. There is a short gap between the first period at around 1500 and the second starting after 1510 in which *changeante* effects are less important. Following this trend, Cranach introduced modelling in a red-green colour combination in about 1515 on the *Holy Trinity* and the *Slaughter of the Innocents* (FR 70). Pink-blue and yellow-blue depictions of shot fabrics followed shortly thereafter. With only slight modifications, these techniques persisted as part of the standard repertoire of his workshop for several decades. Fabric depictions produced with the three colours green, red and blue are preserved for example on the Darmstadt *Virgin and Child* (c.1516/18) and a retable wing with St Roch (c.1520, FR 133A) as well as the panel of *Christ and the Woman Caught in Adultery* (c.1520, FR 129).

Examination reveals that Cranach’s search for fashionable forms of expression was the drive behind the development of new techniques with which to model light and shade. By varying the use of painting materials common in the sixteenth century, he obtained very different optical effects. Direct blending of pigments and lakes creates an opaque quality and contrasts with the appearance of colours produced by application of the multilayer system. A comparison between the *Princes’ Altarpiece* (c.1510) and the *Neustadt Altarpiece* (1511-13) reveals that it was not only the more expensive pigments but also more refined and lavish painting techniques that were reserved for commissions of greater importance. The interpretation of this observation counters the hitherto common but insufficient distinction between work executed by the master and that carried out by workshop assistants. As the method of painting seems to have been related to the cost of the commission, it is thus necessary to differentiate between more or less time-consuming and more or less complex techniques. This would correspond to Dürer’s much-quoted statements on differences in the quality of execution of works of art: ‘I will produce a good number of ordinary paintings in the course of one whole year, such that no one will believe it possible that a single person could have done them. It might be possible to make some earnings from such paintings but laboriousness does not come into it.’ As workshop production increased, the search for ways to expand creative resources was followed by concentration on techniques that could be reproduced according to set formulae. Clearly casting about for effects, the pupil who executed the *Altarpiece of the Virgin* in Halle (1529) used not only the black underpainting technique but also *changeante* effects, and far more frequently than Cranach had ever employed these signature techniques.
Brushwork
The inner tension of Lucas Cranach the Elder's paintings are the result of his capacity for poignant composition and the interplay of colour and tonal values. Equally important are the translucency and gloss of the paint layer, as well as the method in which the paint is applied. In the panel paintings, gently dispersed passages of paint contrast with clearly visible brushwork, stippling application is juxtaposed to a stroking or hatching technique, slightly ‘pastose’ touches of paint accentuate enamel-like smoothness and barely differentiated passages of paint contrast with those in distinct graphic detail (figs 136-146). The intermediate forms are diverse. For example, before they have dried, the clear contours of characteristic pebble-covered areas of ground are dispersed with a soft hair brush (fig. 139). On the Crucifixion
(c.1500), Cranach applies paint in stroking, hatching and stippling fashion. A little later on the panel with St. Jerome (1502) and the Crucifixion (1503), the paint for the sky is stippled with a blunt bristle brush and subsequently dispersed with a softer hair brush. The stippling of the paint here helps to apply the crystalline blue pigment more evenly, as well as easing the smooth modelling of colour and tonal values. In painting blue drapery, the stippling technique serves to elaborate light and shades, as it does in flesh tones (see p. 206). By contrast, the stippling from a blunt bristle brush on the Portrait of a Viennese Scholar (1503) differentiates the material of the red chaperon from the pomegranate-patterned coat of the same colour by means of producing a different surface type (fig. 136). Cranach uses the brush quite specifically to emphasise the material qualities of the depicted substance. The stippling technique conveys softness to textiles, smoothness to flesh tones, ‘airiness’

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to the sky and roughness to architectural stone. In addition, the blunt bristle brush in landscape painting produces a suitable structure to depict moss and tree bark (fig. 143). The alternating stroking and stippling application of paint was for many decades one of the techniques characteristic of the Wittenberg workshop and, as such, contributed greatly to the high regard for the quality of this workshop’s paintings. It was not, however, Cranach’s own invention: for example, Stephan Lochner and Robert Campin were already producing soft surfaces of fabrics using a similar stippling technique in the early and mid-fifteenth century. Contemporary artists such as Dürer and Altdorfer, however, applied the blunt bristle brush far less than Cranach. Dürer used it a few times to model early portraits, but later on stroking and hatching applications of paint predominated his work.

On his earliest-known panel, the small-format Crucifixion (c.1500), Cranach inserted highlights in flesh and drapery with parallel hatching using a pointed brush. Later the painter was to avoid this graphic technique. When he applied lapis lazuli glazes to the Altarpiece of the Holy Kinship of 1509, this hatching may have been a new artistic impulse gained during his journey to the Netherlands (fig. 147). Yet only a short time later, Cranach reverted to ‘his’ technique of stroking and stippling for the modelling of blues on the panel of the Holy Kinship (c.1509/10, figs 148, 149).

The depictions of brown fur differ in the degree of abstraction as well as in the use of techniques for applying the paint (fig. 4); modelling of light involved either a light-coloured ground not fully covered with paint or light mixtures of paint applied on darker translucent to opaque underlayers. The individual hairs of the fur are drawn with different colours from black-brown to

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Detail from Altarpiece of the Holy Kinship, 1509 (fig. 115).

148 Lucas Cranach the Elder, detail from Holy Kinship, c.1509/10.
Vienna, Gemäldegalerie der kademie der bildenden Künste.

149 Holy Kinship, c.1509/10 (fig. 148). Detail of X-radiograph.
grey-white. At first, like Dürer, Cranach used a small, pointed hair brush. Then around 1510, he switched to a larger brush with a split tip, which was to allow him to paint not only individual strands of hairs but whole tufts, corresponding to his quest for brilliant efficiency. Depending on the degree of execution only individual strands of hair were added with the pointed brush. With the creation of ornamental parallel lines, the split brush developed from a technical aid to a device that facilitated an artistic means of expression. Exploiting his technical experience and interest in experimentation, Cranach occasionally elaborated the texture of fabrics with a striped application of paint. On the Altarpiece of the Holy Kinship (1509), the folds of the brocade curtain have been modelled with a stiff bristle brush over brown underpainting in a matter that only partially covers it (fig. 137). On the Duke Heinrich the Devout of Saxony (1514), a half-covering striped application of paint over light-coloured ground imitates the texture of the fabric of a brown coat lining. The prerequisite to achieve this effect is a less-absorbent ground onto which the medium-rich paint is scumbled with a stiff bristle brush not in a covering film but rather ‘scratched on’. Cranach used the same striped application of paint on the Virgin and Child (c.1512/14) to create the brickwork, as well as on other paintings to depict tree trunks.

It is on the Portrait of a Viennese Scholar (1503) that Cranach scratched the individual forms of brocade pattern into a red glaze, using a pointed tool, thereby revealing the lighter-coloured underpainting. The technique is known as paint sgraffito, which is derived from the long tradition of gold- or silver sgraffito. A pointed wooden stick, brush handle or any other suitable implement would be used to scratch lines or shapes into still-wet paint, thereby partially revealing a lower layer of paint or ground, the varying tone of which creates a contrast with the uppermost layer. Around 1440, Lochner used this technique, incising a ‘dark’ surface to create light-coloured ornamentation in the blue of the robe of the Veilchenmadonna (c.1440). Cranach used a similar technique on a vessel in the panel with the Adoration of the Magi (FR 49). Since the technique here was only employed locally for accentuation, it appears more as an impromptu whim than a planned use of sgraffito. This is different in the case of the Munich Portrait of Cardinal Albrecht of Brandenburg Kneeling before Christ on the Cross (c.1520/25, FR 183), where pattern lines incised into the red lake glaze of the moiré robe imitate the pressed folds of silk. One of Cranach’s pupils also used this technique on the Altarpiece of the Virgin in Halle (1529) to depict the cardinal’s robe. Similar ornamental patterns occur on the Mass of Pope Gregory (FR Sup 12), St Martin (FR Sup 7) and St Erasmus (FR Sup 7a), all of which have been attributed to the Master of the Pope Gre-
gory Masses. Speculation remains as to whether the use of *sgraffito* indicates that the Munich panel and Halle altarpiece should be attributed to the same painter, or whether Cranach’s pupils learnt this technique while still in the workshop in Wittenberg. One could deduce from these observations that the spontaneous and rare use of this effect on works carried out by Cranach himself is a reflection of his creative impulse, whereas pupils used *sgraffito* as a given technique and a way of casting about for effects.65

In addition to brushes and pointed tools, Cranach, along with his contemporaries, including Dürer, Bellini and Leonardo,66 occasionally used his fingers or the palms of his hands to manipulate the paint (fig. 146).67 On various works such as the *Crucifixion* (1503), the panel with the *Fourteen Helpers in Need* (c.1505/07) and the *Altarpiece of the Holy Kinship* (1509), hands are used to finely disperse glazes. In flesh tones, the painter spread opaque layers as well as glazes in this way. Examples of this are the *Princes’ Altarpiece* (c.1510), the *Duke Heinrich the Devout of Saxony* (1514) and the *Count Palatine Philipp of the Rhine* (c.1520/22). As yet there has been nothing similar found for comparison with the controversial portrait of Elector Friedrich III in Nuremberg, where extensive use is made of fingers to model the flesh tones. On the *Virgin and Child* (1518) the opaque lead white paint of the veil has been dispersed with the hands and on the *Portrait of a Gentleman of the Rechenburg Family* (c.1535/40)68 the intensity of the white vents in his garment is reduced by manually thinning it. The portrait of Johannes Cuspinian (1502/03) is again different: here Cranach pressed his fingers into the wet paint in order to imitate bark on tree trunks. The imprint of the skin created a fine surface texture, a technique that is barely discernable on any of the later works69 but which, interestingly, has a parallel in Dürer’s *Lamentation of Christ* (c.1500).70

*Elaborating the flesh tones*

Previous interpretations of the most characteristic of all of Cranach’s techniques – the flesh painting – have been strongly influenced by the descriptions of ‘traditional painting technique’ (*altmeisterliche Maltechnik*) from Doerner and Wehle. Wolters describes what he calls ‘white underpainting’ (*Weißenuntermalung*) of the faces.71 Gronau72 and Barkowsky73 perceive that the flesh was modelled over an ochre tone. Riemann corrects this error but speaks of a shortening of ‘the medieval practice of painting in layers’ (*spätmittelalterliche Schichtenmalerei*),74 wrongly assuming that Cranach painted the saints on the *Fourteen Helpers in Need* (c.1505/07) in just one working session. In 1994, Grimm again repeated the older school of thought that flesh tones were modelled over a reddish-ochre *imprimatura* and then came to
the conclusion that only a very few of Cranach’s portraits are modelled with 'surface paint' (Oberflächenfarbe). In Sandner, imprimatura and local tone merge: ‘On almost all his panels Cranach began with the application of a basic flesh tone. In his early work this took the form of a finely stippled application of a translucent ochre brown local tone, the light-value of which was varied according to need. This was followed by a first modelling of the light by means of lead white containing coloured pigment applied wet in wet.’ Last but not least, Giebe and Schölzel discern a ‘structuring ochre underpainting’ (gliedernde Ockeruntermalung) also under flesh tones.

The following pages will discuss these assumptions and compare them with results of this investigation into Cranach’s painting of flesh tones. The new findings expand and rectify older descriptions and reveal the diversity of his techniques. There are two distinctly separable lines of tradition for painting flesh tones that can be discerned in medieval painting. The modelling of flesh on a coloured underlayer of green or brown is presumed to be of Byzantine origin and was widely used in countries such as Italy, Bohemia and Spain. In this tradition, volume is created preferably with semi-opaque and opaque flesh tints on a midtone or dark ground. The other predominant technique in medieval painting north of the Alps was modelling by varying the colour and light intensity of the flesh colour over a light, mainly white, ground or imprimatura. In the first described tradition, modelling normally proceeded from dark to light, in the latter it was the other way around, from light to dark. Contrary to most accounts published to date, Cranach used the second technique: he formed flesh tones on a white- or light-pink-toned ground. On close inspection, however, both techniques were used simultaneously to some extent. On a number of paintings, there is a remarkably free and thick first application of light flesh paint, then Cranach continued to model greyish or brownish shadows into this layer. Highlights containing high proportions of lead white were used to clarify the form and the illumination. Some faces were completed with a few glazes, other areas of flesh were instead built up laboursiously in layers (fig. 173). Sometimes highlights were applied over brown modelling intermediate layers, with the formation of volume proceeding both from light to dark and from dark to light.

Almost in accordance with the instruction given in the Strasbourg Manuscript, the essential pigments in Cranach’s flesh paints are lead white, vermilion, vegetable-derived carbon black, ochre, red-brown iron oxide and a brown organic colourant. Cool lights or half shadows occasionally contain azurite. Red lakes in glazes have been identified, and more rarely in opaque
mixtures. Lead-tin yellow was not often detected in flesh paint. Significant amounts of calcium salts are contained in almost all flesh paints examined (see p. 133). The different flesh tints are mainly based on mixture of two to four pigments, and, more rarely, five to six pigments.

Cranach differentiates faces within a painting by different pigment combinations, varying layer sequences and changing brushwork. On the Vienna Crucifixion (c.1500), light-coloured flesh paint has been swept beyond the outlines of the face of John the Baptist, then modelled with brown glazes and confidently highlighted with a pointed brush (figs 150, 151). By contrast, the flesh tints of the women have been built up in hatching fashion, mainly with bright and cool-toned paint (figs 152, 153), using thin glazes to smooth out the light modelling. The face of the thug on the left edge of the picture instead is formed predominantly by brown glazes over a barely differentiated underpainting. An obvious example of artistic forethought is revealed on the panels with St Valentine and St Francis (c.1502/03, figs 32, 33). Flesh tones of the different characters are not only differentiated by final glazes and light accents, they also differ in their layer sequence. The face of St Valentine is strikingly rich in different-coloured shades. On a barely modelled light underpainting we find brown shadow tones, red glazes, light blue half-shadows, pink highlights
and white reflections. The donor’s face appears in comparison to be less differentiated in terms of colour but, in contrast to the face of St Valentine, the X-radiograph reveals a distinct virtual relief reflecting both details of form and illumination of the face; the individual forms have been elaborated in several layers with light-coloured paint containing large quantities of lead white. In the epileptic, by contrast, the warm-toned brownish flesh tints consist mainly of brown glazes and distinct highlights (fig. 144). These highlights are even more evident in the face of St Francis (fig. 97). The painting technique reflects the character and the age of those portrayed and their variety contributes to the tension of the picture.

Cranach also varied his technique for reasons of scale, not just for pictorial effect. Comparison between the Crucifixion (c. 1500) and the painted wings reveals variation in technique depending on the size of the picture. The earliest female portraits also demonstrate differences. Here, Cranach deployed different techniques to depict the same subject matter in almost the same scale (figs 154–157). Comparing the portrait of Anna Cuspinian (1502/03, fig. 155) with the Portrait of the Wife of a Viennese Scholar (1503, fig. 154), the application of flesh paint on the latter is noticeably thin. The underdrawing is clearly visible today in normal light. The eyebrows have been traced in the still-wet flesh-toned paint, i.e., there was no waiting for it to dry. In this case, tech-
nical examination reveals the different speed at which the paintings were executed. Consequently, comparable features of style within these two portraits are not related to the use of a comparable technique. Efficiency could also have been a reason for modelling the flesh tint of *St Jerome* (1502) on a pink-coloured ground with bright, opaque paint and translucent shadow glazes (fig. 125). There is no doubt that volumes could be formed more easily on the mid-tone flesh tint than on white ground. In this respect, the pink-coloured ground or *imprimatura* would have expedited the working process (see p. 102).

Common features of the early works are that the eyes have been omitted when modelling the flesh and that the eyeballs are painted in stereotypical fashion with lead white and blue pigment. When creating reflected light in the pupils, Cranach relied not only on observing nature but also on common formulae: there is no other way of explaining the light in Mary and Joseph’s eyes on the *Holy Family (Rest on the Flight into Egypt)* of 1504. It is divided into four and thus reflects the mullion and transom of a cross window although the figures are depicted in a landscape (fig. 160). A similar formulaic execution can be found on several other, later works.

Comparative examination of the X-radiographs of his early Wittenberg works elucidates Cranach’s preoccupation with developing his working methods, specifically in order to achieve the desired optical effects rapidly. On the
Altarpiece with the Martyrdom of St Catherine (1506) a white *imprimatura* covers and smooths the black brush underdrawing, thus facilitating alterations to the faces; these alterations are visible in the X-radiographs. Modelling in light colours, yellowish, reddish, brownish and greyish semi-transparent shades, achieves the desired effect to differentiate sex, age and status of the persons depicted. In X-radiographs, the faces appear with different virtual relief formed by differing paint thickness. This diversity may indicate a varying length of the working process and possibly relates to an inconsistent use of portrait studies, as a straight copy of a painted model would have allowed the intended expressions to be achieved more directly (see chapter V Portrait of a Young Lady and figs 247, 248).

On the panel with the Fourteen Helpers in Need (c.1505/07), the washes with a black drawing medium that model shadows create a close link between the underdrawing and the painting process (figs 90, 91). Black ink, the white *imprimatura* and thin, slightly translucent flesh tones were used to create grey half shadows. No similar modelling has been observed on any other of the works examined. On this panel the light modelling was achieved either by a stippling application of paint or with softly flowing strokes of the brush without necessarily being related to the anatomical form. The paint was subtly worked up into bright pink flesh tints or shaded to pale tones, in the latter case using azurite. On the X-radiographs it becomes particularly evident that the smooth shapes of womens’ faces were highlighted by stippling the paint.
with a blunt bristle brush. The intended effect was achieved with a few brown and pink glazes either spread on or hatched. Last, reflections of light, very deep shadow folds and contour lines were emphasised with a pointed brush.

There is a distinguishing feature in the manner and sequence of the application of flesh paint on the 1509 Altarpiece of the Holy Kinship (Frankfurt) and slightly later on the 1509/10 Holy Kinship (Vienna). Although the figures on the Frankfurt altarpiece are depicted on a larger scale, the only brushes employed were pointed ones, while on the smaller Vienna Holy Kinship, the paint was applied more fluently and rapidly with broader brushes. Here the size of the painting did not seem to have an impact on the manner of applying paint. It was presumably the superior standing of a commission from the elector, together with experiences from his recent travels, which led Cranach to choose not only more precious – thus more expensive – pigments, but also to adopt more refined and time-consuming painting techniques for the Frankfurt altarpiece.

The X-radiographs of Johannes Cuspinian (1502/03), the Portrait of a Viennese Scholar (1503), Christoph Scheurl (1509, fig. 159) and the Portrait of a Man with a Fur Hat (c.1510, fig. 14) demonstrate Cranach the Elder’s rapid and remarkably free technique. In the application of light flesh paint, brush strokes are clearly visible. The faces were completed with a few glazes and highlights (fig. 156). In these cases, the artist can certainly be characterised as a ‘fast painter’ in comparison with Dürer. By comparison with the London portrait of Johann the Steadfast (1509, figs 162, 164), the smaller-scale depiction of the prince on the right shutter of the Altarpiece of the Holy Kinship (1509, fig. 115) is modelled with stronger lights and shades, but the X-radiograph reveals a less distinct virtual relief. In the Altarpiece of the Holy Kinship, light modelling is achieved by stippling and hatching, whereas the portrait of Johann the Steadfast (1509) is characterised by impulsive strokes of paint (fig. 162). The X-radiograph of Johann Friedrich I the Magnanimous (1509), which is yet again different, shows a more pronounced virtual relief (figs 163, 164). However, these differences in the appearance of the paint on X-radiographs are not sufficient to enable conclusions to be drawn about the level of participation of either the master or the workshop or both (see p. 298).

Sandner perceives a change in Cranach’s style of work around 1510. As the reason for a more consistent ‘internal working up’ (inneren Bau) of the light, he suspects renewed contacts with Franconian painting or observations made on his visit to the Netherlands. In fact, the flesh tones in the X-radiographs...
of the central panel of the Princes’ Altarpiece (c.1510) are clearly distinguished by a particularly marked virtual relief for which no equivalent has been found in the other examined works (fig. 165). However, it is not appropriate to generalise on the basis of this one example, because the X-radiographs of the princes and saints on the painted wings, or those of the nearly contemporary Virgin and Child under the Trees (c.1510, fig. 167) and the Salome (c.1510) again contrast with the female saints on the Princes’ Altarpiece; their virtual reliefs are less pronounced. So, the portrait of the Virgin on this altarpiece is remarkable for its extremely prolonged working process in the course of which the desired appearance was only achieved as a result of multilayered application of paint. As in the case of the Altarpiece of the Holy Kinship (1509, fig. 115), the extensive use of ultramarine here implies an important commission. It is likely that use of this technique for the face of the Virgin reflects not only Cranach’s intent, as well as his experiences gathered during his travels and/or part of the competition with contemporary artists, but also may well be influenced by the wishes and the taste of the commissioners and possibly even the involvement of a workshop assistant.

162
Johann the Steadfast, 1509
(fig. 164). Detail of X-radiograph.

163>
Johann Friedrich I the Magnanimous, 1509 (fig. 164).
Detail of X-radiograph.

164 (pages 202-203)
Lucas Cranach the Elder,
Johann the Steadfast and Johann Friedrich I the Magnanimous, 1509. Panels, painted surface 41.3 × 31 cm and 42 × 31.2 cm. London, The National Gallery.
TECHNIQUES OF PAINTING
**Princes’ Altarpiece**, c. 1510 (fig. 4). Detail of X-radiograph.


**Virgin and Child under the Trees**, c. 1510. Formerly Wroclaw, Cathedral. Detail of X-radiograph.

169
Detail from *Altarpiece with the Martyrdom of St Catherine*, 1506 (fig. 77).

170>
*Altarpiece with the Martyrdom of St Catherine*, 1506 (fig. 169). Detail of X-radiograph.

171
Detail from *Martyrdom of St Catherine*, c.1508 (fig. 40).

172>
*Martyrdom of St Catherine*, c.1508 (fig. 171). Detail of X-radiograph.
To characterise smooth female faces, light flesh paint is often stippled with a short, blunt bristle brush (fig. 168). This technique allowed the artist to create a smooth, continuous surface with gradual, imperceptible shifts from highlight to shadow. Flesh tones modelled in this way appear in the X-radiograph as smooth but pronounced virtual relief. On higher magnification, the relief dissolves into very small islets of paint. Impressive examples are the two pairs of painted wings with Sts Barbara and Catherine (c.1511 and c.1516) and the Virgin and Child with Saints (1516). On the latter panel, stippled highlights alternate with warm-toned brownish-grey shadows applied in strokes (fig. 173). It was no doubt difficult for Cranach to convey his rather impulsive style of painting to the workshop production. The stippling technique must have been particularly easy to copy for his collaborators and became the predominant method for modelling flesh tones in the second decade. It seems that the technique Cranach taught his workshop members was rather a slow one, but efficient in guaranteeing a homogenous workshop production. The highest-quality works of later decades suggest that Cranach himself used this technique less schematically.

As early as 1514, black-grey shadow tones were stippled with a blunt, stiff brush on the Duke Heinrich the Devout of Saxony (fig. 241). The stippling of opaque shadows is one of the techniques characteristic of the 1520s. Thus the sequence of layers is simplified and drying times are reduced when compared with the medium-rich glazes, which were slow to dry. This practice is frequently associated with serial workshop productions. Other contemporary paintings, like the Portraits of a Man and a Woman (1522), King Christian II of Denmark (1523), Johann Friedrich I the Magnanimous (1526) and the panel with...
Adam and Eve (1526), are modelled not only with grey shadow tones but also with brown, warm-toned glazes, covering wider areas of flesh tones. Here, shadow colours applied in a hatching manner complete the rich spectrum of techniques.

Deviating from Cranach’s earlier approach in workshop productions from the second decade such as Virgin and Child with St Anne (c.1515/16) or the Darmstadt Virgin and Child (c.1516/18), the flesh modelling was first applied with strongly contrasting highlights and shadows, their transitions subsequently harmonised by the application of mid-tones (see p. 290). This practice might establish a link to the grisaille-type undermodelling.

Sequence of painting

For many years, there has been little doubt that Cranach painted following a fixed sequence of operations. Riemann suspects that first the flesh tones, then the robes and lastly the black background were painted, a view that is shared by Barkowsky and Gronau. Sandner initially assumed that the painter always began with the background leaving out the large figures, but later he reverts to the earlier explanation given by Riemann. Grimm for his part perceives the first step in the working process as being the ‘blocking in of passages of colour by omitting light-coloured details (faces, areas of skin)’, which is then followed by ‘fine modelling’ and ‘finely-drawn surface details’. All works examined as part of this research reveal that Cranach’s usual practice followed neither of these assumptions. Starting with the flesh painting, he gradually worked up the whole image rather than completing one detail after another. Since no incomplete works have survived from the Cranach workshop, the evidence for this must be deduced from the overlapping of contours in the finished paintings themselves.

In Cranach’s paintings, each form was usually built up individually in several layers, which is proven by the frequently observed alternation and overlapping of the paint layers. In some sections, the background covers flesh tints, while in others the flesh paint occupies the background. This confirms that Cranach did not fully finish one part of the painting after another but developed the painting as a whole, often switching from one detail to another. Leaving reserves for the foliage of a tree when applying paint for sky (fig. 175), he calculated the visual result but might well have also considered saving pigment and time.

X-radiographs show clearly that Cranach began his pictures with a light flesh paint, which was often applied beyond the contours fixed by the underdrawing (figs 14, 151, 167, 170) and followed by the base tone for hair, the underpainting of the drapery, the background and the accessories. Monochrome
black, blue and green backgrounds frequently serve to model the contours of the flesh tints. It seems in most cases that the picture grew from the centre to the periphery, usually from light to dark. This method of proceeding can be explained on the basis of painting technique. It is easier to outline a light or undried colour with a darker one than the other way round. Given Cranach’s rather impulsive method of painting, his working process starting from the blocking in of the drapery or the background would have to allow for drying time before the flesh paint was applied.
As far as can be discerned, and also depending on the size of the painting, the design was laid out in colour over the whole of the surface in one operation, perhaps within one day, and completed as far as possible. Individual areas of the picture, mainly white or grey, were sometimes finished wet in wet. A sufficient drying time followed the ‘working up’ of the painting, probably in several phases, until its completion with final glazes and details. The sequence of operations was developed according to artistic intent and because of practical reasons such as differences in drying time of particular paint formulations. As already pointed out, the first layer of the flesh was carried out in a very early stage; but the final graduation of tonal values was one of the last measures in the entire painting process (fig. 174). To illustrate this point, the panel with the Fourteen Helpers in Need (c.1505/07) has pink-coloured highlights that have been applied on previously painted drapery in the areas of the necks of St Cyprian and St Giles (fig. 177), while flesh tints on St Giles at the end have again been trimmed by the borderline of the paint modelling the black robe. Another example is given on the Altarpiece with the Martyrdom of St Catherine (1506), where the last flesh modelling even overlaps her bib, including some threads of the gold brocade.

Another distinguishing feature is the degree of variation used for representing the brocade fabric patterns; to achieve these, Cranach used a very fine brush to apply the paint onto a dry underlayer. On the Altarpiece with the Martyrdom of St Catherine (1506), the Altarpiece of the Holy Kinship (1509, fig. 99), the Virgin and Child with Saints (1516) as well as on many other works, the so-called pomegranate pattern has been drawn first, followed by yellow lines to enhance the effect of interwoven metal threads. On the Holy Kinship (c.1509/10), the Virgin and Child and Two Saints (c.1512/14) and the Altarpiece...
of the Virgin (c.1520), amongst others, the sequence is the other way round and on the Martyrdom of St Barbara (c.1511/12, FR 21) and the Holy Trinity (c.1515) we come across both techniques combined in one picture.

It is not possible to identify to what extent Cranach’s working sequence differed from that of his German contemporaries because very few comparative observations have been recorded and published to date. It is obvious, however, that Dürer as well as Leonardo and Michelangelo developed some of their unfinished paintings differently. Dürer’s Salvator Mundi (c.1504/05) is recorded as incomplete in an inventory as early as 1573. As can be seen from its present state, the draperies were almost completed while the preliminary drawing of head and hands was hardly covered with paint. Leonardo began the painting process with a pronounced monochrome undermodelling of dilute washes of dark paint and only a few lights as it is preserved with his unfinished Adoration of the Kings (c.1481). Michelangelo again worked differently: while parts of his Manchester Madonna (c.1497), including some faces, have been brought to near completion, others have progressed no further than the preliminary underdrawing or the green underpainting. About one hundred years later, Rembrandt painted in yet another sequence. Proven by van de Wetering, Rembrandt basically worked in planes from the rear to the front, starting with the sky in outdoor scenes or the rear wall in interiors and finishing with the foreground figures.

The question as to whether Cranach’s working sequence reflects his reputation for being a fast painter cannot as yet be answered definitively, but technical arguments seem to allow support for this assumption. There is no doubt that he reduced waiting time by exploiting the drying time required for each passage in order to proceed with other passages or even other paintings. This working method presupposed that all colours were continuously available. Under the presumption that different painters in the Cranach workshop specialised in painting of particular parts of paintings, like landscapes and figures, then they frequently had to take turns (see p. 291). The method of working up the picture gradually was not only Cranach’s practice for many decades but seemingly also that of his apprentices and collaborators. Even in the 1540s with the grisaille underpainting, this pattern was not abandoned. The whole of the composition was initially developed in grey tones before being modelled in colour in the next stage. In this sense, grisaille underpainting is a perfectly consistent refinement of the working process described. At the underpainting stage the painter did not have to continually change colour especially in scenes with many figures; he concentrated rather on the tonal gradation.
Changes in composition

The borderline between a creative painting process and changes of plan is not very obvious. The frequently used term *pentimento* (subsequent amendment) is variously defined. Wolters distinguishes between different types of such amendments: ‘The external ones to improve individual elements, ought to be described as “rectifications”, those which intrude on the structure of the picture, recasting it from inside, ought to be called “alterations”’. According to van de Wetering, the term *pentimento* should be kept for changes made to a painting that has already been partly or fully worked up. The London *Adam and Eve* (1526, fig. 178) shows how difficult the use of this term in Cranach’s work can become: here most of the animals have been painted on a white ground and laid out before the green meadow was painted. Only the stork, the horse and a grey heron have been painted upon the green ground, presumably to fill up empty space. Was this the ‘normal’ working process, a subsequent amendment (*pentimento*), or possibly a correction? To avoid clashes with existing definitions in what follows, the terms ‘changes in composition’ or ‘corrections’ shall be used.

Some changes in composition in the underdrawing stage and between the outlining and the first application of paint have already been dealt with in chapter II *Practices of underdrawing*. The following survey will focus on changes within the painting process, which involve a subsequent modification of forms and/or colour already laid in and examine these in more detail as they may help to elucidate the working process.

The earliest changes in composition can be recognised on the *Portrait of a Viennese Scholar* (fig. 181) and the *Crucifixion* (fig. 27, 182) from 1503. The X-radiograph of the scholar reveals the fully painted pomegranate pattern of his coat under the tabletop (figs 179, 180); it can therefore be deduced that the book was originally to rest on his thighs. The tabletop was painted only after the extensive work on the painting was completed, perhaps following the
The choice of a red marble heightens the impact of the picture. Humanist writings on art do compare this stone with porphyry, a well-known stone in works from ancient times. Artistic features related to quality, such as the competition between antiquity and the present, richness of invention, and liveliness in depiction are associated with this material. Several corrections can be ascertained on the Crucifixion (1503): in the underdrawing, with the first application of paint and in the subsequent painting process. Execution of the figure of St John was already well advanced when it was changed. The X-radiograph reveals the head as first leaning slightly.
further forward and showing more profile (fig. 182). Perhaps Cranach might have considered that Jesus’ favourite disciple could not look into the face of the Virgin Mary from this angle.\textsuperscript{112} Schawe discusses the relevance in terms of content: Cranach is extending the scene with a figure for the viewer to identify with. St John is demonstrating how the Virgin Mary is to be regarded as an example to the faithful in contemplation of the Passion.\textsuperscript{113}

On the verso of the panel with the Fourteen Helpers in Need (c.1505/07) depicting Christ as the Man of Sorrows, the second wing of the angel on the left has not had its position changed; it has instead been eradicated with black paint (fig. 187). Clarification of the composition and greater concentration on the centre part, the figure of Christ, might be the reason for this measure. The most serious changes took place on the Altarpiece with the Martyrdom of St Catherine (1506) with the first application of paint, particularly in the direction of the line of vision of the saints.\textsuperscript{114} Hairstyles and colour were varied during the painting process. On the right-hand shutter, St Margaret is wearing her plaited hair pinned up significantly higher than is discernible on the surface and the head of St Barbara was at first adorned with a large headdress. On the central panel, the yellow-striped robe of the stumbling figure results from change in composition. In the first version, this man was wearing a robe of red and green, almost finished with coloured glazes before it was overpainted altogether (fig. 76). It is likely that this happened when the central panel and the painted wings were joined — it then might have appeared that this robe’s green clashed with the green of the dress worn by St Barbara and thus caused an imbalance in colour (see p. 89). This illustrates the dangers of an additive procedure in the production of the altarpiece as a whole: only when the retable was reviewed as a complete unit, that is, only when the individual parts painted as separate entities were brought together, could errors be detected and the final corrections be made.

Another change occurred in the colour attribution of the Altarpiece of the Holy Kinship (1509, fig. 115). The bright red cap of the man behind the balustrade was changed to a black one, and the green robe of the figure next to him, which had been finished with glazes, was repainted in a deep purple colour.\textsuperscript{115} Possible reasons for this may have to do with the need to depict the person possibly representing the Emperor Maximilian I with a more appropriate purple robe. From an aesthetic point of view, Cranach may have started with a more colourful palette influenced by his experience in the Netherlands and then decided to change to a more sombre colour tone. It may also be possible that the multitude of bright colours in the background figures competed compositionally with the figures in the foreground.
Friedländer suspected that the panels *St Elizabeth with Donor* and *St Anne with Donor* (c.1514) were executed in two phases, the donors being painted on the finished wing panels about ten years later.¹¹⁶ This assumption is not confirmed by technical investigation. As Lübbeke noted, without the donors, the depiction of the saints would be incomplete in the lower part of each painting.¹¹⁷ X-radiographs and microscopic examination provide evidence that the work was executed in a single operation, as the donors have not been painted on top of the saints.

In X-radiographs of the Budapest *Martyrdom of St Catherine* (c.1508), changes in the choice of material, for example, gold leaf instead of a robe painted yellow, are revealed. The brocade robe of the falling prince, including the drawing of the pattern, was completed first with paint before being covered with gold leaf and a new pattern (figs 183, 184). To what an extent this alteration is a result of the artist reviewing the work from an aesthetic point of view or the commissioner expressing certain wishes cannot as yet be ascertained. However, the correction being made to the *Elector Johann the Steadfast* (1526, FR 311B) seems to relate to the use of a bare-headed portrait study, which was also used for another portrait of the elector (c.1526, FR 311A).¹¹⁸ While forehead and hairline were initially modelled according to the study, they were only in a later stage covered with the beret.¹¹⁹ The question as to whether

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¹¹³ Detail from *Martyrdom of St Catherine*, c.1508 (fig. 40).

¹¹⁴ Detail of *Martyrdom of St Catherine*, c.1508 (fig. 183).
the early overpainting of the greatly protruding hat on the *Portrait of a Young Woman* (1525) goes back to a wish expressed by the commissioner or a correction undertaken by the artist himself must again remain unanswered.120

In comparison with Dürer, whose working process appears to have progressed precisely, from the first to the last brushstroke, Cranach repeatedly corrected forms and colour in his early works. Dürer’s conception of the painting appears final once the painting process began, while Cranach further developed his during painting. His alterations reflect his lively working method and may indicate his quest for artistic perfection. In addition, commissioners were able to have continuing influence because of the painter’s close connection with the court and correction could well have resulted. The additive painting method and the artist’s close proximity to his work during the painting process are also factors to bear in mind. Confined to an easel, painters were unable to take in the total effect of large-sized panels while painting. Discrepancies would only have become apparent when they stepped back and viewed the panel or retable as a whole. The changes described above indicate that the painting process was accompanied by reflection on the effect of the finished picture on the viewer. As workshop production increased, fewer and fewer changes or corrections were discerned in Cranach’s paintings. The reasons for this will be examined in chapter V *Artistic co-operation and exchange in panel painting.*
Painting the reverse side, presentation and transport

Decoration and information

The reverse decoration of panel paintings depended on commission and function. In the tradition of late-medieval altar settings, the Cranach workshop produced a substantial number of retables with folding wings. Depending on the concept there were one or two movable pairs of shutters, often supplemented by a pair of fixed wings (fig. p. 2, fig. 215).¹ The variable imagery of these composites, in accordance with the changing requirements of the Church calendar, increased the scope for their appreciation. There would of necessity have been some painting on the outside of the folding wings. Occasionally we come across a somewhat more cursory painting method on these exterior pieces. Stylistic differences at times appear to be based on a division of labour (see p. 290). From the technical point of view, the sides of panels with figurative depictions for everyday use differ little from other paintings. In both cases the wood was carefully smoothed. Applications of canvas are only found on the outside of the shutters of the Neustadt Altarpiece (1511-13); similarly, the fragments of a retable (FR 64B) completed in about 1515 reveal that tow was glued only on the outer faces of the wings. These forms of join stabilisation are used on panels painted on one side only, usually on that with the picture. Other shutters reveal strips of tow glued to both sides and differences in the technical execution of the ground can only rarely be detected.² Cranach did not follow a uniform principle in the choice of painting materials either. He used gold leaf on the outside of the shutters of the Altarpiece with the Martyrdom of St Catherine (1506) and yet on the inner surfaces, which were on display during feast days, gold leaf was not applied. On other retables he used metal leaf in the traditional manner, that is, the other way round (see pp. 120-122). The reverse sides of the shutters of the Altarpiece of the Holy Kinship (1509) and the Portraits of a Woman and a Man with a Rosary, originally probably the wings of a small devotional triptych (c. 1508, FR 27, 56) have been painted in grisaille, imitating the appearance of statues in an architectural setting as was very popular on contemporary Netherlandish retables (fig. 185).³ There are also smaller retables, distinguished by more decorative work on the versos of the shutters and by simpler execution in technical terms. For example, heraldic themes on black ground adorn the outer faces of the shutters with the Holy Family and the Education of the Virgin (1512/15) as well as the Resurrection (c. 1509, fig. 186). The decoration on the reverse of the central panel, fixed wings and predella depended in formal, stylistic and technical terms on the designated location. The depiction of Christ as the Man of Sorrows (fig. 187) on the reverse of the

¹ Portrait of a Woman, c. 1508 (fig. 24). Detail of reverse.
The technique of the painting on the reverse does not differ significantly from that on the front of the panel. Precious gold leaf was used on both sides.

The area behind the Neustadt Altarpiece (1511-13, fig. 215) was also accessible but extremely restricted. Here the fixed wings, shrine and rear wall of the predella box have only a thin ground. An image of Christ on the sudarium of St Veronica and vegetal ornamentation were presumably painted in a water-based technique and by less-well-qualified assistants (fig. 188). Similar branch and foliage patterns were widespread in the late Gothic period. Floral motifs were merged with hosts of angels on the reverse side of a retable figuring in Cranach’s woodcut The Death of John the Apostle (c.1512). The reverse of Christ as the Man of Sorrows, Seated in a Sarcophagus between the Virgin and St John (1524, FR 156) was also visible. The panel presumably originates from the Engel-Altar to the left in front of the choir screen of the Stiftskirche in Halle/Saale. Its verso is marbled and bears the coat of arms of the donor, Cardinal Albrecht of Brandenburg. Marbling, which was a particularly popular form of decoration in fifteenth- and sixteenth-century Netherlandish painting, was also found on the Prague Altarpiece of the Virgin Glorified.

Resurrection, c. 1509.
Kassel, Staatliche Museen, Gemäldegalerie Alte Meister. Detail of reverse.

Lucas Cranach the Elder and workshop, Christ as the Man of Sorrows, c. 1505/07 (recto: Fourteen Helpers in Need).
Panel, 84.3 × 117.8 cm. Torgau, Marienkirche.
The retable of the *Kaland-Bruderschaft* of Zwickau, which is dated at 1518, was certainly not visible from the rear at its original location; in that case the wood has only been roughly planed and is not painted. Accordingly, the reverse of individual panels have also been finished differently. Whereas the *Crucifixion* (c.1500) and other early works have been coloured black on the verso, numerous panels painted in the same format such as the *Crucifixion* in Mahlis at a later date have been left with bare wood visible. Often in such examples the wood has only been roughly planed. Apparently the form of finish or decoration depended on if the work was to be freely exhibited in the space, if it was to have a permanent place on a wall (figs 190, 191) or if it was for temporary use.

Double portraits joined by hinges could be closed like a book. In the early years, Cranach frequently decorated one of the two outside panels with a heraldic theme on a black background (fig. 189), while the other one was black all over (fig. 25). Unlike the shutters examined, the coat of arms denoting the marriage alliance, preserved in fragments on the verso of *Johannes Cuspinian* (1502/03), was painted on a very thin layer of ground and a roughly planed support (fig. 189). The reverses of the diptych depicting Johann the Steadfast and his son, Johann Friedrich (1509), were smoothed more care-
fully, but did not have a ground. The portrait of the boy, which obviously took the place of that of his deceased mother, Sophie of Mecklenburg, bears the coats of arms of the dukedoms of Saxony and Mecklenburg, belonging to his parents.

Occasionally, coats of arms have been painted on parchment and glued to the reverse of portrait panels (see p. 259). The versos of a series of portraits of the electors were also adorned with coloured woodcuts of coats of arms or panegyrics printed on paper (see p. 126). However, on numerous portraits, the reverse has simply been painted black (fig. 39). In doing this, Cranach was reverting to the usual form in the fifteenth and sixteenth centuries in Germany and the Netherlands. An exception is the Portrait of a Bearded Man (1534, FR 342), attributed to Hans Cranach. It reveals a yellow-green mottling, presumably intended to imitate stone.

In later decades, even the simple black coat of paint was also occasionally dispensed with. The reverse became less important and, like work with other subject matters, was often finished very roughly. This indicates that the portrait had found a permanent place on the wall. The Portraits of a Couple von Schleinitz? (1526) are striking; they are joined by hinges and have also been left with bare wood visible on the reverse. Was this diptych destined for a wall, or did the lack of decoration on the reverse sides go hand in hand with serial production? This question remains as yet unanswered. However, it seems clear that a black coating of paint was more in line with aesthetic requirements than the aim of protecting the wood from environmental damage or pests.

Today the reverse side decorations of many paintings have been damaged or destroyed (cf. figs 185-189). The notion of respecting the verso as an integral component of the painting worth preserving is still quite new. Dülberg points out that such ignorance and destruction began as early as the sixteenth century with the change in function of the private portrait from being a personal 'document' to a 'work of art'. The object of a 'collection' was then almost exclusively displayed on the wall and the painting of the reverse declined in importance. Because of the damage from damp and cold walls, a good many decorations have disappeared forever. The reverse sides were also victims of early vandalism. The first of such graffiti, monograms and dates incised on the back of altarpieces dates from as early as the sixteenth century. Amongst others, the dates ‘1552’ and ‘1582’ are carved on the reverse of the Fourteen Helpers in Need (c.1505/07). In the eighteenth century, panels painted on both sides often led to the temptation to separate them in order to sell the pictures independently of each other. In the case of thin panels, this practice was
associated with losses of paint. Since the nineteenth century, many panels have been transferred to canvas or new wooden supports (see p. 232). No less damaging was the effect of the fashion of protecting panels from warping with so-called cradles. Even the fact that a panel such as the *Fourteen Helpers in Need* (c. 1505/07) was painted equally on both sides did not stop someone planing down three broad strips of the painting on the reverse with *Christ as the Man of Sorrows* in order to glue cross-battens to them (fig. 187). As a result, numerous reverse side decorations and paintings, which might supply information about the subject matter, the function and its original location, have been lost.

**Mobile and immobile panel paintings**

One of Lucas Cranach the Elder’s largest altarpieces is still in its original location in the St. Johanniskirche in Neustadt/Orla (fig. p. 2). The destination of other retables is known. Analysis of invoices, inventories and technical features similarly provides firmer evidence to support considerations as to the storage and display of individual panels. Invoices, payment orders and inventories from 1548, 1563, 1601 and 1610 survive from the extension of Schloss Hartenfels in Torgau. The first list of furnishings was drawn up when the castle was taken over by Duke Moritz, about three years after the extensive building work came to an end. Several valuable pieces must have gone missing as early as this, or may have been transferred to Weimar; however, the lists give an impressive picture of the rich range of furnishing, with canvas and panel paintings supplied by the court painter’s workshop. These easel paintings were a component of the overall embellishment of rooms, the entire scheme designed by Cranach, with painted canvas ceilings, wall decorations, painted doors, and glass windows. On the side facing the Elbe, the ceiling of the Oriel Chamber (*erkergemach*) on the second floor was covered with painted canvas and gilded roses. Veneered grained panelling (*forniertes flasern tafelwerk*) covered the walls of the chamber. Among the six small and large panel paintings that were produced by Cranach according to the inventories, were *David and Bathseba*, *The Beheading of John the Baptist*, *Christ Blessing the Children* and *St John the Baptist Preaching*. The *Last Judgement* over the door leading to the church, and both depictions of tournaments over the entrance were canvas paintings, described as executed in water-based technique. In the Ladies’ Chamber (*frauenzimmergemach*), which contained a canvas ceiling with clouds and angels, there were eight oil paintings in 1610: two ‘von der liebe’ (*ill-matched Lovers*) and six portraits of princes; additionally, there was a life-sized portrait of Duke Heinrich the Devout of Saxony painted in an aqueous medium on canvas and a half-length portrait of a
prince. In the adjoining Young Gentlemen’s Chamber (gemach der jungen herren) in 1563, there were eleven painted panels and four cloths. An estimate for the renovation of the decoration in 1599 describes the Ancestral Chamber (stammstube) ‘...as it was decorated before: around the top of the room Saxon ancestral portraits, painted on canvas, each one of them measuring three ellen in length. Underneath a wainscoting showing princes of Saxony together with numerous young ladies painted in oil. The ceiling divided up into squares with foliage and Saxon coats of arms, the beams adorned with gilded roses. Everywhere, above the wainscoting and in the windows, everything painted, the background blue.’

Canvas paintings and panels hung next to each other as well as on top of each other (see p. 253). According to the descriptions, the latter could be viewed both above the wainscoting and at eye level, and were therefore mounted on the panelling or set into it. In 1540, Cranach received payment for two Ill-matched Lovers, which were intended for the Chamber of Mirrors (spiegelstube). In 1548, the inventory referred to ‘12 small painted panels’ (12 kleyne gemalte taffeln) and six large mirrors. In this room with a total area of some 30 square metres, there were also seven windows, a door and a tiled stove, which reduced the surface area of the walls (fig. 204). The areas above the windows, as well as those above the mirrors, which were presumably hung between them (fig. 211), and the top of the side wall of the castle were all possible locations for the paintings. If the hanging position of the pictures – and thus their distance from the viewer – was known at the time when the paintings were designed, the choice of different supports and the differences in the care taken to execute the pictures should not come as a surprise today.

Noll-Minor recorded a substantial number of dowel holes in the walls, each about two by two centimetres in size, which were used to fix textile decoration, mirrors and panels. Referring to the inventory of 1601, which reports that ‘two paintings had broken away and been found in the attic’ (2 gemelde abgebrochen und oben unter dem dach gefunden), she suspects that the panels were fastened directly to the wall with wooden dowels. As nails were also found in those dowels still remaining, it also seems possible that, as with the securing of hinges on shutters and folding portraits, the panels were attached with iron pins. The Ten Commandments (1516, fig. 64) painted for the Wittenberg council chamber could be evidence of this method. The reverse side of the original frame does not give any indication as to the original way it was hung. As a result it must be assumed that the panel stood on a pedestal-like base. The securing of this painting to the wall was very likely done with nails that are still partly preserved in the top moulding. They were hammered in at an angle
from the upper side of frame to the back and presumably they found a hold in wooden dowels or the elements used in the construction of wainscotting. The practice of working with the frames as a component of the wainscotting or hammering nails into them could be one of the reasons why today only a few original settings survive.

Other methods of hanging the paintings can be discerned: an early document alludes to ‘an iron dowel with which to fix a panel in my gracious Lord Hansen’s [Johann the Steadfast] chamber’. An illustration in the Spalatin Chronicle (c.1530) shows a painting, *Christ and the Woman Caught in Adultery* hanging in a gilded frame above a tall arched door on two visible metal hooks and eyes, and *Cardinal Albrecht of Brandenburg as St Jerome* (1525) provides proof of a picture being fixed to the wall by means of a large wooden eye and a nail (fig. 190). The castle inventories confirm that portrait paintings that had a representative function to fulfil were hung on the wall. Ancestral galleries were naturally
permanently on show and it would not have been any different in the case of
the full-length and life-sized portraits of Duke Heinrich the Devout and the
Duchess Katharina of Mecklenburg (1514, fig. 68).36 The Triptych of the Three
Electors of Saxony (c. 1535, FR 338A) could have been designated for hanging
since the reverses of the wings have been adorned with panegyrics, while the
verso of the central panel has only been roughly finished. An anecdote record-
ed in 1537 describes a portrait of Katharina von Bora on the wall.37

Nevertheless, not all the portraits hung on walls. If the small capsule portraits
(figs 58, 59) were opened, they were held in the hand or laid on a table. Accord-
ing to Löcher38 and Dülberg,39 the fact that pairs of portraits framed as a dip-
tych could be closed and that individual pictures were provided with sliding
lids also indicated that they were not on permanent display in the living quar-
ters but were kept in cupboards and chests. The decoration on the reverse of
several double portraits by Lucas Cranach supports the suggestion that they
were transported and stored closed. The painter, however, reckoned with the
fact that these diptychs would not only be opened temporarily like a book,
but would be set up at an angle of slightly more than 90 degrees, for example
on a piece of furniture. Research has so far overlooked the fact that Cranach
took the angled position and the resultant change in viewpoint into account
when composing the picture, thus heightening the spatial effect of depth.

When the earliest known pair of portraits is set up at an obtuse angle, Johan-
nies Cuspinian appears to direct his gaze towards not only the sky, but also at
falcons and herons that are components of the iconography with which he is
familiar (cf. figs 19, 70).40 Anna’s gaze is also no longer directed into the void,
but rather comes to rest on the head of her husband, who is sitting slightly in
front of her. Moreover, the change in position heightens the perspective in
the landscape between them. Cranach refined this effect in the Portraits of a
Viennese Scholar and His Wife (1503). If the panels are set up at a certain angle,
the scholar’s gaze falls on his wife and does not glide ‘past the viewer into the
distance’ (cf. figs 26, 181).41 In the double portrait with his father, the young
Johann Friedrich takes the place of his late mother. When viewed straight on,
his eyes are directed strangely towards a point adjacent to the viewer (fig. 164).
If the painting is set up at an angle, however, the boy instead seems to make
contact with the viewer, whereas his father appears far more turned in on
himself.42

The fact that the position of the viewer was defined in the course of compos-
ing a picture is no novelty in sixteenth-century portrait painting. Diptychs by
Memling43 and Dürer44 preceded Cranach’s compositions and interest in this
phenomenon reached its climax in the distorted optical images, so-called
portrait-anamorphoses. If these double portraits are put on a table like an open book or if they are leant against a wall as presumed before, the viewer is unable to perceive the effect intended. That is to say that, although these diptychs could be carried and stored closed, there is no doubt that they were conceived for being set up at an angle of more than 90 degrees. If museums today display these panels adjacent to one another at an angle of 180 degrees, they prevent viewing as conceived by Cranach.

‘...futer, dar in sie vor wart sein’
To transport or temporarily store an individual panel in a cupboard or chest, a protective lid or cover was more or less obligatory. In the sixteenth century, smaller panels could occasionally be closed with a sliding lid. These were thin panels, which could be inserted in a picture frame with slots in it. The sliding lids for Strigel’s portrait of Hieronymus Haller and Dürer’s portrait of Hieronymus Holzschuher have been preserved. Glück considers it probable that, because of the subject and composition, Cranach’s small painting Allegory of Virtue (1548) was originally a lid for a portrait. Technical examination of this work has yet to be undertaken. However, the results of closer inspection of the St. Jerome (1502, fig. 81) do not support Dülberg’s suggestion that this panel was intended as a sliding lid for a portrait that has not survived. Moreover, no clues as to the existence of a lid to close them have been found on either the portrait of Christoph Scheurl or other authentic frames that have been examined.

It can, however, be proved that several wooden panels left the Wittenberg workshops in cases. In 1526, Cranach charged ‘6 groschen for leather to cover this panel’ (app. II, 137) and carpenters often made protective ‘cases’ (futer) from wood. These were occasionally covered with leather. There is evidence of protective cases being made for several Lucretias, a Judgement of Paris, a Raising of Lazarus and a large Virgin. According to the size of the picture, these cases cost between two and ten groschen. As specified in more detail in 1522, this was between one-sixth and one-tenth of the price for a painting (app. II, 102, 103). Cranach’s invoice of 1518 reveals that these cases (futer) could be used to store paintings: ‘...10 groschen for the futter in which they [two Lucretias] are to be kept’ (app. II, 77). As far as the large Virgin was concerned, the case was more than likely for transport purposes: ‘7 fl 19 gr 6 d to Lucas the painter [Cranach], in particular 5 fl for the Virgin on the large sheet, 10 gr for the case’ (app. II, 103). The following invoice is also understood to refer to packaging for transport purposes: ‘5 gr to Antonio the carpenter, in particular 3 gr for 1 lb of glue, used by Schlett the painter for two cases and 2 gr for one case to go over the two other cases’ (app. II, 87). Lastly, the invoice of 1552
provides confirmation of the assumption that the term *futter* referred also to crates, which were solely used for transport purposes: ‘7 gr for the large case in which the canvases were transported’ (app. II, 316).

When transporting works of art it was the artist who often had to bear ‘the risk of something breaking’ (*wagnis... ob etwas präche*). According to contract, he was required ‘to repair the damage at his own expense’ (*auf seine Kostung pessern und mache*). As a result, the packaging took on a particular significance when a painting was dispatched. When Elector Friedrich III the Wise ordered a panel from Nuremberg in 1488, he paid six *groschen* to have a barrel made in which to pack it. The wooden cases described as *futter* protected delicate layers of oil paint from environmentally or mechanically induced damage during transit from the Wittenberg workshop to the commissioner or when later transported on journeys. For this reason, the fact that a case was made does not necessarily mean that a painting was stored closed, over a long period of time in a cupboard or chest.

Haulage charges were added to the costs of the case. In 1536, transport by horse and cart between Torgau and Wittenberg (approximately 50 kilometres) cost the electoral court between 12 and 18 *groschen* (app. II, 205, 222-224); a courier received five *groschen* for covering the same distance (app. II, 208). The cost of transporting a panel from Wittenberg to Weimar (approximately 200 kilometres) was two *gulden* and 15 *groschen* (app. II, 181), a considerable sum by comparison with the prices of the paintings. Thus, as early as in the sixteenth century, the transportation of paintings had become a well thought-out – and relatively expensive – operation.

It can be seen that Cranach considered a painting’s designated location and form of display when designing the painting as well as when deciding to decorate the reverse side. In several of his early pairs of portraits, he realised that these would be viewed at a certain angle. By determining the position of the viewer, he heightened the effect of the picture. In the castle buildings, the paintings became an essential component of the interior decoration, which he devised and executed in its entirety. Even in his choice of support and painting technique he was reflecting where and at what distance the viewer would be standing. Matt painting on canvas made it possible to look at a picture from different positions undisturbed by reflections of lights. The functions and types of display of canvas paintings are one of the subjects of an in-depth study in the following chapter.
III

Canvas painting

Documentary evidence and surviving canvases

‘... and for thy walls, a pretty slight drollery, or the story of the Prodigal, or the German hunting in waterwork, is worth a thousand of these bed-hangings and these fly-bitten tapestries.’
William Shakespeare

Until recently, the canvas paintings of Lucas Cranach and his workshop have attracted little attention. The reason is not that textile supports were seldom used, but that these works have been almost entirely lost. In addition, the prevailing view that all these works were essentially decorative paintings or ephemeral art has deterred scholars from further investigation. This chapter offers a re-evaluation of this group of works.

The ledgers, receipts and letters that remain suggest the importance of canvas painting in Cranach’s work: between 1505 and 1553 more than 200 paintings were listed as being on textile supports and as many items again were created for temporary use (cf. app. II). In addition, during this period, the workshop used more than 1200 ellen (approximately 500 square metres) of linen as painting supports. The knowledge that the invoices are incomplete, as well as a comparison with earlier inventories, makes it clear that these figures represent only a fraction of the original number of works produced over the course of his career at the Wittenberg court. To illustrate this point: although more than 1000 wooden panels from the Cranach workshop are preserved, written sources from the period 1505-1553 mention scarcely 200 and, of these, very few can be linked to surviving paintings.

Surprisingly, only two paintings on canvas from Cranach the Elder’s workshop appear to have survived. These may be The Cloth of the Gospel, Where the Children Are Carried to Christ and The Cloth of Christ Standing with the Woman at the Well, referred to in invoices of 1543 and 1552, respectively (app. II, 256, 316), but due to the large number of pictures produced, they cannot be certainly identified with the surviving pictures Christ Blessing the Children (fig. 192) and Christ and the Woman of Samaria (fig. 193).
The other so-called ‘canvas paintings’ listed in Friedländer and Rosenberg’s catalogue raisonné were either painted on wood or were subsequently transferred from wood to textiles. They are among a large group of panel paintings that were reworked in this way during the nineteenth century. Similarly, in the case of the Portrait of a Young Lady Holding a Bunch of Grapes (1528, FR 297), described by Friedländer and Rosenberg as ‘canvas transferred to panel,’ an X-radiograph reveals that the original support was without doubt a wooden panel. Even if no unquestionably authentic work on canvas by Lucas Cranach the Elder remains, there are at least some paintings from his son and his workshop with which to offer a comparison. Among these are Gregor Brück (1557, fig. 194), Joachim Ernst of Anhalt and His Wife Agnes of Anhalt (1563), Martin Luther and Philipp Melanchthon (1564), Elector August of Saxony and His Wife Anna of Saxony (c.1570), a Crucifixion (1571), Elector Johann Friedrich I the Magnanimous and Duke Moritz in Everyday Attire (1578, figs 195, 203) and Elector Johann Friedrich I and Duke Moritz in Armour (1578).

The reasons for the large percentage of loss may lie with the function, the subject matter or with the painting technique and the vulnerability of the fabric to environmental changes and mechanical damage. The canvas of Christ and the Woman of Samaria has tears totalling approximately 170 centimetres in length as well as several inserted pieces. There is a similar degree of damage to the Elector Johann Friedrich I in Everyday Attire. As early as 1545, Cranach himself had to take down and restore a damaged canvas painting in the castle at Lochau (app. II, 276). Paintings were particularly at risk when being transported. Several works were certainly lost when the court changed location.
In addition, exposure of the paintings to humidity, micro-organisms as well as surface dirt inevitably led to their deterioration and loss. Still, the painting of Gregor Brück in Weimar shows that in suitable conditions canvas could be a very durable support, as it is in relatively good and stable condition and has not been lined to this day.

At the beginning of the sixteenth century north and south of the Alps canvas was one of the traditional supports. The practice of painting on cloth was particularly widespread in the Netherlands. The guild registers of Bruges reveal that almost half of all painters in the fifteenth and early sixteenth century worked on textile supports. We also know of the esteem for these paintings at the court in Wittenberg. A Netherlandish artist called Johan painted a number of canvases, both religious and genre subjects, over the years 1493-94 while serving as court painter to Friedrich III the Wise. It is likely that the elector commissioned Dürer to paint the Altarpiece of the Virgin executed as a so-called tüchlein around 1496 and in 1505, Friedrich arranged for what he called ‘cloths painted in the Netherlandish style’ (niederlendisch gemalte tücher) to be bought on his behalf at the Leipzig Fair (app. II, 1). Consequently
Cranach would have been familiar with the widespread technique of canvas painting early on in his career. There is archival evidence that in 1513 he produced items for tournament and wedding decorations (app. II, 52) and in 1524 a portrait of the elector, a *Judgement of Paris* and a depiction of Aristotle and Phyllis (app. II, 121, 122). It is conceivable that during his early years in the service of the Saxon Electorate Court he was painting on textile supports since during this period few wooden panel paintings are listed in the accounts. The proportion of pictures painted on canvas increased noticeably in the 1520s (cf. app. II). Cranach painted a range of subjects, religious and secular, for different purposes on textile supports. They constitute works of widely varying scale, technique, status and value. Corresponding to recent research in early canvas painting, the question of why Cranach worked on textile supports finds various answers.

**Subjects and function**

Fabric supports, which were flexible, lightweight and comparatively cost effective, took on a special significance in decorative painting. Many works served to adorn architecture and functional items of daily life. Frequently they were made only for special occasions. Painting on cloth was particularly suited to works that were needed quickly. The Cranach workshop was responsible for embellishing items of equipment and ornamentation for use during weddings, Shrovetide revelries, tournaments and jousting contests, including insignia of various kinds, targe and shield cloths, flags, racing banners, coats of arms and horse trappings (*renndecken* for 10 gulden each in 1527, 2 gulden each in 1541, 1543 and 1546, respectively, app. II, 154, 248, 254, 283,
cf. fig. 196). The numbers of items produced for temporary use were large, the costs by comparison rather low. In doing this, Cranach assumed the traditional duties of his office. In the 1480s, court painter Meister Cuntz had also produced numerous such works.

A distinct group of the canvas paintings were preparatory cartoons or inexpensive substitutes for tapestries. Heinrich von der Hohenmuel, a carpet weaver, produced a work after a painted design (patronn) by Cranach. In 1545, ten large-scale preparatory cartoons were painted in his workshop at the cost of three gulden per item plus canvas from Colditz (app. II, 272). The elector had one of these cartoons hung in his castle at Torgau in a gilded frame. In this instance, the painted cartoon was a substitute, at least temporarily, for the not yet finished wall hanging.

According to invoices and inventories, the majority of Cranach’s canvas paintings were clearly intended for permanent presentation. The function of numerous works was to embellish interior design. His workshop decorated ceilings with cloth paintings in several important buildings. In 1533, Spalatin describes Cranach’s ‘painted cloth on the ceiling in the castle at Altenburg’ (app. II, 172). Statements of accounts and inventories prove the existence of a considerable number of ceiling decorations on textile supports in the castles at Wittenberg and Torgau. There were at least 15 rooms in Schloss Hartenfels embellished in this manner. Whole ceilings were covered or the paintings were incorporated between the wooden beams. The paintings depicted coats of arms, escutcheons or what are described as ‘clouds with little angels’. There was also ‘foliage with historical scenes’ in the castle at Wittenberg, and in the castle at Torgau Waterfowl Hunts in the Chamber of Mirrors and Justice and Temperance in the Apothecary’s Chamber. Presumably in the same building there was also The Saviour, The Ascension of Christ and The Pope’s Descent into Hell (cf. fig. 198) carried out as textile ceiling paintings. Several of these paintings were set into a wooden framework construction with rosettes. Occasionally friezes painted on stucco in the form of grotesques or historical scenes surrounded the canvases above and below the ledges (fig. 211).

By far the largest number of cloth paintings was intended for display on a wall. In large formats, they combined the monumentality of murals with the portability of tapestries. Most of these large-scale works were stretched and remained in place for long periods in the same way as the ceiling paintings. Some of them were enormous in size, such the Cloth with Hares, measuring 8 × 28 ellen in size (i.e. c.4.50 × 16 m, app. II, 276). Numerous large-scale
works have memorial and decorative purposes: animals, hunting scenes, tournaments and veduta are documented. Paintings such as a ‘rutting deer’ or other ‘game courtship displays’, ‘a large fish’, ‘a sow and monkeys’ are not known to exist as panel paintings. However, it can be assumed that the depiction of waterfowl, stag, hare and bear hunts was similar to those preserved on panel paintings, only larger in scale. Together with his workshop members, Cranach also painted a view of the castle at Torgau, the mine at Schneeberg, a view of Magdeburg as well as the siege of the fortress Wolfenbüttel (cf. app. II, 245-256) sometimes on very large canvases. He produced several versions of the latter painting depicting the great victory of the Electorate Saxony and Hesse over Heinrich, Duke of Brunswick with a documentary purpose and dispatched them to those such as Philipp of Hesse and the City Council in Hamburg. The canvas listed in an inventory as The Princes Dining under the Vines (1545), which has survived in the form of a later engraving by another hand (fig. 197), must also have been of considerable size. It was too large to be mounted in the castle at Weimar (app. II, 292, 293).

Most canvas paintings described in invoices were no larger than easel paintings. Approximately half of the 130 canvases listed in invoices with a title or a description were portraits. They were commonly life-size bust or full-length paintings, which depicted emperors, kings, princes, dukes and bishops.
In 1537, Cranach painted what he described as the ‘whole family tree’ for Schloss Hartenfels on eleven canvases for 80 guilder (app. II, 222). These were all portraits with coats of arms as well as biographical detail in verse form. According to an inventory dating from 1563, there was also a family tree with 36 individual full-length and life-sized portraits painted in an aqueous medium on cloth in the Great Hall.17 It may be that some portraits were modelli or reference material and were used as preparatory sketches for the official portraits. Correspondingly, in 1543 Cranach received a series of portrait studies on cloth from a Peter Spitzen at Brunswick (app. II, 256). During his imprisonment between 1550 and 1552, Johann Friedrich I repeatedly commissioned Cranach the Elder to paint his portrait on canvas not as studies but rather as gifts (app. II, 316).

Approximately 20 per cent of the canvas paintings listed in the invoices showed scenes from the New Testament. These, apparently at Luther’s instigation, frequently included didactic subjects such as Christ and the Woman Caught in Adultery and Christ Blessing the Children.18 This latter subject also survives on wooden panels in more than 20 variations.19 A smaller percentage depicted historical and allegorical scenes from mythology and antiquity. Venus, Diana and Actaeon, Lucretia, Hercules with Omphale, The Judgement of Paris and Charity are all subjects, and also appeared contemporaneously in panel paintings.20 Cranach thus adapted the new humanist and mythologi-
cal pictorial content emanating from Italy\textsuperscript{21} to painting on canvas. Only a few works represented scenes from the Old Testament (\textit{Adam and Eve}, \textit{Judith}, \textit{Sodom and Gomorrah}). Notably absent from the accounts are records of the Virgin and saints depicted on cloth.\textsuperscript{22}

The subject matter of some canvases is highly original such as \textit{A Cloth Depicting Hares Catching and Roasting Hunters} (‘\textit{ein tuch, da dij hasenn die jeger fahen und brathen’}), \textit{The Emperor’s Ten Dwarves} (‘\textit{die zen zwegke des Kaisers’}), \textit{A Freak Wave Carries off a Nobleman’s Wife} (‘\textit{ein mer wunder furt eim Hern sein weib hinwegk’}, cf. fig. 199),\textsuperscript{23} \textit{The Seven Virtues} (‘\textit{die sieben tugenden’), \textit{The Gospel Story of the Stoning of the Prophets in the Vineyard} (‘\textit{das Ewangelia vom weingarten, da sie die profetten steinigen’} or \textit{The Ascension of Christ and the Pope’s Descent into Hell} (‘\textit{Christus himmelfahrt und des babsts hellefart’}, cf. fig. 198).\textsuperscript{24} Among almost a thousand wooden panel paintings catalogued by Friedländer and Rosenberg in 1978,\textsuperscript{25} portrait subjects also predominate just as in the case of the recorded canvas paintings. As with works on cloth, panels include scenes from the New Testament as well as mythological and allegorical subjects. A noticeable difference is the significantly higher proportion of devotional paintings on panel depicting the Virgin and a smaller number of works showing animals, hunting scenes, tournaments and \textit{veduta}. With his large-scale canvas paintings, Cranach was apparently fulfilling the elector’s wish to create a ‘reality’ perceptible to the senses within the castle chambers.

There must have been several reasons why textile supports were used to such an extent. From 1518/20 onwards, elements of Reformation thinking are increasingly reflected in Cranach’s works.\textsuperscript{26} This development corresponds to an increase in the production of canvas paintings. Whilst rejecting Lenten veils and other ‘painted covers’, Luther did not object in principle to painting.\textsuperscript{27} For him paintings as well as texts should be simple, clear and unambiguous.\textsuperscript{28} Probably the less ostentatious and less glossy surface achieved with paint on canvas was even more in keeping with the changing perception of religious devotion.\textsuperscript{29} Similar to woodcuts, the fact that paintings could be produced more quickly and in greater numbers could be of service in propagating this new religious body of thought. It is now impossible to establish the extent to which canvas paintings differed in style from wooden panel paintings depicting the same subject matter.\textsuperscript{30} It seems likely that larger formats and different techniques went hand in hand with stylistic variations. In general, the slightly grainy texture of canvas is suited to a looser, freer style of painting. Precision and detailed drawing, equivalent to that achieved by Cranach on smooth supports, can hardly be obtained on even the most closely woven, finely ground canvas.\textsuperscript{31} Possibly the preference for canvas supports
also relates to different viewing distances as documented with sopraportes and other paintings presented higher up on walls (see p. 253).

Paintings on canvas offered an obvious advantage over wooden panels since they could be rolled up and packed in crates and thus transported more easily from the painter’s studio to the final location. On 21 January 1546, Duke Albrecht of Prussia from distant Königsberg expressly commissioned from Cranach several paintings ‘to be executed on cloth’ (app. II, 278). In a letter dated 16 June 1578, Elector August placed a commission with Cranach the Younger for portraits of Elector Johann Friedrich I and Duke Moritz to be painted in ‘oil paint’ on canvas ‘as these can be dispatched long distances across country’. A few years earlier, as a result of the war in which he was embroiled, Johann Friedrich I was forced to have even very large canvases transported. In February 1549 and March 1550, he issued instructions while in captivity for cloth paintings, which had been brought rolled up in crates to the castle at Weimar to be transferred to Weyda or Wolfersdorf as they were too large to be hung (app. II, 292-299).

Cloth would have been the obvious choice for large-scale works. Planks were not a suitable material for such large formats because of their weight and physical limitations. Moreover, the dimensions of the doors and windows through which the panels had to be conveyed placed restrictions on size. A particular advantage of textile supports was that large-scale pictures could be sewn together from individual pieces.

The use of fabric also corresponded to Cranach’s efficient workshop organisation. In addition to their function as a substitute for wall hangings, unvarnished paintings could replace painted wooden ceilings and murals. The matt effect of their surface obviated the problem of light reflection, which allowed for such paintings to be viewed from various angles. In contrast with murals, large-scale ceiling and wall paintings on canvas could be finished in the Wittenberg workshop, transported cheaply and assembled within a few days. Assistants in the studio had a huge store of designs and patterns at their disposal. In addition, they could continue production without being heavily dependent on the seasons or building works. Cranach himself was able to design commissioned works and supervise their production without having to travel continuously between the various palaces. Similarly, mistakes could be rectified more easily, where necessary. The move into the new, larger studios (now Schloßstraße 1) after 1513 also provided suitable conditions to produce large-scale paintings. In one of the buildings that was most likely used as a workshop, there is a room, which is two storeys high (see p. 273).
In 1537, the ceiling painting for the Chamber of Mirrors at Schloss Hartenfels was produced in the Wittenberg workshop. Lucas Cranach spent four days in Torgau, after having taken the finished canvases there with two horses. The job of painting the chamber, including gilding the cornice ledge and painting the frieze, was entrusted to two journeymen and an apprentice who remained in Torgau for three weeks for this purpose (app. II, 226, see p. 264). The use of a canvas support offered the advantage of greater flexibility in more ways than one. For example, *The Seven Virtues* on canvas for the small chamber in the oriel of the hunting lodge in Wolfersdorf was produced by the Cranach workshop without either Cranach or one of his assistants having viewed the designated location in advance. When the picture duly arrived on 22 April 1551, the master builder reported that it was in fact three finger-widths wider than the measurements he had conveyed to the elector (app. II, 310). As a result, he had to fold the cloth. The correct measurements were taken again and sent to Cranach so that the remaining cloth for that location could be completed.37 Canvas predominated in the late works of smaller scale that Cranach produced during his residency in Augsburg (app. II, 311). It is likely that additional external circumstances encouraged their use, including factors such as the absence of a studio, the copious supply of canvases in Augsburg, a centre of textile weaving at that time, as well as the encounter with Titian and his works on textile supports.38

The linen: origin, formats and qualities

Cranach obtained his canvas from Saxony, south Germany and Switzerland. In 1537, he produced ceiling paintings on linen cloth from nearby Luckau, and in 1545 he used cloth from Colditz in Saxony for tapestry cartoons (app. II, 231, 272). In the 1530s he painted ceiling paintings and numerous portraits on canvas or *golschen* (a special quality linen cloth) from the city of Ulm in southern Germany and, for some portraits, Cranach also obtained canvas from St. Gallen in Switzerland (app. II, 208, 221, 222, 227).

Imports

The region around Lake Constance and the upper Swabian cities produced large quantities of high-quality linen. The sealed goods were dispatched in bales or barrels via Nuremberg to Leipzig,2 where Cranach regularly obtained his painting materials. Canvas from Ulm and St. Gallen was noted for its extraordinary quality. Its production was based on a distinct division of labour, and it was subject to detailed regulations and strict control. At the
time there were rules in existence for yarn boilers, weft makers, weavers, bleachers and thread counters. The finished canvas was inspected, measured and labelled by officials. It was forbidden to sell material of poor quality or of measurements deviating from established standards. In Ulm, the term *golschen* was used to describe linen fabric of fixed size and quality. Use of hemp and cotton threads as well as foreign flax was forbidden. In accordance with the Ulm *golschen* ordinance of 1537, the weavers were required to pledge that they would only work the material in the requisite widths and lengths, and not rub or stretch it.

Table 7:

Lengths, widths and thread counts of canvas according to the Ulm Weavers’ Ordinance of 1575.

<table>
<thead>
<tr>
<th>Description</th>
<th>Length (in ellen)</th>
<th>Width (in ellen)</th>
<th>Number of threads (per width)</th>
<th>Approx. length (in m)</th>
<th>Approx. width (in m)</th>
<th>Approx. number of threads (per cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrow canvas (schmale leinwand)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Narrow canvas</td>
<td>78</td>
<td>Five quarters</td>
<td>1200</td>
<td>46.7-52.4</td>
<td>0.75-0.84</td>
<td>14-16</td>
</tr>
<tr>
<td>14 Narrow canvas</td>
<td>71</td>
<td>Half-six quarters</td>
<td>1400</td>
<td>42.5-47.5</td>
<td>0.82-0.92</td>
<td>15-17</td>
</tr>
<tr>
<td>16 Narrow canvas</td>
<td>71</td>
<td>Half-six quarters</td>
<td>1600</td>
<td>42.5-47.5</td>
<td>0.82-0.92</td>
<td>17-19</td>
</tr>
<tr>
<td>17 Narrow canvas</td>
<td>71</td>
<td>Half-six quarters</td>
<td>1700</td>
<td>42.5-47.5</td>
<td>0.82-0.92</td>
<td>19-21</td>
</tr>
<tr>
<td>18 Narrow canvas</td>
<td>71</td>
<td>Half-six quarters</td>
<td>1800</td>
<td>42.5-47.5</td>
<td>0.82-0.92</td>
<td>20-22</td>
</tr>
<tr>
<td>20 Narrow canvas</td>
<td>71</td>
<td>Half-six quarters</td>
<td>2000</td>
<td>42.5-47.5</td>
<td>0.82-0.92</td>
<td>22-24</td>
</tr>
<tr>
<td>By another hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broad canvas (breite leinwand)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Broad canvas</td>
<td>71</td>
<td>Six quarters</td>
<td>2000</td>
<td>42.5-47.5</td>
<td>0.9-1.01</td>
<td>20-22</td>
</tr>
<tr>
<td>22 Broad canvas</td>
<td>71</td>
<td>Six quarters</td>
<td>2200</td>
<td>42.5-47.5</td>
<td>0.9-1.01</td>
<td>22-25</td>
</tr>
<tr>
<td>24 Broad canvas</td>
<td>71</td>
<td>Six quarters</td>
<td>2400</td>
<td>42.5-47.5</td>
<td>0.9-1.01</td>
<td>24-27</td>
</tr>
<tr>
<td>26 Broad canvas</td>
<td>71</td>
<td>Six quarters</td>
<td>2600</td>
<td>42.5-47.5</td>
<td>0.9-1.01</td>
<td>26-29</td>
</tr>
<tr>
<td>28 Broad canvas</td>
<td>71</td>
<td>Six quarters</td>
<td>2800</td>
<td>42.5-47.5</td>
<td>0.9-1.01</td>
<td>28-31</td>
</tr>
<tr>
<td>By another hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By another hand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 By another hand</td>
<td>71</td>
<td>Six quarters</td>
<td>3000</td>
<td>42.5-47.5</td>
<td>0.9-1.01</td>
<td>30-33</td>
</tr>
<tr>
<td>32 By another hand</td>
<td>71</td>
<td>Six quarters</td>
<td>3200</td>
<td>42.5-47.5</td>
<td>0.9-1.01</td>
<td>32-36</td>
</tr>
</tbody>
</table>
The Ulm Weavers’ Ordinance (c.1575) lists detailed regulations for canvas weavers regarding length, width and thread count (table 7). Detailed instructions as to the 13 types of canvas indicate the great diversity as well as strictly delineated qualities. Twelve were woven to a length of 71 ellen and one to 78 ellen. The width varies between one and a quarter and one and a half ellen. According to later references, the Ulm golschen specified a bleached linen cloth of one and a quarter ellen in width, a thread count of 1200 (per width) and a length of 66 ellen. Conversion of these measurements into metric values provided significant problems: the length of the elle varied in relation to location, goods and date. The Ulm elle was, according to drawings in sixteenth-century trade books, 67.2 centimetres in length; according to the standardisation of measurements by Johannes Kepler (1571-1630), the Ulm elle was equivalent to 59.85 centimetres. Considering this variation, a canvas produced in Ulm around 1575 usually measured about 35 to 48 square metres and had a density of some 14 to 36 threads per centimetre in warp direction.

Cranach invoiced the court for canvas more often per ‘piece’ than in ellen (app. II, 121, 221, 222, 227, 276 et al.). Bales and what are described as welen each figure only once (app. II, 231, 272). In the weavers’ ordinance, a ‘piece’ referred to the full size in which the canvas was produced. In St. Gallen, a linen cloth was woven at a length of 130 ellen (c.100 m), but it was cut in four (1478) or eight (1511) ‘pieces’ for trade. In 1524, Cranach invoiced a ‘piece’ which measured 74 ellen (app. II, 121) and the Ulm golschen listed in 1536/38 was about 66 ellen in length (app. II, 221). The size varied from region to region and it is possible that as a result the price could differ. None of the remaining invoices list the weaving widths, which leads to the conclusion that the court chamberlain was not always kept informed about the actual amount of canvas.

For the Waterfowl Hunts on the ceiling of the Chamber of Mirrors in the castle at Torgau, Cranach quoted canvas to the value of 5 gulden, the average price of a piece of Ulmer golschen. In this instance, the canvas was a little larger than the surface of the ceiling to be covered, which was approximately 30 square metres. Frequently, the material required to carry out one or more paintings noted in the invoices applies only very roughly to the size of the pictures. In the building accounts for Schloss Hartenfels, two pictures already mentioned (The Ascension of Christ and The Pope’s Descent into Hell) were listed for the Great Hall, one at 36 ellen (that is, at half a ‘piece’ of canvas) and the other at one ‘piece’, at approximately double the price (app. II, 208, 221). As a result, it is often impossible to draw conclusions from the invoices about the size of the picture; obviously, remaining pieces were left for Cranach to use.
later. For example, the court painter charged for three pieces of Ulm golschen for 11 portraits of the princes in the Ancestral Hall (stammstube) of Schloss Hartenfels (app. II, 222). This corresponds to a total surface area of at least 90 square metres. Since a document from 1599 describes these paintings in situ as being 'each three ellen in length' (approximately 170 centimetres), they were most likely less than two square metres in size, leaving canvas in excess.

**Thread density and colour**

Lucas Cranach the Elder bought imported goods, although there were several cloth makers in Wittenberg. Presumably, he preferred fabric of particular widths or of better quality. The painting *Christ and the Woman of Samaria* (c.1552, fig. 193) has a plain weave and a thread count of 19 to 20 threads per square centimetre; his son’s surviving canvases are similar, with approximately 16 to 19 threads per square centimetre. From the Ulm Weavers’ Ordinance of 1575 it is evident that this was the least densely woven quality of material. In later years, the Wittenberg workshop used canvas, which, although evenly woven, was at the same time slightly coarser, its texture influencing the painting both in terms of technique and effect. In comparison, the thread counts per centimetre of early Netherlandish canvases range from a low of 13 to 40, but fall on average between 18 and 20. Dürer painted in water-based technique on very fine textiles. With a thread density of 30 by 23 per square centimetre, the support of *Heracles Fighting the Harpies* (1500) corresponds to the finest canvases from the Ulm Weavers’ Ordinance. In 1519, Dürer chose a fabric with a thread density of 25 by 25 per square centimetre for the portrait of Emperor Maximilian I and, a little later, less densely woven material of approximately 20 by 22 threads per square centimetre for the portrait of Jakob Fugger. In general in the course of the sixteenth century a tendency to use coarser materials is discernible. Consequently, it is difficult to draw conclusions about the choice of material in the earlier works of the Cranach family. Availability, function, scale, technique and viewing distance may all have influenced the quality.

In addition to its quality in strength and texture, there might be another reason why Cranach frequently acquired canvas from Ulm and St. Gallen. In 1553, the weavers in Chemnitz claimed that the recession of the bleaching industry in Saxony was due to the fact that in other countries ‘more diligence was applied during bleaching than here’ (mehr fleiß auf die bleiche, wann hier zu lande getan). Apparently the bleaching techniques in Saxony could not compete with those practiced in upper Swabia and Switzerland. In St. Gallen, a detailed set of standards that was implemented for the bleaching of linen illustrates the particular attention paid to this task. For an artist’s canvas,
white linen had considerable advantages over unbleached linen, most notably in that it only required a thin ground to achieve a paintable surface. This assumption is confirmed by surviving canvas paintings from the Cranach workshop (see p. 247).

Costs
Between 1524 and 1545, Cranach usually paid the same price of 18 pfennig for one elle of canvas. However, in one invoice (1531) it was 24 pfennig per elle and between 1545/46, only 16 pfennig per elle. As the canvases are not described in more detail in the invoices, we do not know if there were changes in the width or quality of the canvas.

There is no clear indication from the records for any preference for canvas of different prices for the various pictures commissioned. In 1536 Cranach painted both coats of arms as well as The Ascension of Christ and The Pope’s Descent into Hell on canvas at 18 pfennig per elle for the castle at Torgau, and the golschen used for the latter ceiling paintings serves as support for numerous portraits of princes. The canvas from St. Gallen used for portraits was not described in detail. In 1546, a large-scale picture of a tournament costing the considerable sum of 30 gulden was painted on canvas at 16 pfennig per elle. The year before, Cranach charged the same price when painting cartoons on canvas for a carpet maker. The written sources examined do not allow a direct comparison between production costs for a wooden painting support and those for canvas and strainer of the same size. What is certain, however, is that the woven material was cheaper. In 1536, Cranach charged 16 groschen for a panel of unspecified size (app. II, 204). In the same year, for the same price, he obtained approximately ten ellen, that is, four to five square metres of Ulm canvas (app. II, 208). Nevertheless, at the time Cranach in fact charged around one gulden for canvas in connection with a life-size, full-length portrait! Moreover, the strainer was added to the cost of the canvas. In 1537, the painter charged 2 gulden for 8 strainers for the ceiling paintings in the Chamber of Mirrors; that is, the members for one painting measuring some 3.75 square metres cost 5 groschen and 3 pfennig (app. II, 225). In an invoice from the same year, a carpenter was paid about 4 groschen to produce a frame from the painter’s own wood (app. II, 227). From these records, we can see that Cranach charged the court for canvas imports and strainers separately from his own artistic output, which supports the view that he did not paint on canvas to save on his own expenses.
Preparation of the linen and painting techniques

In his travel journal, Albrecht Dürer describes his canvas paintings as tüchlein, which can be translated as ‘small cloth’ or ‘fine linen’. Today the term tüchlein is used to describe paintings executed in a water-based medium on a fine canvas that may have been prepared with a coat of size and, occasionally, a thin pigmented wash, which is the technique of Dürer’s sixteen surviving canvas paintings. Cranach usually refers to his painting on canvas as tuch (‘cloth’), seldom mentioning the word tüchlein. In line with his use of words such as tafelein, buchlein or menlein, the German diminutive ending lein signifies the smaller size of painting. Thus, in contrast with the prevailing view, Cranach’s description tuchlein should not necessarily be equated with the term tüchlein-painting as used today. However, given his familiarity with Dürer’s work and Netherlandish paintings, we cannot discount the possibility that he also painted distemper paintings on very fine canvas. The inventories mention numerous paintings executed in an aqueous medium, but in the Christ and the Woman of Samaria (c.1552, fig. 193) and the Elector Johann Friedrich I in Everyday Attire (1578, fig. 195) we found more complex ground layers and pigments bound in drying oil. Both canvases were first sized using a mixture of protein glue and flour paste (fig. 200). The fabric subsequently received a ground layer consisting of glue, paste and calcium carbonate, sufficiently thick to fill the interstices of the weave. The ground was then smoothed and covered by a thin coating of lead white and calcium carbonate bound in drying oil, in order to render the preparation less absorbent.

![Image](cda_.jpg)
These findings are confirmed by an invoice drawn up by Cranach in 1536 for ‘20 groschen for three bushels of flour to strengthen the cloths’ (20 gr für 3 scheffel mel die tücher domit zustercken, app. II, 204). The mixture of glue and paste as well as the layer structure correspond to the instruction given in the Liber illuministarum: ‘To strengthen a coarse cloth, take some flour and boil it up with wood glue and strengthen with this, let it dry and then whiten it. If you wish to paint on it with oil paint, then impregnate it with oil….’. Similarly, Italian treatises on painting refer to flour paste as a component of different kinds of grounds for canvases. Cennini recommends a gesso sottile, to which he added a little starch or sugar. Later, for example, Vasari, Borghini and Armenini took up the practice. To date, analysis has rarely identified the presence of starch in preparatory layers. It has been detected together with glue and gypsum in Correggio’s Allegories of Virtue (c.1530). Starch adhesives, derived from flour through a process of heating, develop a high bond strength in conjunction with cellulose fibres. Compared with proteinaceous glue when applied to open-weave fabric, starch adhesives have the advantage of sealing rather than penetrating. However, Volpato refers to disadvantages: ‘Flour paste is very bad, because if it is too stiff it causes the colour to crack and scale off, and if it is too weak the damp causes the canvas to decay, and the mice eat it. These persons use it because they prime very bad canvas, which perishes in eight or ten years…’. In damp climates, the hygroscopic starch adhesives are also susceptible to micro-organisms. These characteristics, in addition to the vulnerability of the fabric, may have contributed to the low survival rate of Cranach’s paintings on canvas.

Traditionally, canvas was stretched for the application of the paste-glue mix. In this process, distortions associated with tack points or lacing that occurred while tensioning the canvas became fixed. This ‘primary’ cusping can be found on all investigated canvases, even when the edges have been trimmed (fig. 205). We know little about the type of temporary strainers or panels to which the canvases were fixed. The wording of the invoice ‘8 rham, darauf das-selb tuch gemalet’ (‘Eight frames on which this cloth was painted’, app. II, 225) for the ceiling of the Chamber of Mirrors leads us to assume that temporary and final strainers were occasionally identical. Nor is it possible to discern whether the canvas was first attached with nails (cf. fig. 201) or laced, as was common practice in Netherlandish painting from the seventeenth century onwards. A common feature of all the paintings examined is that the attachment was carried out at points a distance of approximately 7 to 11 centimetres apart. The original tacking margins of the Elector Johann Friedrich I in Everyday Attire (1578) survive and the original location of the primary holes...
in the canvas can be identified by the pattern of cusping (fig. 205). Since the paint application goes beyond these holes, this suggests that the fabric was attached to the front face of wooden battens or a panel during preparation and painting rather than being folded over the edges of a strainer. Various contemporary illustrations as well as other surviving paintings depict this practice (fig. 201).

Cennini recommends the application of ground material with a knife: ‘And the less gesso you leave on, the better it is.’ The ground should be applied as thinly as possible and smoothed once more when dry. His instructions correspond to observations during a technical examination carried out on the paintings from the Wittenberg workshop. Here the use of white linen had considerable advantages over unbleached linen (see p. 243). The choice of materials and the manner of application in thin layers increased the flexibility of the layer structure and made it possible to remove the canvas from the strainer, roll it up and re-attach it later at the point of destination without cracks in the ground and paint layers of the picture. This practice facilitated transport and because the preparation of the ground was relatively quick it also served an efficient workshop production. However, these paintings may have changed significantly when the white canvas changed its colour with time (cf. fig. 202).

With so few surviving paintings on canvas, it is impossible to generalise either about their preparation or about the painting techniques used. Practices may have varied considerably. Different media were used for different works. The inventories from Schloss Hartenfels, drawn up between 1548 and 1610, refer to numerous pictures painted in water-based media on canvas. Many of the large-scale ceiling and wall paintings but also smaller works such as portraits, a Judgement of Paris and a Last Judgement, have been carried out in aqueous paint systems. Whether they were based on plant gums, animal glues or so-called tempera systems and applied in thin washes or substantial layers, can not be distinguished. In 1486, one of Cranach’s predecessors as court painter, Meister Cuntz, took also delivery of five pounds of wax (4 groschen per pound) in addition to different materials and blue pigment, when producing flags and banners. The purpose of the wax may have been to provide weatherproof paintings on textiles for use in the open. None of any of these items has survived.

In 1552, Cranach entered in the accounts ‘20 floren for a [Judgement of] Paris on cloth with oil paints’ (app. II, 316). The surviving Christ Blessing the Children (c.1540–45, fig. 192) and Christ and the Woman of Samaria (c.1552, fig. 193)
are oil paintings. Since earlier invoices do not mention the media, we do not know for certain when Cranach first started painting on canvas in oil, or what proportion of the works on canvas were executed in oil or in aqueous media. It is, however, evident that Cranach adopted oil painting on canvas before his first meeting with Titian in Augsburg in 1550/51.

The picture *Christ and the Woman of Samaria* was underpainted in grisaille before being finished mainly with thin layers of oil paint and glazes (fig. 202). This technique is very similar to the method Cranach used on wooden panels such as *St John the Baptist Preaching* (1549) and *The Conversion of St Paul* (1549, FR 433). On the canvas portraits of Gregor Brück (1557, fig. 194) and Elector Johann Friedrich I (1578, fig. 203), painted by Cranach the Younger, there is no grey undermodelling, as with many portraits painted on panels. No differences in the choice of pigment have been established to distinguish between panels and canvases. For example, smalt, the blue pigment used on the canvas paintings *Christ and the Woman of Samaria* (c.1552) and the *Elector Johann Friedrich I in Everyday Attire* (1578), has also been identified on the *Kempen Altarpiece* (1565) on a wooden support. While Dürer’s paintings seem to conform to late medieval tüchlein-painting, it can be established that Lucas Cranach the Elder also painted in oil on canvas, which gradually became the dominant technique in Europe.
Presentation and evaluation

Large paintings were removed from the strainer, rolled and packed in crates for transport. In 1550, the elector’s secretary, Hans Rudolff, entered a record of a locked ‘crate’ containing several of Cranach’s painted canvases. The aforementioned instruction by the elector that those canvases, which could not be ‘hung or put up’ in Weimar should be transported to Weyda or Wolfersdorf (app. II, 299) leads us to presume that certain large-scale paintings were, like tapestries, at least temporarily hung on bars. However, at their final destination, the majority of canvas pictures were mounted on strainers for display (‘3 gr ...dem tischer fur 2 rennen zcu machen geben darauff die renner die Juditt unnd Lucretia gespannt’; ‘14 gr dem tischer von denselben leisten darauf die tuch gezogen sind.’, app. II, 83, 208). There is no firm evidence of strainers with wooden panels inserted into the open spaces of the kind known to have been used by Mantegna or in the Netherlands. Sometimes a local carpenter was commissioned to make strainers that would fit into the architectural surroundings. On the occasion of his visit to Augsburg in 1552, Cranach arranged for a refund of the amount that he had paid the carpenter for ‘cloths to be re-mounted’ (app. II, 316). Not one of these original strainers has survived. The stretcher of Christ and the Woman of Samaria (c.1552) as well as those of Gregor
Brück (1557) and Elector Johann Friedrich I in Everyday Attire (1578) date from a later period. Presumably for reasons of handling, reduction of weight and possible deformation of the canvas, large ceiling paintings were subdivided into sections and the fabric mounted onto several strainers. At Schloss Hartenfels, in the Round Chamber facing the Elbe (ronthe stuben gegen der elb), there were two ‘pieces of canvas’ mounted on 24 strainers, and in the Chamber of Mirrors (fig. 204), the Waterfowl Hunts was attached to 8 strainers (app. II, 225, 227). In the Duke Georg Chamber in the castle at Wittenberg there were 20 strainers. Whereas we know little about the methods of stretching the canvas during the painting process, invoices and technical examination provide information about methods of mounting the canvas on the final strainer. There are repeated charges for nails for this purpose (‘2 ö den malern zu den tüchern (nägel nämlich)’; ‘15 gr fur klein und grosse negel’, app. II, 170, 208). As with other paintings of this period,7 the canvas of the Elector Johann Friedrich I in Everyday Attire (1578) was originally stretched and nailed to the front of the strainer rather than folded over the edges. Stretched in this way, the frame would have covered the nails and the edge of the canvas, which was painted black (fig. 205). The black border, two centimetres wide, may have served as a painted interim frame and as a guide for those responsible for stretching the canvases when the paintings reached their final destinations. Similar black-painted edges can be found on numerous Netherlandish, Saxon and Italian distemper paintings.8

In addition to tacking the canvas to its final strainer, the method of stretching the canvas in its decorative frame might also have been practised. Examples of this method survive in Netherlandish paintings of the early seventeenth century.9 There are references in Cranach’s invoices to both ‘battens’ (leisten) and ‘frames’ (rahmen) on which to stretch canvases. It is possible that this occasionally refers to the decorative frame: ‘14 gr dem tischer von denselben leisten darauf die tuch gezogen sind.’; ‘13½ gr vors golt auf die leisten zu vorgulden, auf die leisten Duktials [?], sein die jungfrauen gemalt’; ‘2 fl für 8 rham, darauf dasselb tuch gemalet’; ‘2 fl 3 gr idem von 15 rhamen anzustreichen ufmsal und frauenzimmer, darauf die fursten sind gekontrafet, blaw, schwarz und mit rößlein an der seitens von iglichen 3 gr’ (app. II, 208, 316, 225, 239). In support of the suggestion that the strainer and the decorative frame could be one and the same, it is interesting to observe that not one of the invoices lists both types of frame at the same time. But, it also seems possible that, in accordance with widespread contemporary practice, simple mouldings were nailed onto flat tacking margins into a strainer behind the canvas.10
There are repeated references in documents to stretched canvases of different sizes and subject matter being nailed to ceilings and walls, indicating that they were permanently set in place with nails. Only one source from 1508 refers to the use of hooks. In that case, fourteen hooks were inserted into the wall in order to hang a cloth showing the coats of arms of dead princes and bishops.

A letter written in 1491 about Mantegna’s painting on canvas in water-based media states ‘in doing so they shall be finished sooner, be more beautiful and more durable, and so say all experts in this practice’. The ability to paint using a fashionable water-based technique on cloth was clearly one of Cranach’s skills that was highly valued by the Wittenberg court. As court painter, he was called upon to rapidly execute different commissions originating from a patron who sought to fulfil his personal maxim to decorate his residences for purposes of prestige. The short time it took aqueous binding media to dry offered the promise of rapid completion. In addition, the optical characteristics, size, costs and mobility greatly influenced the esteem in which his paintings on canvas were held. Cranach’s move towards oil technique suggests that gradually the advantages of this support were more highly regarded. ‘Simple’ paintings on canvas represented the principles of the new Lutheran theology and they were valued as pedagogical tools for the religious education of the devout viewer.

The prices for wooden panel and canvas paintings alluded to in account books are very difficult to compare because of a lack of precise detail. What is evident is that the level of payment was determined by expenditure in terms of material and time rather than the type of painting. In 1522, Cranach received 2 gulden for a picture of The Judgement of Paris on wood (app. II, 102), 1 gulden for a portrait of the elector (app. II, 102), 5 gulden for a large Virgin (app. II, 103) and...
12 gulden for two so-called teffeleyn (small panels, app. II, 108). By comparison, in 1524 a portrait of the elector on canvas cost 5 gulden (app. II, 121) and a picture of The Judgement of Paris and a version of Aristotle and Phyllis together cost 16 gulden (app. II, 122).

The number of works occurring in the invoices is revealing: in the years 1505 to 1529, more wooden panels than canvas paintings are listed in the available written source materials. In the 1530s, the ratio is more or less balanced and then, in the 1540s and early 1550s, textile supports predominate. The choice of the support was usually the patron’s and not the painter’s, and the proportion of works Cranach carried out on canvas, from small pictures to large decorative series, suggests that this became the preferred support. More and more high-ranking persons had their portraits painted using this technique. In September 1550, the elector ordered a portrait of his son to be sent ‘painted on panels or cloths’ (app. II, 302), therefore implying that the two supports were apparently of equal value. During his imprisonment, the elector repeatedly and expressly concerned himself with the cloth paintings placed in safe storage. At Schloss Hartenfels there were a large number of canvas paintings, both in private and in official rooms. Some of the smaller formats were hung higher up or served as sopraportes, others were presented side by side with panel paintings. There were textile as well as wooden panel paintings in the Princes’ Chamber, Oriel Window Chamber, Bedchamber, the Ladies’ Chamber, the Young Men’s Chamber, the so-called Bottle Tower and the Chamber above the Spiral Staircase (Wendelstein, fig. 204). Canvas paintings predominated in the Great Hall and to appreciate the significance of these works, one must realize that they were also designed to serve the aims of foreign policy. At the time this practice was not singular: in England, Hans Holbein the Younger painted portraits and several large canvases in a water-based technique, for example, the Triumphs of Riches and Poverty for the dining hall of the Hanseatic merchants in London and also The Battle of Thérouanne for a banqueting hall at Greenwich commissioned by King Henry VIII in 1527. His collection also contained a portrait of Elector Johann Friedrich I on canvas, probably painted by Cranach. In Italy the collections of the Medici and other leading Florentine families included numerous Netherlandish painted cloths, which were also presented next to panel paintings.

In the various residences of the Wittenberg court, Cranach’s large-scale wall and ceiling paintings merged with the architecture, vivid colours and easel paintings on different supports creating a unity of individual and representative diversity. Canvas paintings were popular with the court, valued for their specific optical and technical characteristics, not just as inexpensive substitutes or practical alternatives.
Painting on other supports

Parchment

Judging from preserved works, Cranach and his workshop members rarely painted on parchment. Examples which survive are a disparate collection of portraits as well as various coats of arms painted over a fairly long interval of time. Amongst them are the Portrait of a Man, Perhaps a Mayor of Weißenfels (1515, fig. 206),¹ Gerhard Volk (1518, FR 126),² the Portrait of Martin Luther As an Augustine Monk (c.1523/24),³ the heads of Christ and the Virgin (c.1516/20, fig. 207)⁴ and, from a later period, the Head of the Virgin (c.1540)⁵ as well as the Portrait of a Man (1545)⁶ ascribed to Cranach the Younger. These are neither studies for portraits of the kind surviving in considerable numbers on paper supports or, as in the case of a head of Luther,⁷ on parchment, nor are they highly official portraits by Cranach when he was the court painter. Accordingly, judgements of the paintings on parchment have differed widely in the past. The Christ and the Virgin in Gotha has been interpreted both as a ‘workshop model’ and as ‘The Intercession of the Virgin’, in other words, a finished work.⁸ What these portraits have in common is that they were predominantly executed in an oil medium. In the choice of this binding medium they differ, for instance, from the Crucifixion in Cranach’s so-called Stammbuch (family chronicle) of 1543⁹ or that of the St Catherine (c.1530).¹⁰ These latter works derive more from the tradition of illumination in watercolours or body colours on parchment and do not figure in these investigations.

If the number of items on parchment in Cranach’s surviving work is limited, references to such works in accounts and letters is even less prevalent.¹¹ Compared with his contemporaries, however, Cranach was not an exception in occasionally choosing parchment. Albrecht Altdorfer, Hans Burgkmair, Albrecht Dürer, Niklaus Manuel gen. Deutsch, Hans Holbein the Younger, Giovanni Bellini and Jan Gossaert also painted on animal skin.¹² What is significant is that this material was so often used for portraits. For example, the surviving examples of Dürer’s oil painting on parchment are without exception portraits.¹³

There are numerous examples north and south of the Alps from the twelfth to the early fifteenth century where wooden panels were covered with animal skin.¹⁴ It is often assumed that this would have disguised the faults in
the panel and reinforced the joins. It may also have been intended to reduce later cracking of ground and paint layers.\textsuperscript{15} Another reason to use parchment might be its convenience and portability when not attached to a panel, as is assumed to be the case with Holbein’s portrait of Anna of Cleves.\textsuperscript{16} In the course of this research it was not possible to establish for certain whether Cranach’s works on parchment were glued to a wooden panel before being painted or not.\textsuperscript{17} Köhler asserts that the \textit{Portrait of a Man, Perhaps a Mayor of Weißenfels} (1515, fig. 206) was not originally mounted on an auxiliary support.\textsuperscript{18} Its history shows that it was at one point attached to wood since it has been transferred from wood to canvas and then once more attached to a wooden support. The badly damaged edges of the painting prove that it was for some time either not attached, or very inadequately attached, to a support. On the other hand, the lack of obvious cracks in the flesh paint suggests that the parchment was laid on an auxiliary support early on. A report of a restoration detailed in 1956\textsuperscript{19} describes the transfer of the portrait of Luther on parchment (c.1523/24) from beechwood to a beech plywood board. As Cranach also painted \textit{Luther As Junker Jörg} (c.1521/22) on beech, the parchment of the other portrait might well have been attached to a beech wood panel originally. The parchment with the \textit{Head of the Virgin} (c.1540) in Munich is glued onto paperboard. The supplementary support for the Gotha \textit{Christ and the Virgin} on parchment is an old oak panel, which according to dendrochrono-
logical examination could be contemporary (fig. 207). It is not necessarily original and it is unusual because Cranach rarely used oak (see p. 48). On the reverse of the panel with the portrait of Gerhard Volk on parchment there are inscriptions, possibly dating to the sixteenth century and indicating that it is the original support. Technical examination of this picture could perhaps shed further light on whether the parchment was mounted on the auxiliary support before painting.

The parchment of the Portrait of a Man, Perhaps a Mayor of Weißenfels has only a very thin preparatory layer filling the pores of the skin. It is white or, as a result of a few red pigment particles, tinged pink and contains traces of calcium, silicon, sulphur and potassium. Since from its earliest use, the pores of the parchment were filled with pumice, lime, chalk or clay during manufacture to create a suitable surface for painting, it seems possible that we are detecting traces of such a treatment. Similarly, microscopic examination of the paintings revealed no substantial ground layer on either the portrait of Martin Luther or the Christ and the Virgin. These observations tend to support the hypothesis about Dürer’s paintings advanced by Heimberg that the parchment is to be regarded not so much as an independent support or a protective device for the joins of the panel, but rather as a preparatory surface, equivalent to a ground for painting. Over successive generations, painters were aware of and had appreciated its qualities as a material for their drawings as
well as their watercolours and paintings in body colours. The semitransparent hue of the animal skin and its compact surface may have been particularly useful in refining flesh tones and may have been the reason for its increased use as a support for portraits. One of the earliest portraits on parchment is that of Duke Rudolf IV of Austria (c. 1365). Paintings by Altdorfer, Dürer, Deutsch and others were also painted directly on ungrounded animal skin. At the time in Flanders and Italy, portraits painted on parchment or paper were also incorporated into larger pictures; as far as Cranach’s surviving work is concerned, there was no evidence of this practice.

As well as painting, Cranach worked in pen and ink on parchment. For example, in 1515 he illustrated some of the pages of a prayer belonging to Emperor Maximilian I. At the same time, he sketched the Translation of St Mary Magdalene in black ink on parchment. The Portrait of a Man, Perhaps a Mayor of Weißenfels (1515, fig. 206), was painted directly over this ink sketch with no further underdrawing discernible. The face was captured with particular speed. It appears as if Cranach, driven by an insatiable creative urge, had paid little attention to either the type or the preparation of the support and wasted no time obliterating the pen and ink drawing before fixing the facial features with paint. As a result of the increasing transparency of the flesh tones, the drawing of the Magdalene is visible today even in normal light. There is an obvious discrepancy between the lively and assured brushstrokes of the face and the somewhat mechanical execution of clothes, hands and book, suggesting that the portrait was executed in two distinct phases. Whereas the face was finished off wet in wet – for instance, the eyelashes were traced in the flesh paint while it was still not dry – the painting of the ornamental fittings on the book using the sgraffito technique definitely required the full drying time. These observations support the theory that in Cranach’s workshop there was a fluent transition between portrait study and finished portrait (see pp. 301-311). Furthermore, the differences in style and painting technique between the face and the hands lead us to hypothesise a division of labour in completing the picture.

The heads of Christ and the Virgin on parchment (c. 1516/20) may be a surviving example of a workshop model. Unlike the portrait of Martin Luther (c. 1523/24), there is no brush underdrawing. The faces are executed in a particularly careful and painstaking technique (fig. 208). The X-radiograph reveals a distinct ‘relief’ formed with sweeping brushstrokes characteristic of the master. In contrast to the heads, there is hardly any modelling in the dresses. The work might well have been intended to serve as a model.
for numerous pictures. This suggestion finds confirmation in that there is a slight variant of the female face used for the *Head of the Virgin* in Munich (c.1540), which also appears in another completed painting of the Madonna. A link has also been established between the head of Christ and the picture *Christ and the Woman Caught in Adultery* (c.1520, FR 129). Schade’s hypothesis that the heads of *Christ and the Virgin* might be a version of *The Intercession of the Virgin* after Robert Campin’s painting found no further confirmation through the examination and restoration carried out by Möller. It is more likely that the heads represent a link between portrait studies on paper and finished paintings on panel.

In the case of the *Portrait of a Man* (1514, FR 62) and *Johann Friedrich I of Saxony and His Wife Sibylle of Cleves* (1532), the coats of arms have been painted on sheets of parchment and glued to the reverse of the wooden panels. Early in his career, Cranach painted coats of arms directly onto the thinly grounded verso of portraits (see p. 222), he later glued on illuminated prints. The use of parchment here could be linked to his drive for efficiency. It may be that patterns were copied by overlaying a semi-transparent sheet of parchment and tracing them.

Parchment was very suitable for stencils and tracings. An instruction in the Tegernsee Manuscript, for example, refers to parchment as a material used in the production of patterns (*patrone*) and in the catalogue for the exhibition in Kronach (1994), the drawing of *St Catherine* (c.1530) with perforated outlines was interpreted as a pounced cartoon and attributed to the Cranach workshop. The support is a re-used sheet of parchment from a fifteenth-century liturgical manuscript. The text, which has been for the most part erased, is covered by a thin lead white ground on which the drawing was first laid down in silver point and lead stylus and then completed in what was originally pink, but is today brownish brush painting. The architectural background was subsequently overpainted in indigo. Contour lines as well as the sides and the upper edge of the frame were perforated with a needle. As the pinpricks actually follow the lines of the overpainting, there are doubts as to whether the drawing was originally executed specifically for use as a stencil.
Paper

Although paper was a common support for painting in Cranach’s workshop, the technical examination of these works does not fit the scope of this research. Amongst others, the numerous illustrations in the Spalatin Chronicle (c.1530) belong to this category. \(^{45}\) The paint was applied in both semi-transparent and opaque effects using aqueous media. Occasionally highlights have been applied in silver and gold-coloured metal powders. Numerous studies painted on paper served as a preparation for panel and canvas paintings. There is evidence that the studies of dead poultry in Dresden (fig. 15) were used in several paintings around 1532. \(^{46}\) The majority of the surviving portrait studies on paper are pictorial records drawn in front of the sitter. \(^{47}\) The use of paper and paints that dried quickly enabled the painter to rapidly record important physiognomical features. Other items of work on paper such as The Heads of Three Young Women (c.1530/32) \(^{48}\) could be copies of important elements of paintings intended for multiple use (see p. 299). In contrast to parchment, no finished oil paintings on paper have yet been associated with the Cranach workshop. \(^{49}\)

The head studies were executed in various techniques. Whereas the Portrait of a Peasant (c.1506) \(^{50}\) and the Portrait of a Man (c.1510, fig. 209) \(^{51}\) are drawn directly onto good-quality paper without further preparation, the sheets of paper used for the later works in Reims were coated with a thin calcium-based ground and a yellowy tint made from a mixture of ochre and lead white. \(^{52}\)

In addition, the binding media used apparently varied between aqueous systems and those containing drying oils. What is needed is a closer inspection of the paper itself \(^{53}\) and a systematic study of the pigments and binding media used for a comprehensive comparison with the finished panel paintings.

Metal

The painting and gilding of metals were also part of Cranach’s duties as a court painter. According to the invoices, this included painting coats of arms on copper sheet, making so-called ‘iron flaglets’ (eiserner fenlein) and also the emblazoning of gutters, lanterns and bronze reliefs (app. II, 128, 165, 253 et al.).

The accounts transcribed do not give any details of paintings on sheet metal. However, in 1990, Bünsche published the picture Christ Blessing the Children on copper, presuming it to have originated from Cranach the Younger’s workshop around 1560. \(^{54}\) It is apparently unique among the surviving works of the painter’s family. With its relatively large format (56.5 × 76.0 cm) and its com-
paratively early origin, this painting is a striking example of the use of copper plates as a support. Although Leonardo’s treatise on painting, written around 1492, alludes to permanent painting on copper, the practice of oil painting on copper support only became widespread in sixteenth-century Italy.

The practice then became common in northern Europe. For example, Johann Rottenhammer, Bartholomäus Spranger, Hans von Aachen and Adam Elsheimer painted on metal plates. The copper was first hand-beaten. Hammer marks are clearly visible on the reverse of the Gottorf panel of *Christ Blessing the Children*. In addition, there are parallel scratch marks, presumably produced by a tool similar to a toothing plane, that roughened the surface. Bünsche established that the plate was first covered with a thin whitish layer and subsequently with a lead white ground. On these preparatory layers he found traces of red and black dry media underdrawing covered by thin paint layers that include various corrections.

**Mural painting and architectural decoration**

In his eulogy, printed in 1509, Christoph Scheurl uses a common *topos* to extol Cranach’s ability to deceive the viewer with elaborate paintings that the viewer takes the image to be the real thing. Two of Scheurl’s examples refer to paintings in the *Veste* in Coburg. They are a life-size stag and a set of antlers. Research has so far interpreted these paintings to have been murals, despite the absence of firm evidence. They are equally likely to have been large-scale canvas paintings, since in the same context Scheurl mentions the picture of the wild boar, which the elector sent to Emperor Maximilian I. Although the possibility of there being wall paintings by Cranach from the years 1506 and 210
1507 in the Veste in Coburg cannot be ruled out, the eulogy on its own cannot be taken as evidence.60 The surviving designs for illusionistic facade decorations incorporating figurative images (fig. 210), as well as a letter from 1521, do provide firm evidence that the Cranach workshop executed wall paintings. Writing to the elector, Wolf Metzsch reports that in a new house at Torgau ‘there are several places in the hall where the painting has fallen off’. He requests that ‘Master Lucas sends us one of his journeymen who would have at least eight days work...as there are no longer any painters at Torgau who could adequately paint such paintings’ (app. II, 100). This record indicates that there were painters in the Cranach workshop who were conversant with the appropriate techniques of mural painting.

Subsequent invoices point to extensive painting and decorative work undertaken by the Cranach workshop on both the interior and exterior of the castle at Torgau: ‘to paint the whole building outside and inside’ (app. II, 195), ‘thereafter we worked on the oriel outside and inside as well as in two of the chambers...’ (app. II, 272 et al.). In contrast to the ‘whitewashers’ (tüncher) employed there at the same time, we may imagine that Cranach and his workshop members created a lively display of wall decorations.62 The fact that large amounts of pigment and binding media are listed in the castle building accounts does allow the possibility that figurative wall paintings were carried out. However, in contrast to wooden panels and canvas paintings, not a single wall painting appears by title in the accounts, therefore we must assume that these were in fact rather non-figurative decorative wall and ceiling decorations.

The grotesque-style frieze in the Chamber of Mirrors of the castle at Torgau is the only certain surviving example of the activities of the Cranach workshop.

Workshop of Lucas Cranach the Elder, detail from Grotesque-style frieze, 1537. Wall painting in the Chamber of Mirrors of Schloss Hartenfels at Torgau.
in the field of wall painting (fig. 211). In 1537 two journeymen, Pauel Ryß and Hans Rentz, as well as an apprentice by the name of Bartel, worked for three weeks in the Chamber of Mirrors. During this time they were required to finish the painting, gild the ledge and carry out work on the frieze below. Cranach himself only spent four days there when he brought the canvas paintings (see p. 240). The original decorative elements of the room were a lime-plaster floor containing pulverized bricks, a beamed ceiling covered by the large canvas painting and possibly wall hangings or heavy curtains around the windows. The grotesque-style frieze ran around the whole room as a border beneath the sandstone ledge. It consisted of acanthus tendrils along with cornucopias, goblets with vine leaves, garlands and several animal, human and cherub heads merging into tendrils. Noll-Minor describes the technique of the frieze as follows: ‘On a first lime wash containing some ochre to fill the pores of the architectural elements, the ledge decorations and the grotesque-style frieze were underpainted in lime-bound greyish black and the astragal and the chamfer with ochre. The painting was completed with azurite [in glue medium] and oil gilding’. She continues: ‘It is possible to make out a differentiation of the background through black heavy shadows in the grey underlay [vegetable black] indicating the intention to produce a relief-like effect. The tendrils and structural elements silhouetted against this background are accentuated by variable black drawing on a uniform ochre basis tone.’

In 1994, the investigation and restoration of the house at 4 Markt in Wittenberg by Schmidt and Kestel produced new findings. Cranach acquired the property in 1512, selling it in 1518. Three years later he took possession of it again. The high artistic standard of the decorative work in the house suggests that it was carried out by his workshop, although so far no archival evidence of this has been found. The ceiling decorations are remarkable. Large illusionistically painted coffered ceilings are covered with opulent ornamentation in the form of tendrils, leaves and grotesques. They have been executed on thin lime plaster that covers the beamed ceiling. As a basic tone for the coffer panels, large-particle-size azurite was applied over a grey underpaint (vegetable black). The lively, bright orange-coloured ornamentation was painted with red lead, another red pigment (which was not further characterised), and lead-tin yellow. In another room, set against a blue background (once again azurite on grey underpaint), foliage painted in grey tones (malachite) spreads across rectangular frames.

Noll-Minor identifies the combined application of lime- and glue-bound paints in the Chamber of Mirrors and Schmidt also suspects the use of glue-
or casein-bound secco painting at 4 Market Place. So far there is no evidence of traditional true fresco painting, which has so often been suggested by researchers.

Judging by the accounts, the Cranach workshop worked predominantly in a glue-based technique in the rooms of Schloss Hartenfels. There are repeated charges for glue in large amounts (see p. 167). Technical examination also proves the use of oil media for gilding work in the Chamber of Mirrors. Since Cranach’s invoices mention fairly large amounts of linseed oil and varnish, it is possible that oil paints or mixed binding media were used to decorate architectural elements.

The surviving account books document a much wider spectrum of pigments than have so far been identified by analysis. These have already been dealt with in detail in chapter II. The palette for wall painting is slightly different to that employed for panel painting. No doubt, as a result of experiences with varying durability of the mineral green pigments, they are more common than verdigris, which is preferred in panel painting. In contrast to panel painting, there is a tendency to use materials of inferior quality, such as ‘low blue’ (gering blaw), ‘ash blue’ (ascherblau) or ‘blue for the first lay in’ (blau zum ersten mit anzustreichen) in greater quantity (cf. table 5). However, given the few surviving examples, it is difficult to define mural painting techniques in a comprehensive way. Individual findings do indicate some correspondence with panels, for instance, we find examples of grey underpainting with a top layer of large-particle-size azurite bound in glue on both walls and panels (see p. 178).

The results thus far make it clear that Lucas Cranach the Elder not only employed a striking diversity of materials, but availed himself of almost the entire range of contemporary painting techniques, utilising all of them with considerable artistic dexterity. Using widely differing binding media and pigments, he painted on wood, textiles, paper, parchment, metals, stone and plaster, both inside and out. He also tackled the skill of glass painting (app. II, 191). Thus Cranach not only created individual furnishings, but also entire room decorations of impressive variety. The scope of his activity extended well beyond that of contemporaries such as Dürer or Grünewald. The diversity of his duties at the Wittenberg court and the workshop organisation are the subject of the next chapter.
V

Workshop organisation

Contracts, commissions and marketing

‘Anyone producing a picture at a fixed price [...] cares more about its being finished than its actual beauty. Anyone, however, expecting payment in accordance with its beauty cares more about that very beauty than the speed with which it is produced.’

Jacob of Lausanne

It was to humanist, educated circles in Vienna that Cranach the Elder owed his artistic influences, his commissions and possibly the beginnings of his fame as a painter. It is not known who commissioned the early religious pictures or when he started working for the Elector of Saxony, Friedrich III the Wise. The assertion that he was engaged in work on the Veste in Coburg as early as 1501 has been refuted. The order for payment of 40 gulden, recorded in Torgau on 14 April 1505, marks the beginning of his work as court painter in the services of the Saxon elector (app. II, 2). From then on, for more than four decades, Cranach worked in the electorate capital, Wittenberg (fig. 213), about which Luther once remarked that its inhabitants lived in termino civilitatis, on the edge of civilisation. The court painter received an annual salary of 100 gulden, an allowance for winter and summer clothing, a horse, and board and lodging (app. II, 13 et al.). Only the most powerful courts offered terms as generous as these, and they indicate the elector’s interest in attracting an experienced painter to Wittenberg. For Cranach, the move to court marked more than a change in social conditions, it represented a great professional advance-
ment and it had considerable consequences for his artistic production. In the rarefied atmosphere of the court, his art developed in such a way as to set it apart from mere craftsmanship. At the Saxon Electorate Court, Cranach was required to meet extensive demands; his works were in fact a means of ensuring the princes’ reputation. For Friedrich III the Wise, the exchange of gifts became increasingly important; Cranach’s paintings were presented for example to the Queen of France, to King Henry VIII of England and in 1508 the court painter was sent to Emperor Maximilian I in the Netherlands. Current judgement of Cranach’s artistic output is based above all on his surviving panel paintings, drawings, woodcuts and book illustrations. At the time,
however, he took responsibility for almost the entire aesthetic ambience of the court and, working closely with other craftsmen, he applied his skill to furthering the splendour and modernity of the various building projects. The receipts for payment issued by the court chamberlain’s office provide a picture of the broad duties required of him (cf. app. II). At times the workshop was devoted almost exclusively to the decoration of the castles at Coburg, Lochau, Altenburg, Wittenberg, Weimar and Torgau (fig. 220). Cranach was called upon to supply not only easel paintings and large-scale altarpieces, but also to produce huge wall and ceiling paintings on textile supports, and he devoted time to the architecture, especially the polychromy on both the interior and exterior (see chapters III and IV). Under Cranach’s guidance, the façades of houses, towers and gates were painted, gilded and inscribed. During the painting and decorating of the Johann Friedrich Wing of the castle at Torgau (erected between 1533-1536 by Konrad Krebs), he supervised the work of carpenters, woodturners and woodcarvers. Whitewashers (tüncher) and painters coated and embellished walls, doors, staircases and windows. The Cranach workshop supplied designs for glaziers, carpet weavers, lamp makers, locksmiths and goldsmiths. It was responsible for drawing and painting chandeliers, gilding deer horns, framing silk embroidery, supplying curtains, painting tables, benches and chests, and decorating an organ (cf. app. II).

Everyday duties even included providing decorative features for court celebrations, tournaments, court journeys and military engagements. In 1527, the Cranach workshop carried out painting work totalling 221 gulden just to provide the decorations for Johann Friedrich’s wedding (app. II, 152). Hundreds of coats of arms and flags were printed and painted on paper, textile and metal. Almost everything that required painting or design came within the workshop’s sphere of activity. Cranach and his assistants were responsible for embellishing items of equipment and ornamentation for use during tournaments, jousting contests and the like, including insignia of various kinds, armour, helmet crests, shields and halberds. They worked on carriages and painted sleighs. Monkeys, pigs’ heads, ‘men with long necks’ (menner mit den langen helsßen) and the Pope along with cardinals and bishops (der babst mit den cardineln und bischoffen, cf. app. II, 154, 235 et al.) were produced for pre-Lent celebrations. Working to coloured designs, tailors made up costumes to be worn at court, and twice a year all servants were fitted out with new clothes. His activities as a designer included creating stone and wooden models for medals, medallions and memorial stones as well as drawings for the production of cannons showing ‘outrageous, hideous portraits’ (unverschämten, scheußlichen bildnissen) that were used by ‘iron cutters’
(eisenschneider) and bronze casters in Freiberg, Nuremberg, Augsburg and Innsbruck. In 1538, he even supplied a mould for making gingerbread. In addition, there is evidence of his involvement in restoration work. In 1521, his help was sought to restore the paintings in a new house at Torgau (app. II, 100) and in 1545, he reworked five panels in the chapel of the castle (app. II, 272).

In addition to his duties as court painter, Cranach was an ambassador of sorts, extending the court’s interests and public relations by accepting commissions for others. The workshop furnished numerous Saxon town and village churches with new altarpieces. Cranach also extended his activities far beyond the court: he was at the same time in the service of the opponent of the House of Wettin and Martin Luther, in both dynastic and theological terms, Cardinal Albrecht of Brandenburg, probably one of the most powerful dignitaries of the German Reformation, whilst also working for another notable opponent of this religious movement, Duke Georg the Bearded of Saxony. Between 1520 and 1525, the Cranach workshop produced a cycle of paintings depicting saints and the Passion of Christ consisting of 16 altarpieces and several individual panels (142 in total) for Albrecht’s cathedral chapter and his official residence in Halle. Furthermore, Cranach also benefited from the general phenomenon, that more and more members of the merchant class and the bourgeoisie were commissioning works in addition to the aristocracy and secular and religious authorities.

Examination of the wooden supports for paintings revealed that Cranach standardised his production. Most likely, he produced numerous works for sale to a general market and a broad class of clients without their being commissioned (see chapter II). Individually designed pictures must have been costly because of the time needed to make them, whereas standardised works could be produced quickly and hence more cheaply. Cranach may have sold the paintings from the workshop or on the open market, for example at the international fair in Leipzig. On non-commissioned works, stamps and signs had great significance since they represented a guarantee of quality. Jacobs has shown that, in the case of south Netherlandish carved altarpieces, stamping was especially common on non-commissioned art. Although the intended destination of few works is known with certainty, it is an attractive hypothesis to suggest that Cranach’s serpent trademark established a standard of quality and was particularly important for gifts outside the court, commissions from the outside and work for the open market.
In addition to his salary and an allowance for further expenses, Cranach received payment for any work undertaken on behalf of the Saxon Electorate Court (cf. app. II). When Johann Friedrich I renewed the appointment in 1552, he specifically stated that the painter was to execute ‘our own work with all diligence, and because of the money we pay him out of grace and favour, to let us have whatever work he paints for us at a somewhat lower price than he would seek from a stranger...’ (app. II, 317). Bills were settled once the work had been completed, usually on fixed dates for payment. Charges were made either for the individual works or on the basis of weeks for activities outside the workshop. Disagreements over the prices charged were apparently rare and scarcely a single invoice survives, which the elector found exorbitant. At Michaelmas in 1535, Cranach did not receive the full sum for the work supplied: ‘after my gracious lord felt that the charge for the work was too high’ (nachdem meinen gnedigsten hern bedunckt das die arbeit zu hoch angeschlagen, app. II, 179).

In the early years, the court chamberlain reimbursed the painter for the costs of painting materials and supports promptly and separately from the charges for the painting work.18 Gold coins were dispatched from the court to a gold beater in Leipzig and other metal leaf used was also reimbursed separately (see p. 115). In 1513 Cranach invoiced a painting with the comment that it was ‘his own paint’ (bey seiner aygener farbe, app. II, 56). By the 1520s with the introduction of standard formats, wooden panels were no longer produced separately for each commission and accordingly were hardly ever charged for separately. Comments like ‘such gold was all his own’ (solch gold ist alles sein gewesen, app. II, 197) are proof that Cranach had ever-increasing reserves of material at his disposal, and thus became less and less dependent on individual commissions. It was mainly when it came to extensive decorative programs, such as during the building of the castle at Torgau, that he drew up separate invoices for canvas and pigments. In the case of easel paintings the cost of supports, painting materials and the actual painting work were merged into one price without the court chamberlain receiving a breakdown of the individual items. The possibility cannot be discounted that by selecting less expensive pigments and more and more roughly finished wooden panels that Cranach even increased his profit (see chapter II). Surviving invoices and surviving paintings tally much too rarely to be able to draw firm conclusions about the level of reimbursement that Cranach received for the actual painting work.
The artist’s studio in the castle at Wittenberg

‘There are in fact so many and such great masterpieces that every time I come to you, which is often enough, I am at a loss to know what to look at first, something new appearing every day. Wherever one turns, in every nook and cranny there is a picture.’¹ This is how Christoph Scheurl described Lucas Cranach the Elder’s studio in the Wittenberg castle in 1508. A university professor, he was certainly not just using a *topos* from antiquity in this context.²

As today only about five or six panel paintings survive from the years 1508 and 1509, his comment is an indication of the scale of loss. It was common practice for painters at any time to have several ongoing projects at various stages of completion. The inventory of Filippino Lippi’s workshop on his death in 1504, as well as the one of Mathis Nithart’s workshop from 1528 record works in various states from the bare wooden panels, panels prepared with white ground alone, those with underdrawings, and through to panels listed as begun but not finished.³

In the years 1509/10, a tiled stove was installed in the painter’s studio (*malerstube*) at the castle (app. II, 39). Presumably this was the workshop where, apart from temporary arrangements in Lochau and Coburg, Cranach did the bulk of his work in these early years. No details of the size and position of the studio in the now-defunct castle are available. The court painter and his

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two apprentices shared it along with other artists. According to Christoph Scheurl, the sculptor Conrad Meit also worked there. Scheurl also mentions frequent visits to this workshop by the Elector Friedrich III and his brother. It is not clear from Scheurl's account whether this is an indication of a close link with the life of the court or merely an attempt to raise the artist's status.

The size of the studio apparently imposed spatial limitations on Cranach's creative activity and the continually growing volume of commissions. In 1508 he received his personal coat of arms (the highest possible honour), and only a few years later he left his studio within the castle and settled in Wittenberg. Presumably this new location offered greater entrepreneurial freedom.

The Houses at Markt 3 and 4
In 1510, Cranach was even paying Basteisteuer, a special tax for the Wittenberg bastion and in 1512 he became the owner of two adjoining houses on Market Square (today Nos 3/4). In the same year, extensive building work was undertaken; this, it is presumed, was to be the painter's new workshop. It is, however, not possible to prove with any certainty the existence of any features of the building from the period before 1520. In theory, at least, the fact that the houses facing the market faced north made it possible to set up a studio with appropriate unvarying light from the north in a house, which was several storeys high, but Cranach's concern about the quality of the light is a matter for speculation only. What was certainly important was the existence of enough sufficiently large windows since bad weather and the shortness of winter days would have severely restricted working hours. Even artificial sources of light restricted the painter's ability to work and incurred additional costs. During the building of the castle at Torgau, Cranach received 1 gulden 11 groschen 7 denaren for 'light' when there was insufficient daylight for a full working day before 18 October 1535 (app. II, 195). In the weeks leading up to the New Year of 1536 this was about 1 gulden and 9 groschen a week for approximately 20 pounds of licht – probably candles of tallow or wax, which was burned to produce light. At the same time, the price was about the equivalent of one week's wage for his sons Hans or Lucas (app. II, 205, 218).

It can be assumed that it was in this new workshop that Cranach produced his first surviving large work commissioned outside the court. The Neustadt Altarpiece was appointed in 1511 and completed in 1513. Including the crest it reaches an impressive overall height of some seven metres (fig. p. 2, fig. 215). The size of shrine and panels (2.82 metres in height), requisite trial assemblies with sculptures and stylistic variations indicate that the painter would have needed large rooms and an increasing number of collaborators.
Cranachhof at No. 1 Schloßstraße

In 1518, Cranach acquired what survives today as Cranachhof at No. 1 Schloßstraße (fig. 214). It was to play an essential part in the success of his commercial enterprise. The property is situated on the southwest corner of the market square in Wittenberg. It consists of a front-facing house on four floors with a gated side entrance and six outbuildings interlinked to create a spacious inner court. It is no longer possible to fully reconstruct the building as it had been at the time of Lucas Cranach the Elder and the Younger. The layout of the various parts of the house will also have to remain for the most part hypothetical even after more recent investigations by Großmann.

The two- and three-storey buildings on the east and south wing were possibly the painter’s studio. The buildings concerned cover a similar surface area of some 175 square metres on the ground floor. There is a gateway entrance in the southern building as well as a room extending over two floors. These features make this building seem particularly suitable for the production of large-scale wooden panel and canvas paintings. The floors of the building, some 25 metres long and 7 metres wide, are lit by windows set in the long south and north walls. Today the south façade of the building has ten windows and a doorway on the ground floor and eleven windows on the first floor. Even the originally perhaps slightly smaller number of openings would have ensured that some of the painters had places to work in good daylight. If so, this lends further credence to a parallel drawn by Grimm about the studio scene in a picture painted a hundred years later by Jan Brueghel I, Pictura Painting Flowers (c.1620). It depicts a large studio with at least six painters working at their easels. The easels are set up at regular intervals at 90 degrees to large windows. No comparable studio scene is known to exist in the Cranach family’s
surviving work. It is possible, however, that individual prints or paintings contain elements with which the painters were familiar from their own living and working environment. There is, for example, the picture of St Jerome (1525, FR 185) who is sitting in a room with a solid wall, joists and a beamed ceiling. The layout of the beams corresponds to a ceiling found in the east wing of the Cranachhof.13 The buildings adjoining the painters' studio provided sufficient space for storerooms and workshops used by carpenters, woodcarvers, zubereiter, block cutters, printers and book illustrators. It is also possible that apprentices and journeymen were lodged in the guestrooms of the main house. High-ranking visitors included the exiled King of Denmark, Christian II, and Joachim I of Brandenburg. We can also envisage there being a shop, or at least a shop window, where pictures may have been exhibited for sale. The move from the castle into the town was accompanied by a marked change in the quality and quantity of production (see chapter II). When the Cranachhof came into use from 1518/20 it is possible to detect a significant rise in the production of panel and canvas paintings (see chapter III).

Partnership and workshop members

Carpenters

Late medieval altarpieces were usually the result of co-operation between carpenters, woodcarvers, professionals for preparation and gilding work (zubereiter), locksmiths and painters. The duties of the carpenters (tischler) could extend from not only making the supporting structure, shrine, panels and frame moulds but also carving the crest. There was no clear distinction between their duties from those of the other wood-workers (zimmermann and bildschnitzer). Investigation into the painting supports used by Lucas Cranach the Elder has revealed that during the more than four decades that he worked in Wittenberg, he employed several carpenters with different working methods. We know a few of them by name. In 1507 a Michel Tischer made the panels for an altarpiece of St Anne to be painted by Cranach (app. II, 18). This particular task can possibly be linked with the preserved predella The Fourteen Helpers in Need (c.1505/07) at Torgau. As with almost all panels produced between 1505 and 1510, this predella follows a characteristic production method (see p. 60, figs 34, 35), suggesting that Michel Tischer prepared the majority of panels used by the court painter during these years. If this is the same person as the Meister Michel Tischer who, among other things, produced doors, windows, shutters and panelling at Schloss Hartenfels between 1514 and 1517 (app. II, 63), then we have here some explanation as to why he always glued the planks of the early panels with the grain oriented parallel to the shorter dimension of the panel. For centuries this practice has remained in continuous use for the production of shutters, door panels and wainscoting.

However, it is not clear whether Michel Tischer was the only carpenter or joiner working for Cranach at this time. It cannot be ruled out that this construction method was simply a preferred workshop practice. The court chamberlain’s accounts between 1505 and 1510 identify several carpenters in connection with the castle at Wittenberg. In the years 1508/09, there were seven carpenters working on ‘altars’ (altarien, app. II, 30). Of particular note is Claus Heffner, carpenter, woodcarver and subsequently master builder, who among many other items, carved a winged altarpiece commissioned by the elector. In 1508, he received 13 groschen for 20 lime wood planks used in the production of a work for the church (app. II, 26).

Cranach received and paid for the panels from the carpenters employed at the court. The account books reveal that at the time as the leading contractor he charged for the carpentry separately from his own work as a painter (app. II, 17, 18). He paid for wooden panels and arranged reimbursement with the
court chamberlain; the carpenters were subcontracted by the painter and the carpenters paid for the wood. The changes in the production of panels between 1510 and 1512 (see p. 65) may be linked to the fact that at this time Cranach moved from the castle to the town and employed a different carpenter. It has not been possible to identify names with any certainty. In September 1512, in the presence of Lucas Cranach, the wife of master carpenter Hans Zinkeyssen from Wittenberg was loaned 20 gulden (app. II, 49). Between 1514 and 1515, under the title des Pfeffinger tischer, in other words a carpenter working for the court, there is mention of a certain Meister Hansen Tischer of Wittenberg in connection with Cranach (app. II, 59). Records show that from 1518, Hans Zinkeyssen was working in Torgau and that he was a master builder by 1523 at the latest. It is not clear if this was one and the same person. The court chamberlain’s accounts also refer to the carpenters Adolf (1514, 1515, 1520, 1522), Anthonio (1519, 1523) and Ambrosius (1526, 1532) in connection with building work in the castle and the production of frames as well as protective cases for panel and canvas paintings by Cranach (cf. app. II). However, there is no evidence that they produced wooden supports for painters. In 1524, Cranach received payment as court painter of one gulden and 6 pfennige for a model of the tower at Colditz produced by Niklas Tischler (app. II, 124). Finally, it should also be mentioned that wood-turners were also involved in the production of capsule portraits.

In contrast with the early years at court, Cranach in later decades hardly ever charged for wood or carpentry work separately from painting materials and the work involved. The reference to two unpainted panels as part of the furnishings for the castle at Torgau in 1536 might well be connected to the fact that, in this particular case, payment for the work of the painters took the form of weekly wages (app. II, 204, 205). This fact leads to the assumption that Cranach no longer engaged carpenters merely as a subcontractor but had integrated them into the activities of the workshop. This was not exceptional; a decree issued by the Nuremberg City Council in July 1482 made it possible for painters to employ journeymen carpenters in their workshops. This assumption seems to be confirmed following the acquisition of the Cranach-hof at No. 1 Schloßstraße. From around 1520, Cranach increasingly painted on beechwood panels. As a result of dendrochronological investigation, Klein attributes many of the planks to relatively few tree trunks, that is to say that the trunks were used almost exclusively to make panels. Technical examination reveals that a carpenter hired later produced the beechwood supports while another carpenter, who had been hired earlier, continued to produce
lime wood supports using different techniques (see p. 72). Thus it is likely that Cranach bought cleaved or sawn beechwood trunks from which his carpenter produced standard-sized panels. Large quantities of boards for different purposes arrived by raft at Wittenberg on the river Elbe and in 1524/25 the escort invoices also noted beechwood boards (buchbretter). There is evidence that by around 1528 at the latest, Cranach had control over timber trading and matters of carpentry. Wittenberg City Council paid him 2 schock 37 groschen and 1 denaren for ‘a large amount of timber and pieces of woodwork to be used in the building of the Town Hall as well as partly in the building of the barn’ (app. II, 157). Whereas in the course of the sixteenth century in other centres of art the tendency was for the carpentry trade to break away from the painters’ workshops, Cranach for many years established it firmly under his own roof.

**Woodcarvers**

Since at least the middle of the nineteenth century, there has been some dispute as to whether or not Cranach sometimes tried his hand at block cutting or wood carving. Until now it has only been possible to guess the degree of his personal involvement. Surviving works and written sources indicate collaboration with various specialists and that he employed block cutters and woodcarvers in his workshop. As was the case with the carpenters, the areas of activity for such craftsmen were not strictly defined. One of the block cutters employed early on by Cranach could have been Symphorian Reinhart, variously described as a sculptor and printer. In 1509, there would have been several block cutters working simultaneously on the woodcuts for *The Passion of Christ*. In 1536, Meister Oswald Schnitzer, a carver working in Cranach’s workshop, received payment of 15.5 gulden for ‘printing 700 roses and flamemen on paper’ (app. II, 204). According to accounts in letters written by Anton Tucher (1508, app. II, 29) and the court chamberlain, Pfeffinger (1513, app. II, 55), Cranach himself even produced portraits carved in stone to be used as patterns for coins and medals. In 1525, the court painter wrote that he had a portrait of Friedrich III carved in wood as a model for the monument, apologising for the quality of the beard and promising to finish the bronze cast later with ‘flesh paint’ (leipfarbe, app. II, 128).

It is Scheurl, writing in 1511, who gives the earliest indication of sculptors working in Cranach’s workshop. According to him, the now-lost *Double Madonna* in the Schlosskirche Wittenberg was made by Conradi Vangionis (Conrad Meit of Worms) in the court painter’s workshop (in officiana Chronachia). The woodcarver who, working to Cranach’s designs, carved the life-size wooden figures as part of the altarpiece in Neustadt between 1511
and 1513, is not known (figs 215, 216). There are also carved and painted retables in Kade near Genthin (c.1515/20, fig. 217),21 in Grimma (c.1519)22 and in Klieken near Dessau23 as well as the Altarpiece of the Virgin in the cathedral in Brandenburg (1518),24 they are clearly by different woodcarvers and a comparative investigation would be very desirable.25

Although carved altarpieces placed very particular demands on the collaboration between carpenters, woodcarvers and painters, they offered more opportunities in terms of commission and sales outside the court. This is confirmed by the observation that almost all surviving retables produced in Saxony between 1490 and 1525 are carved, whereas only about five per cent are fully painted winged altarpieces.26 It is not known for certain whether Cranach co-operated with Ciprian Schnitzer, Claus Heffner, Adolf Schnitzer27 or Hans Bildenschnitzer, all of whom were woodcarvers employed at the court.28 No inference with regard to the painter’s workshop can be drawn from the invoices. It is very likely that Cranach even employed a woodcarver as subcontractor or collaborator in his own workshop. In 1513, for example, Cranach received the payment for the Neustadt Altarpiece (app. II, 53, 54) and in 1520 for ‘a large-scale carving of a man’ (groß geschiczt mannes bildt, app. II, 89). In the 1530s, Meister Oswald Schnitzer, mentioned above, worked in Cranach’s studio at No.1 Schloßstraße (app. II, 204, 229, 230). Whilst there he produced, amongst other items, two larger-than-life foot soldiers in stone for the spiral...
staircase tower at Schloss Hartenfels (app. II, 229, fig. 204). Cranach sent
them by ship from Wittenberg to Torgau where they were reworked by Oswald,
who presumably also painted them. The various invoices are impressive indi-
cations of Cranach’s collaboration with other craftsmen (app. II, 230, 232,
233). There are payments to a goldsmith for two chains, a carpenter for two
pikes, another woodworker (zimmermann) who had ‘hewn’ the pikes ‘from the
roughest of wood’ (auß dem grobsten gehawen) and also to a lamp maker and
another smith for small items (app. II, 233). Furthermore, in 1545, Martin
Luther tells of a wooden statue of Prince Johann Friedrich to be finished by
Cranach;39 as late as 1560, a woodcarver and joiner from Salzburg, Wolfgang
Schreckenfuchs, was employed in the Cranach workshop in Wittenberg.39

Zubereiter

In 1507, Albrecht Dürer passed on the wooden panels for the Heller Altarpiece
to a zubereiter, who applied the ground and carried out the gilding.31 Eleven
years later Cranach noted on a piece of paper: ‘1 floren for the Lucrecia I made
for the small panel from the carpenter and the zubereiter and to be gilded’
(1 fl vor die Lucrecia, die ich gemacht hab, vor das tefelein vom carpenter und
vom zubereiter und zu vor gulden, app. II, 77). The zubereiter would have been
responsible for applying the ground, smoothing it and carrying out gilding
work, if so required. Evidently in Cranach’s studio, work such as this was not
entrusted to just any apprentice or journeyman painters but to a specialist.
The bereiter or zubereiter is seldom mentioned in surviving guild regulations.
According to the Prague Ordinance of 1490 each master had at his disposal
one painter, one woodcarver and one zubereiter.32 The sculptor Bernd Notke
employed three [zu]bereiter between the years 1471/72.33 In Antwerp, where
endeavours to rationalise work by division of labour were particularly marked,
zubereiter could progress as far as becoming master craftsmen.34 In Stras-
bourg, there was a dispute about a painter who was only allowed to work as a
gilder. In the vehement argument that ensued, the angry painters described
the gilder as a common painter whereas the sculptors talked disparagingly
about the painters’ dispute with the zubereiter.35 And when it came to the
painting and gilding of an altarpiece for the Maagdedaele Monastery (1525,
von den Bergh), we learn that a painter (faßmaler) was required to paint the
carving and to prepare the shutters so that another painter could complete
the paintings.36 This indicates that the work of the zubereiter could consist not
just of applying ground and gilding but also decorative painting.

Ambrosius Silberbarth and Franz Zubereiter are the only zubereiter from Cra-
nach’s workshop known to us by name. They are mentioned in the building
accounts for the castle at Torgau (cf. app. II). Silberbarth’s name occurs at
one time among those of Cranach’s assistants, later he charges not only for his own paint and gold but also independently for his work. He gilded bosses and a dragon’s head, decorated gutters, chests, capitals, pillars and picture frames, worked on the ceiling in the frauenzimmer as well as in the adjoining rooms. Instead, no such details of Franz Zubereiter’s contributions are given in the documents that have been examined. He was engaged almost continuously on work in Schloss Hartenfels between August 1535 and October 1536 (cf. app. II).

There is nothing in the sources to substantiate the assertions made by Michaelson,37 Emmendörffer38 and Erichsen39 that the zubereiter were in fact apprentices or specialist colour makers. Also, the hypothesis frequently drawn upon, that Franz Zubereiter is none other than the painter Franz Timmermann, loses its basis, not only because they worked in different areas, but because of the fact that as early as 1535 Franz Zubereiter was being paid half a gulden a week (app. II, 194) while the Hamburg City Council did not send Franz Timmermann to Wittenberg to be trained in Cranach’s workshop before 1538.40 The name Franz was common in the workshop. There is, for instance, a painter named Franz Maler in the invoices of 1514 and 1527 (app. II, 63, 154). In 1536, there is another mention of a Franz Maler who, as a result of a different payment, cannot be the same person as Franz Zubereiter (app. II, 206). Then in 1542, Cranach pays yet another painter, Franz Schiller from Leipzig (app. II, 250). With this information in mind, doubt must also be shed on the work undertaken by Ost41 and Emmendörffer42 leading to the attribution of the panel Christ Blessing the Children (1543) to the zubereiter Ambrosius Silberbarth, based on the monogram AS alone.

It may be that Cranach applied coloured grounds to his early surviving work himself. The inferior quality of the white grounds on the panels from the early years in Wittenberg raises the possibility that Cranach left this job to a less qualified assistant. However, from 1518 at the latest, production of his panel paintings was based on a well-organised division of labour widely practised in the sixteenth century between carpenters, zubereiter and painters (app. II, 77). The zubereiter was probably also responsible for applying preparatory layers to large canvases.43 That experienced specialists did this work is supported by the fact that separation between the wooden supports and ground layers can rarely be observed today.

**Apprentices, helpers and journeymen painters**

The picture that we have today of painters working in the Cranach workshop and the methods used to train them is still very fragmented. Although individual names have been established and works similar in individual style
have been grouped together since the nineteenth century, and although Schade collated pieces of evidence from the archives in the 1970s, still almost no links have been established between the bulk of the surviving paintings and about two dozen workshop collaborators known by name. In more than four decades of workshop activity there must have been many more painters employed, and Schade is surely right to talk of ‘scores of young men’ coming ‘to do their apprenticeship in Wittenberg’. There was a hierarchy of assistants and Schade distinguishes between apprentices (lehrjungen) and journeymen (gesellen). The documents also mention hired hands (lohnknaben) and helpers (knechte). The first mention of a young apprentice occurs in the summer of 1506; like his master, Cranach, he received court dress (app. II, 13). In the summer of 1509, there were two boys working as Cranach’s apprentices and there is evidence of a third pupil in 1512. Usually there were two or three boys undertaking their apprenticeship in the Wittenberg workshop, which after a short trial period, normally lasted three years. Hamburg City Council sent Franz Timmermann to Wittenberg in 1538 and until 1541 regularly sent him payment in the form of money and goods. Acting on behalf of his absent father, Lucas Cranach the Younger also sent confirmation to Duke Albrecht of Prussia in January 1553 that a Heinrich Königswieser had been taken on as painting apprentice for a period of three years, ‘with the willing intention of teaching him portraiture and drawing as well as the preparation of paints and whatever else is necessary to this art’ (app. II, 315, 318). The duke offered to pay Cranach for the apprenticeship premium that was needed to provide the training and material as well as the pupil’s board and lodging. Königswieser himself, by his own admission, received neither premium nor clothing and asked the duke for financial support (app. II, 319). Apprentices Bartel and Alexander occasionally received seven or eight groschen a week during the building of the castle at Torgau along with the comment ‘have done as much work as a journeyman’ (hat als vil gethan als ein gesel); others were not so lucky (app. II, 218, 227).

Little is known about the teaching the pupils received at the time. They probably began by drawing, and they would also learn how to prepare the paint and eventually how to apply it. One can certainly assume that pupils would have learned how to mix the dry pigments and binding media on the grinding stone, but it cannot be taken for granted that this would have been one of their daily tasks. In one invoice, Cranach comments that a helper (knecht) ground paint for him (app. II, 272). The apprentices’ training very soon included painting work. After Lucas Cranach the Younger had officially taken on Heinrich Königswieser as an apprentice in January 1553, the boy sent the
duke his first little canvas (tuchlin) as early as April of the same year, proof of his newly acquired skills, accompanied by a request for further financial support (app. II, 319). As the costs for the apprenticeship were usually borne by the parents or patrons, it was normal for them to be sent items done by the apprentice. In a letter dated 4 April 1521, Duke Johann Friedrich requests that he be sent a panel by his painter so that he could see ‘all the good things he has been learning’ (app. II, 99), and on 24 April 1545, Cranach sent a Virgin to the court chamberlain, Hans von Ponickau, with the comment ‘done by your painter’ (app. II, 269). He must have been satisfied with the progress the boy had made as in the letter he also remarks that he, Cranach, ‘had not helped in any way. The boy did it on his own so you can see how much progress he has made’ (in gar nichts daran geholfen, er has allein gemacht, da seht ir wol wie er sich pesert). Finally, Cranach requests payment of the bills that he had enclosed (app. II, 269). This letter provides further proof that Cranach occasionally involved himself in the work of his apprentices, putting it right, if necessary.

To begin with, the apprentices had to practise by copying the models and panels that would have been in the workshop before being able to work more freely, producing variations of the reference material. Works such as Lucretia, bearing the monogram HD and dated 1514 (fig. 219), or a version of Salome from the year 1520 offer proof of this approach. Both are copies of Lucas Cranach the Elder’s surviving works (fig. 218). It is, of course, highly improbable that these works by the apprentices would have received the workshop’s quality signature, the winged serpent. On the other hand, it is not unlikely that the apprentices would have signed their first works with their own monogram. If the paintings were sent out as proof of artistic progress with a request for financial assistance, then the signature would have been helpful. The patron could hardly fail to recognise it as the work of the person he was supporting. So it was that in 1521, Duke Johann wrote to Elector Friedrich III with the request that his painter’s panel, which was otherwise not described in any further detail, be picked out from many others (app. II, 99). It is perfectly possible that Cranach required that the pictures be signed with a monogram in order to avoid confusion with any unsigned so-called ‘Cranach product’. However, research has until now always reached the collective conclusion that panels signed with a monogram indicate the latest point at which an apprentice left Cranach’s workshop. For instance, the previously mentioned Lucretia of 1514 (fig. 219) was used to date the end of Hans Döring’s activity in the Cranach workshop. On the other hand, technical examination of this panel now indicates that this panel may well have been produced in Wittenberg.
By the same token, the two paintings bearing the monogram FT and dating from 1534 and 1536 have generated uncertainty. Emmendörffer concludes that Franz Timmermann must have been a pupil of Cranach’s even before receiving his scholarship from Hamburg City Council.55 If it is assumed that these works were really painted by Franz Timmermann, then it is also possible that in 1538 or later he made copies of existing panels, including details of the year they were painted, in the Cranach workshop. This practice is known to have existed at least from a portrait of Martin Luther (FR 314C). Despite bearing the serpent signature and the date 1533, it can only have been painted, according to the results of dendrochronological investigation, from 1536 onwards at the earliest.56 An examination of the paintings in question could prove illuminating.

The principle of training and workshop practice presupposed each other. The young apprentices were certainly fully aware of the challenge and desirability of getting away from mere copying and learning the workshop method. On completion of their apprenticeship, only the most skilled painters might be permitted to produce paintings that received the serpent signature as an indication of quality. Obviously, Cranach could not take on all apprentices as journeymen. To what extent the apprentices were obliged to undertake years
of travel upon completion of their training is not known, but many must have
gone off looking for work with another master in another town at the end of
their training. Some returned to their patrons. Hamburg City Council refused
to allow Franz Timmermann to settle in any other city on completion of his
apprenticeship. Heinrich Königswieser worked for many years at the court of
Duke Albrecht of Prussia.

It is unclear whether a painters’ apprenticeship involved any further degree
of specialisation. Were there specialists for book illustration, panel painting,
large-scale canvases or decorative murals? Did the same hands which illus-
trated the Spalatin Chronicle carry out the menial task of house painting at the
castle at Torgau? The answers to these questions would allow more detailed
collections to be drawn about the size of the Wittenberg workshop.

From 1510 onwards, the payment orders refer first to four, then five, then six
journeymen, in 1511 there are eight and in 1512 nine of them. In the course
of the preparations for the marriage of the subsequent Elector Johann to Mar-
garete of Anhalt, which took place on 13 November 1513, Cranach employed
as many as ten journeymen (app. II, 56). Twenty-two years later, when he was
working on the decoration work for the castle at Torgau (fig. 220), he had ten
assistants working alongside him, including both his sons and two appren-
tices (app. II, 194). Whilst the payment orders usually refer to journeymen, Cra-
nach himself differentiates between gesellen (journeymen) and knechte (help-
ers) in two documents from the years 1544/45 (app. II, 266, 272). The helpers
gilded window mouldings, set stars in a window, worked on both sides of an
oriel, and ground paint for their master. Was Cranach making a conscious dis-
tinction between knechte and gesellen in this instance? The statute of the Ant-
werp St Lucas guild of 1442 distinguished between meestern, gezellen, knapen
and knechte. A master could employ knapen and knechte for a commission of
limited duration. In Strasbourg, the ordinance of the guild of painters of 1516
decreed that anyone who had not completed the work to qualify as a master
craftsman should do so forthwith, otherwise they would only be permitted to
have one gesellen (journeyman) and one knecht (helper) to assist them.

As a result of a new transcription, the records of accounts in connection with
the building of the castle at Torgau reveal differences in the type of payment
made (cf. app. II), indicating that there was a clear hierarchy when it came
to wages. In 1545, Lucas Cranach the Elder, as a master craftsman, received
three gulden plus food and travel costs for one week’s work (app. II, 272). His
sons Lucas and Hans received half that amount, that is, one-and-a-half gulden
a week (1535–37, app. II, 194, 205, 218). They were thus to be regarded as mas-
ter craftsmen subordinate to their father since the court chamberlain paid
the same sum as they received to master painter Caspar von Grimma (app. II, 206). Among the collaborators described as journeymen, only Hans Abel received a wage of one gulden a week (app. II, 194) and master carver Oswald, who was employed in Cranach’s workshop, received the same amount (app. II, 219). Hans, Jobst and Paulus Steter, Lucas Mereker, Benediktus, Marx, Pauel Ryß, Hans Rentz, Jacob Abel and others, amongst them also Franz Zubereiter and Ambrosius Silberbarth, were paid on average just half a gulden a week (app. II, 194, 205, 227 et al.). In 1545, six others described by Cranach as knechte (helpers) also received half a gulden in wages (app. II, 272). The varying levels of payment made, as well as the diverse designations given to his collaborators, make it clear that Cranach realised large-scale projects using painters with different qualifications.

During work on the Johann Friedrich Wing, Cranach only came to Torgau for brief periods (app. II, 194, 223, 224 et al.). For many months, he left the day-to-day supervision of the painters to his two sons. Hans worked on the site almost without a break from 15 August 1535 to 14 October 1536. The lower-paid assistants took turns at irregular intervals. Over a period of about three years, the records of payments refer to 11 different names; of these people, only four or five were employed there at the same time. This leads to the assumption that for simpler tasks Cranach engaged painters on a short-term basis and charged a smaller wage for them than for his regular qualified journeymen. Three of the so-called lohnknaben (hired hands) are in fact also mentioned in an order for payment in 1544 (app. II, 265); a few weeks later, the court chamberlain paid out the same amount, describing the assistants as knechte (app. II, 267). It has been proposed that the number of painters employed in Cranach’s workshop remained rather stable. Grimm hypothesises, that there were ‘for many years ten or eleven fully trained painters...whose work we ought to be able to detect as far as the surface of the paintings’. This is not supported by this analysis of the documents; in fact, it is clear that as court painter, Cranach ran not only a large but a very flexible workshop, often active in more than one place at time and with a variable number of employees.
While helpers or jobbing journeymen were carrying out decorative work (under supervision) in Torgau between 1535 and 1538, numerous panel and canvas paintings were arriving from Wittenberg. In other words, the master and other qualified painters were producing the items for furnishing at No. 1 Schloßstraße. This means that it is virtually impossible to link the jobbing journeymen by name to the paintings even if it were possible to establish that one or other of them painted on wooden panels or canvas or assisted with the work on them. According to the tax register of 1542, Cranach employed just two master painters, two apothecaries, a taverner and three maids. At times of highest productivity, he employed both his sons, several qualified journeymen, as many as six workshop assistants and three apprentices plus carpenters, woodcarvers and *zubereiter*. Workshops of this size are by no means unique. As early as 1388, Jean Baumetz had 19 assistants working for him in his Paris studio and the practice of realising large-scale projects using jobbing painters was widespread. For instance, in 1496 a master craftsman in Ulm could engage as many jobbing journeymen as he wanted.68

The records for payment reveal little information about the journeymen who were qualified to undertake panel painting (and were consequently more highly paid), or about how long they tended to remain in the workshop. Emmendörffer has dealt at length with some of these painters, showing how they developed their skills. Therefore, they will not be discussed here in any further detail.70 It is likely that Cranach also occasionally engaged qualified painters who had been trained in other workshops. One of these may well have been Christof Maler von München as early as 1505 (app. II, 5). In 1512/13, Cranach’s brother, Matthes, was involved in the production of the large altarpiece in Neustadt/Orla (app. II, 54). It is also possible that Heinrich Vogtherr the Elder, who was born in Dillingen on the Danube in 1490 and who did his apprenticeship in Augsburg, also worked for a short time in the court painter’s workshop. There is evidence that he was in Leipzig between 1514 and 1517 and signed the painting *Martyrdom of St Erasmus* with the coat of arms of Cardinal Albrecht of Brandenburg in 1516.71 It is in this painting that some significant motifs echoing the *Slaughter of the Innocents* (c.1515, FR 70) from Cranach’s workshop recur; these are discussed by Emmendörffer.72 Technical findings can now go further and suggest that the panel in question was also produced in the Wittenberg workshop. In the upper and lower quarter of the painting, two strips of tow cover the wood, a practice which is found on numerous works produced in the Wittenberg workshop from 1514/15 onwards.73 The painting could thus also be the first evidence of direct contact between Cardinal Albrecht of Brandenburg and Lucas Cranach the Elder.74
Although Cranach had a large and flexible workshop at his disposal, he was not responsible for every picture commissioned by the Saxon court. We know of works by Dürer and Burgkmair commissioned by Elector Friedrich III the Wise (app. II, 16) and of other painters who were employed in the electorate residences (cf. app. II). Some of those known by name are Jacopo de Barbari (1505), Paul Maler (1508), Meister Hansen, the court painter (1509?, 1522?, 1527),75 a painter of Mühldorf (1513),76 Franz Maler of Torgau (1514, 1527, 1536), Schlett Maler (1519), Steffan Schmeltzer, a painter from Wittenberg (1511, 1536/38),77 Eustachius Maler of Torgau (1527, 1530/32, 1536/37), Meister Caspar of Grimma (1536), Meister Bastian Maler (1536/38) and Franz Schiller from Leipzig (1542).78 Simple jobs such as whitewashing walls were the responsibility of various so-called tüchner (app. II, 61, 63). One or the other of these may have been a temporary collaborator or a subcontractor employed by Cranach. Occasionally, the office of the court painter required that other painters be commissioned, their work supervised and subsequent payment arranged. Thus in 1546 Cranach ordered 11 painted canvases from Hans Krell in Leipzig on behalf of the elector (app. II, 279) and in 1524 Hansen Jheger from Aldenburg altered a ceiling painting in the castle at Colditz ‘according to instructions from Lucas the painter’ (nach Lucas Malers angaben, app. II, 125).

As court painter, Cranach managed with remarkable adroitness to maintain a high standard of quality by employing several regular collaborators. In addition, he showed himself capable of responding to the volume of orders at any one time by taking on jobbing journeymen or other helpers who were employed on a temporary basis, and by working together with other painters commissioned by the court. In this way, Cranach coordinated a flexible workshop structure capable of functioning simultaneously in very different areas. Investigation shows that there was a division of labour between the various paintings commissioned, the decoration of architectural elements and simple jobs like applying whitewash. The more taxing of these jobs were mostly reserved for Cranach’s master journeymen. Jobbing journeymen and whitewashers were entrusted with simpler tasks such as decorative painting or coating walls. So far it has only been possible to piece together a sketch of the complex nature of the circumstances surrounding the allocation of jobs and terms of employment in the workshop. It becomes apparent, however, that Cranach developed a very efficient and flexible system to respond to a variety of demands by the court and other commissioners. The work of the journeymen and question of division of labour will be dealt with in the following section.
Artistic co-operation and exchange in panel painting

‘Art is not made by one artist but by several. It is to a great degree the product of their exchange of ideas with one another.’

Max Ernst

Serial production and division of labour

Separating the work of Lucas Cranach the Elder and his son Lucas Cranach the Younger was a question that concerned even their contemporaries. Emperor Charles V is said to have confronted the master about it. In the nineteenth century, the view came to be widely held that numerous works were produced by workshop members, resulting in a continuous reduction in the number of paintings attributed to Cranach the Elder himself. Thus the division of labour between the court painter and his journeymen has become the primary topic of research in more recent decades (see p. 36).

Schade, Koepplin and Erichsen all agreed that the division of labour in the workshop was less horizontal than vertical, that is to say, specialists in particular motifs (heads, robes, landscapes) did not collaborate on one panel and assistants were entrusted with the task of painting individual sides of shutters or even complete commissions – possibly following the underdrawing by the master. For instance, in Koepplin’s view, Cranach left both the design and the painting of the Neustadt Altarpiece (1511-13) to his pupils. Grimm, on the other hand, detects a whole range of successive stages and concludes that the master and journeymen were involved both in individual paintings as well as in distinct passages of the paintings. He pieces together a clear sequence in the way a picture was worked up with a division of tasks in terms of responsibility for individual stages of the picture with the involvement of many hands being the norm.

The problem is how, with paintings from one workshop, to distinguish objectively between the various hands. Since the pupils’ activity was an integral part of the workshop production, the judgement has to rely primarily on features of style and associated marks of quality. In material, as well as in technique, the works or parts of them do not differ significantly. Technical investigations expand the possibilities of stylistic analysis with both infrared reflectograms and X-radiographs rendering new assessment criteria. Microscopic surface examination only rarely contributes to clarification of the progression of work or to a delineation of thoughts on the division of labour. The aim in this section is to summarise the few findings from technical investigations that allow conclusions to be drawn about different forms of delegation.

It is suggested here that the division of labour in the Cranach workshop takes...
various forms, for example, between individual paintings and parts of polyptychs, between the different stages of designing and completing a painting (underdrawing, undermodelling and finishing) and between different passages of a painting. If features of style and quality are uniform and are distinguishable from other paintings, then these may be indicators of the fact that a painting was executed almost singlehandedly by the master himself, or by one of his assistants. The Ten Commandments (1516, fig. 64), the Martyrdom of St Erasmus (1516, FR 70), the Virgin and Child with Saints (1516, fig. 22) and the Darmstadt Virgin and Child (c. 1516/18) can be regarded as more or less contemporaneous examples of this kind of division of labour. The Darmstadt Madonna differs from works by Lucas Cranach the Elder and others closely associated with him not only in the style of the underdrawing and the style of painting, but also in the way the paint has been applied. In the face, light and shade have been juxtaposed with exceptional contrast in the course of the first application of paint and only subsequently harmonised with an opaque medium tone. Up to now, the same technique of modelling flesh tones has only been found on the more or less contemporaneous Virgin and Child with St Anne (c. 1515/16, see p. 207). Generally, the works of Cranach’s assistants can rarely be linked with one another; a homogeneous style and technique is not be expected from painters who were skilled in adapting their style to that of the workshop employing them, or who might still have been learning, or who were trained in another studio.

Differing features in style and quality reveal that, when it came to the painting of larger altarpieces, there was a division of labour between the centre panel and the shutters, or between the various permutations of side on display. Less competent assistants were usually delegated the side, which was on display every day. For example, the painting on the versos of the centre panel, standing wings and the predella box of the Neustadt Altarpiece differs in both style and technique (fig. p. 2, figs 188, 215). The individual painters cannot be recognised from the underdrawings of the retables examined, so it may be concluded that there was a division of labour at various stages in the production process. Again and again, different people were responsible for the underdrawing and the working up. For instance, the painter of the two panels depicting Adam and Eve (c. 1512) follows the outlines that have originally been drawn confidently in great flourishes rather clumsily and with obviously less understanding of form.

There is no doubt that the division of labour between different passages of a picture takes many forms. Close visual inspection of the alternate overlapping of individual areas of colour did not enable confirmation of the clear sequence of work, as observed by Grimm, who has suggested that passages
of dark colours were first blocked in, followed by a modelling of light and shadow and subsequently finely drawn details (see pp. 207-211). His hypothesis about the division of labour at these different stages of the painting process thus loses its validity. The possibility that a similar form of delegation did exist cannot, however, be discounted. A fixed working sequence allowed many opportunities for collaboration. It is perfectly possible that two different colleagues took on, for example, the grisaille-like undermodelling and the working up in colour. However, the alternate overlapping of various areas of colour and the relatively even ‘growth’ of different passages of the picture makes it very unlikely that there were specialists in the Cranach workshop concentrating solely on painting landscapes or solely on figures, taking turns as though on a rotating conveyor belt.

For example, the patterns of the gold brocade robes on the triptych with the Resurrection (c.1509) were drawn by an experienced hand at a very early stage. The subsequent modelling of the folds of the robes is hesitant, almost clumsy. Is this an instance where the master did not trust the assistant with the drawing of the brocade pattern, preferring to carry it out himself? By comparison with other areas of the picture, this pattern required a particularly steady hand with corrections well nigh impossible. Woermann detected a discrepancy in quality between the heads and the clothes in the Duke Heinrich the Devout of Saxony and the Duchess Katharina of Mecklenburg (1514, figs 68, 241), and he suspected that journeymen had helped with the painting of the magnificent robes. In this instance it is quite evident that, when compared to other examples, the quality of the drawing of the pattern of the brocade is not up to the usual standard (figs 225, 226). On examination, similar differences between heads, hands and clothing become apparent in other portrait paintings. Thus, division of labour could have come about as a result of the different degrees of difficulty of the commission, the significance of individual areas within the painting as a whole, and time constraints and costs in carrying out parts of the painting. The head of St Catherine on the Prague Altarpiece (c.1520) is modelled in noticeably thick layers of paint and the text in the open book laboriously written. Most of the letters in black have been subsequently outlined in white paint, further delineating shape (fig. 227). By comparison, the writing in the books of the other saints reveals the hand of a specialist (fig. 228). The letters here are evenly shaped; there are no corrections in white paint. It is difficult to attribute these figures to the master or to one of his journeymen. It is conceivable that, better at painting portraits, this painter did not possess the skill of a specialist when it came to lettering. The Elector Johann the Steadfast (1526, FR 311B) might provide further confirmation of a division of labour between painting and lettering: although the text, the date
and the signature appear to the viewer to have been carried out in the same green paint, under the microscope it is possible to differentiate between the mixtures of paint and the time of application. It was only after the portrait had been completed with the serpent signature and date as well as a final coating (which survives in parts) that the lettering, which is undoubtedly authentic, was added at the upper left. Another example of this division of labour, which depended on specialisation, is evident in the lettering, which was written or printed on paper and then glued to the panel (see p. 126).

Later corrections or additions do not demonstrate such a division of labour. The headdress of St Margaret on the Altarpiece with the Martyrdom of St Catherine (1506) has been reworked at an advanced stage of painting (figs 253, 256). The hand of the person doing the reworking reveals itself to be far superior in
style and quality to that of the first person, which leads us to suspect it to be the work of the master. Amendments in flesh tone, drawing of hair and landscape details are common. Three large animals have been added at a later stage to the London Adam and Eve (1526, fig. 178). Whether it was the hand of the same or a second painter who re-worked the composition is unresolved (see p. 213). Such corrective interventions are more rarely detected in X-radiographs of later works.

The examples quoted suggest that there were very different forms of division of labour in Lucas Cranach’s workshop. They vary in their dependence on different factors such as qualifications and time constraints, the task, format, use of patterns and models and not least, the importance of the commissioner. What is not discernible is a co-operative painting process whereby the various assistants are assigned a clearly defined individual task in the manner of assembly-line production.

The winged serpent is the trademark and ‘stamp of quality’ of paintings produced in the workshop. Its use confirmed that the work in question conformed to the master’s artistic concepts and standards of quality. The division of labour in the Cranach workshop was such that different collaborators were authorised to sign and date a painting. Comparison of contemporaneous serpent signatures (cf. figs 229-240) leaves no room for doubt that different hands were entitled to apply the trademark. There are differences not only in the shape of the serpents but also in the characteristics of handwriting in the numbers of the various dates. As post-dating was also apparently carried out, this restricts comparisons, so that it has not been possible to identify the painters in question more clearly. However, apart from Lucas Cranach the Elder, his son Lucas Cranach the Younger was probably one of them for many years.
Cranach's personal involvement

Closely connected to the question of the division of labour within the workshop is the question of the extent of the master’s personal contribution. About a century ago, researchers found it difficult to link the early works with Cranach. Currently, the fact that they were painted by the master himself has been undisputed. However, of the works produced after 1505, recent research attributes only the most competent to Cranach. In this context it is more difficult to determine his activity than the study of craquelure by Schuchardt suggests: if the master painter’s workmanship had really been
discernible from the craquelure, this would have closed the issue. At present, Grimm’s estimate that 90 to 95 per cent of the œuvre was painted by journeymen contrasts with a written source from 1550. In this, Lucas Cranach the Younger admits in a letter to Duke Johann Albrecht I that, in the absence of his father, he did not feel capable of realising a commission on his own. Therefore, according to this, in 1550 composing the design was still mainly the responsibility of the father.
Comparative analysis of a considerable number of infrared reflectograms led Sandner to the conclusion that Lucas Cranach the Elder drew the designs not only on paper, but also on the actual painting’s support. There are only a very few paintings that have been examined in which his involvement in the underdrawing can be ruled out with any certainty. However, his workshop collaborators probably adopted not only Cranach’s way of painting, but also his style of drawing. For this reason, Grimm attributes several examples of underdrawing to workshop collaborators, but he does not establish the criteria for determining the master’s contribution to preliminary drawings and the painting process with any certainty. The hypothesis that different types of underdrawing are preparatory for different painting procedures has barely been examined (see pp. 105-113).

Cranach certainly left the task of painting to his journeymen more often than the task of underdrawing. Based on the quality of the over 1000 surviving works, the highest standard paintings may be attributed to the master and the weak ones to the journeymen or apprentices. However, this leaves a large number of works occupying a less clearly definable middle ground in which stylistic analysis is of very limited assistance. Another problem in using quality as a criterion for establishing the hand of the master is that the possibility of a skilled and experienced journeyman achieving a high standard cannot be discounted. This was, after all, the essence of the assistant’s ability. Conversely, the master himself might be obliged to adapt his own method when correcting a passage executed by a journeyman in order to avoid awkward or disturbing visual inconsistencies. Thus it could be that the head of the workshop occasionally had to make his contribution at a lower level of quality.

Additionally, insufficient attention has been devoted to the different physical condition of the paintings. Often the practice of attributing a painting is based on an incorrect assessment of its present appearance: for example the failure to recognise extensive overpaint. The ageing of the painting’s structure and numerous interventions by restorers can complicate the interpretation of the image.
Since Cranach varied his techniques in the earliest paintings attributed to him, there is no consistent and definitive autograph style or quality that can be used as a hallmark of his work. In paintings clearly by his hand he differentiates individual figures by different methods of paint application and varying speed. In the panel depicting St Francis (c.1502/03, fig. 32), for example, different techniques of modelling have been used as an artistic device to differentiate between the saint and the resting fellow friar (see pp. 195-196). Later on, the works from his workshop are characterised by experimental variation in painting techniques. New stimuli and varied demands are reflected in differences in the speed and quality of elaboration. Examples here are the Fourteen Helpers in Need (c.1505/07, fig. 34) in Torgau, compared with the Martyrdom of St Catherine (c.1508, fig. 40) in Budapest or the Last Judgement (c.1520/25, figs 264, 266) in Berlin (see chapter II Techniques of painting). Grimm’s attribution of the Torgau panel to a journeyman is not borne out by technical examination. The ‘assistant’ responsible for this work would clearly have surpassed the court painter in artistic contrivance and speed of execution. To judge all the works of the first decade by the delicately elaborated Martyrdom of St Catherine (c.1508) means negating changes in quality as a result of specific commissions as well as his artistic rivalry with Dürer who painted the Martyrdom of the Ten Thousand for the Schlosskirche at Wittenberg in 1508. If we take into account the fact that, when working on churches and castles, Cranach also considered the location of display and thus different elevations and distances for the viewer, then the comparison of the paintings on their own without any knowledge of the proposed site for hanging or setting up is bound to fail. If a work was to be produced for display at a considerable height, this could influence the style of painting, calling for effectiveness, homogeneity and also a simplification.

As described above, there are numerous indications of the master and his journeymen taking turns in their involvement in a work. Assistants took part in works done by Cranach, and in turn, Cranach took part in works done by the assistants. Master and journeymen were active to differing degrees in various stages and areas of the picture. There is no doubt that the extent to which collaborators were involved in the overall work was enormous. Any attempt to delineate the work of Cranach alone clearly founders when it is understood that the whole aim of the workshop practice was to eliminate the possibility of separating hands as a result of differences in quality.

Patterns, replicas and variants
In line with the tradition of medieval workshop practice, Cranach possessed an extensive store of patterns and models, some his own, some of foreign
invention. Individual motifs and compositions were in use for decades. Schade, Erichsen, Tacke and Montout have thoroughly analysed this stock of material, of which fragments still survive. Their exhaustive findings were the starting point for these technical examinations, which have contributed primarily to the question of the portrait study and its use.

Presumably, Cranach noted compositions by other masters, observations of nature, architectural drawings and his own ideas for pictures in a portfolio or pattern book like the one that survives from his son Hans. The few preserved drawings by the father are mainly practical preparations for paintings. In accordance with their designated use, a distinction should be made between muster, or contract designs for commissioners, and the reference material, which would have been constantly consulted by the master and his assistants. For example, it is likely that Cranach himself drew the surviving scale models of altarpieces with folding shutters for Cardinal Albrecht of Brandenburg (fig. 18). Copies produced by less well-versed assistants, variants or drawings, which were made after the painting had been completed, augmented the workshop’s stock of materials or they formed the assistants’ own stocks. When carrying out the large commission for the Stift in Halle, the person drawing on the actual panels changed the compositions to such an extent that the preserved models cannot all be regarded as binding contract designs (Visierungen). The compositions of surviving paintings such as the Lamentation (c.1520/25) differ so much from the workshop models that it is safe to assume that they were copied freehand. Other drawings point to the assumption that technical devices were used to transfer the designs. Rectilinear grids are ruled on several surviving drawings; these were traditionally used by the painters for purposes of transfer and proportional enlargement. However, on Cranach’s panel paintings, no evidence of such squared grids has been found. Possibly this method was applied for large-scale canvas paintings or tapestries.

The store of graphic patterns was likely augmented by workshop models drawn or painted in colour. Just a few studies of portraits (figs 209, 247) and game on paper (fig. 15) survive, along with paintings on parchment, such as the ideal portraits of Christ and the Virgin (c.1516/20, fig. 207). Even among these items, a preparatory study for a picture cannot always be distinguished from a workshop copy intended for re-use later. The assistants drew on the wealth of patterns in the collage-like montage and variation of sujets. Serving as reliable guides, patterns were a constant guarantee of quality and could be used again and again over many years. Some of these workshop patterns and
models can be recognised in the paintings, drawn to scale, others reduced or enlarged, as a mirror image or with slight alterations.45

In addition to individual details complete panel paintings were also kept in the workshop store. Production of workshop copies was part of the training for the apprentices as well as part of the journeymen’s practice. A Salome, attributed to Hans Kemmer,46 fits into this category. The painting is dated 1520 and bears the monogram HK. It is a copy of Cranach the Elder’s panel from around 1510.47 The likelihood that ten years later the work was still to be found in the workshop cannot be discounted. The various differences in form, proportion, colour and detail, particularly in the robe, however, suggest that the panel was produced not next to the original, but after a workshop model, which was less elaborated. Koepplin48 noted that, apart from portrait series, it was not workshop copies but rather variants of the same subject that were produced in the Wittenberg studios (cf. figs 221-224). Cranach seems to have encouraged small variations...
each time a composition was repeated. However, there are also a number of surviving pairs of pictures among which are works by qualified journeymen (and occasionally a prototype from the master’s hand) rather than simply copies by apprentices (cf. figs 245, 246). To name but a few of the surviving examples, there is the panel of The Penance of St Jerome in Bremen (c.1515) and in the Georg Schäfer Collection;49 there is also a St Jerome in Mexico City (c.1515, fig. 245)50 and a version in Berlin (fig. 246).51 Whereas the first pair hardly differ in measurement, the painting in Berlin is reduced in size52 and adapted to a standard format (C), leading to the assumption that it was transferred free-hand from the signed version or another version. The surviving examples are evidence that prototypes and copies of various compositions were kept in the workshop as models to be copied again or varied, depending on the commission as well as the skill of the workshop assistants.53

**Portrait study and portrait painting**

Various surviving portrait studies on paper and parchment54 and several paintings worked up from these prototypes55 reveal a practice that was usual in the Cranach workshop (figs 209, 247, 248). The preliminary head study was executed in the presence of the sitter, recording portrait-likeness and physiognomic detail in colour. It is often produced with wonderful freedom and great speed leaving the clothing only briefly sketched. The model was either traced or transferred freehand, dimensions were adjusted and clothing varied as appropriate. The portrait painting could then be worked up from such a study without further recourse to the sitter. The procedure appears to have been fairly flexible. Portrait studies allowed division of labour in the execution and could be re-used. A head study of Elector Friedrich III wearing a wire cap was apparently in use for several years. The same likeness can be found on the retables in Dessau (c.1510, fig. 249), in Copenhagen (c.1510/12, FR 36), in Neustadt/Orla (1511-13, fig. 250), in Coburg (c.1515, FR 64B), in Zwickau (c.1518, fig. 251), on a lost portrait painting (c.1515, FR 64) as well as on The Virgin on a Crescent Moon (c.1516, FR 83).56 Here the workshop model was obviously adjusted to the scale on the paintings by freehand transfer.57 Two portraits of Duke Ernst IV of Brunswick-Grubenhagen (c.1542/46), from which there is a head study in Reims,58 also occur on panels in larger and smaller scale, respectively. Other paintings bear evidence that contours and volumes were transferred by tracing. For instance, in the case of Hans Luther (1527, figs 247, 248)59 and Duke Ernst of Brunswick-Lüneburg (c.1537/40),60 the portrait studies sketched in body colour on paper and the accompanying portrait paintings executed on wood are identical in size and facial details.
Furthermore, several portraits painted in series or variants appear to be based on the same head study. The use of standard formats would have facilitated repeated re-use of prototypes. Examples of such paintings include the portraits of Elector Johann the Steadfast in Weimar and Otterlo (c.1526) and the double portraits of the electors Friedrich III the Wise and Johann the Steadfast from the years 1532/33 (fig 102).

Fine, firm lines of underdrawing are characteristic of tracing using a stylus to transfer black pigment from the reverse of a study to the prepared panel (fig. 88). The examined portrait studies do not, however, give any indication that they were used directly as tracings; there are neither slightly incised lines to indicate the use of a stylus, nor pinpricks. The absence of this evidence suggests that there must have been an intermediary tracing made from the original study in colour and that this tracing was subsequently blackened on the verso and used to transfer the portrait. Instructions for the manufacture and the use of ‘oil-tempered transparent paper’ are given in the Nuremberg Kunstbuch and by Boltz von Ruffach: ‘If you wish to make a copy of a drawn or painted item, lay paper over it in such a way that the outline and the hatching and everything shows through and you can make an accurate copy of the original piece.

As yet there is no conclusive evidence for Lucas Cranach the Elder’s use of pouncing, a technique that involved pricking the outlines of a drawing on paper, laying the pricked drawing on the ground layer and dusting charcoal.
or other pigment through the holes by means of a pounce bag. The pricked cartoons depicting portraits of Martin Luther and Katharina von Bora belong to a later period, and even the perforated drawing of St Catherine was apparently not conceived as a stencil for a painting. Examinations have revealed pinpricks following not only the outlining but also the flat overpainting of the architectural background. Since the frame drawn on the image is also pricked, it is unlikely that it was used for a painting (see p. 259). On the Virgin and Child with Saints (1516), the lines of underdrawing dispersed in dots might well be the beading effect of an aqueous medium on an oil-based isolating layer. Occasionally macro-infrared reflectograms also reveal traces left by a drawing stylus or tracing on the imprimatura that give an impression of individual dots. In macrophotographs, these lines disperse in up to four dots per millimetre; from a technical and practical point of view, there would be no point in producing such a stencil.

Excursus: ‘A Portrait of a Young Lady’ – painted by Lucas Cranach the Elder?

In the past, art historical research has tried to provide evidence for the assumption that Lucas Cranach the Elder painted leading personalities of the time on the Altarpiece with the Martyrdom of St Catherine from 1506. The identity of some figures has been the subject of controversy for many years. A Portrait of a Young Lady (fig. 252) in the Germanisches Nationalmuseum in Nuremberg is directly related to the image of St Margaret on the right shutter.
of the altarpiece (fig. 253). Since 1882, the portrait painting has been recorded in the inventory of unknown authors.77 The central issue here is whether we are dealing with an early work by Lucas Cranach the Elder, a painting after the same preliminary study or a copy of a section of the retable. If this portrait was used as a *modello*, then it is of particular interest to know what the court painter’s intention was.

We see the half-length portrait of a young woman in a sumptuous robe. The headdress, in the shape of plaits with a wide golden band, identifies the sitter as a woman of marriageable age.78 Both the costume and the jewellery hint at wealthy origins. The light blue background and the inscription *Magdalena von Bu[ü]ritz* were later overpainted with a dark blue-green colour. On the top left the words *AETATIS SUAE XXI 1523* and a coat of arms were added. These latter additions were preserved when, between 1981 and 1987, the light blue background was uncovered and the present condition of the painting was achieved.79

The support of the portrait consists of a wide plank of lime wood. At some later point the lower edge of the picture had been cut by several centimetres.80 The underdrawing was executed with a dry black medium (possibly black chalk or charcoal) on the ground, which is a pink layer containing lead white, red lead and calcium carbonate. Some forms are drawn confidently with a single line while others are drawn with strokes of varying length, overlaid and
repeated to achieve more precision. The painting materials detected were not only in common use in the Cranach workshop but also in later centuries. Details such as the Virgin with the unicorn are drawn on a layer of gold leaf (fig. 259). Increased transparency of the lead-white-based flesh paint, presumably due to the change of the binding medium’s refractive index and the formation of metal soaps during aging, has affected the expression, leading to a sharper outline of the eyes and the nose, which makes the face appear more stern. The final modelling was achieved with thin, medium-rich layers of glazing that are now abraded, perhaps due to harsh cleaning methods in the past. In addition, the appearance that was originally intended has obviously changed due to many small paint losses (fig. 255).

The inscription *Magdalena von Buritz* is written in ochre-coloured mordant and gilded with gold leaf (fig. 254). The style of lettering makes it probable that it was executed in the seventeenth century. This would support the supposition that the portrait could be a later copy. However, the first inscription has been applied over a layer of varnish (fig. 254) and the pigmentation of the mordant differs from the gilding of the parts of the robe and the headdress. This means that the authenticity of the description *Magdalena von Buritz* is not certain. The question as to whether there is any link between the inscription and the person depicted remains unanswered for the time being. Von Buritz is a family of Austro-Hungarian descent.81
If the Nuremberg portrait is extended by four to five centimetres on the lower edge, in line with the width of the other bevelled edges on the reverse, the format becomes obviously narrower than Cranach’s Viennese dual portraits, but corresponds to the proportions of the large Crucifixion of 1503. Given the different places that Cranach stayed before being appointed court painter in Wittenberg, a comparison of the wood species and panel-making techniques would likely prove unproductive. It is possible, however, to draw conclusions by comparing the panels of the Wittenberg workshop as, in the early years, these were remarkable for their specific forms of production (see p. 57). The support used for the Nuremberg portrait is not typical of the early Cranach workshop at court.

The pink ground used in this portrait is unusual. As described in chapter II (see p. 97), according to the present stage of research into Cranach’s surviving works, only the St Jerome (1502) and the Holy Family (1504) have a light red ground. On the St Jerome, like the Nuremberg Portrait of a Young Lady, red lead, white lead and calcium carbonate were detected as components. Furthermore, Cranach often preferred a light red imprimatura, which in many instances turned out to be a mixture of lead white and red lead. According to investigations undertaken until now, Cranach’s interest in experimenting with both grounds and imprimature of different colours can be traced back mainly to the years of travel and the early years at court. However, there are also red lead grounds to be found in panel painting of later periods, for example with copies of Dürer’s works from the late sixteenth and early seventeenth century.

No chalk or charcoal drawings similar to those on the Portrait of a Young Lady have been detected so far on Cranach’s early panel paintings. He laid out the composition of the Altarpiece with the Martyrdom of St Catherine with a brush and a black liquid medium (fig. 256). The contours of forms and details are confidently defined. During the painting process, various passages were distinctly changed. While the face of St Margaret follows the preliminary drawing, her plaited hair originally was pinned up much higher than is visible on the surface. Moreover, infrared reflectography reveals a wide headband and the hairline on the temple in the underdrawing (fig. 256). The X-radiograph shows that at some later stage parts of the headdress were covered with foliage or they were reworked in brown paint. Cranach unified the form, adding the strand of hair curling down on one side and correcting a string of pearls with a black ribbon that runs round the head. These details are an important indication that either both works were executed after a modello that is no longer preserved, or that the Nuremberg Portrait of a Young Lady dates from before the Altarpiece with the Martyrdom of St Catherine.
If images of the paintings of the young lady and of St Margaret are superimposed in their original size, the outlines of the heads and of the left shoulders appear almost to coincide. The right shoulder of St Margaret, the anatomy of which barely makes sense, was made thinner because of the tight arrangement on the narrow vertical format of the altar wing. In the half-length portrait, the woman was painted in a sitting position, her right arm leaning on her thigh. The face of St Margaret on the Dresden altar is comparatively smaller and the eyes are a little closer to one another. Consequently, the expression of the face is more childlike. Although it is almost certain that both paintings are based on the same study, it is not clear how the composition was transferred. There is no obvious evidence that pouncing or other technical methods were used.
The two paintings differ not only with respect to the preparation of support, the ground and the choice of the drawing instruments, but also to painting technique. Whereas the flesh tones of the Nuremberg portrait were painted very quickly, St Margaret’s facial features appear to be more smoothly modelled, with the application of paint in layers. The execution of the costume and the jewellery on the Altarpiece with the Martyrdom of St Catherine remains inferior to the Nuremberg portrait (figs 257-260). For example, the golden braid trimming, the embroidery and the jewellery of St Margaret are not gilded, they are painted in ochre and yellow. The green pomegranate pattern on the braid trimming is more simply drawn than on the Nuremberg painting, and the painting of one of the crystal patterns on the strap went wrong (fig. 258). A cross-like pendant, as well as a cross in St Margaret’s hand, have been added as symbols for the defeat of the dragon. The different character of the materials depicted is imperceptible. The golden necklace does not correspond to the wearer’s anatomy or to the strength of weave of the brocade braid trimming. The second necklace, consisting of rectangular chain-links of the type repeatedly occurring in paintings by Cranach and Dürer around the turn of the century, is missing.

On the altarpiece in Dresden, the bib is also decorated with an embroidered edging (fig. 260). The Virgin, arranged in a mirror image, is facing the central panel, touching the front legs of the unicorn in her lap. The fact that the huntsmen are missing between the necklace and the golden braid trimming (cf. fig. 259) results in a shift of meaning. Did one of Cranach’s assistants not recognise the huntsmen’s significance, or indeed overlook them when painting St Margaret’s robe?

Two copies of the Altarpiece with the Martyrdom of St Catherine by Daniel Fritsch are known to exist from the sixteenth century. They were transferred using pouncing (fig. 262). In addition to the loss of the painterly quality, a different understanding of St Margaret’s garment is apparent. A thin silk shirt, indicated in bright folds, is closed up to the saint’s neck. The strap with the crystal pattern is positioned on the shirt. The remains of these white-blue folds exist on the Dresden version (fig. 261). There the X-radiograph reveals clear signs of damage in the area of the breast. On the Nuremberg painting, the shoulder is covered only with a semi-transparent white silk fabric (fig. 257), as a result the embroidered straps with the crystal pattern take on the obvious function of braid trimming for a shoulder piece.

The choice of the painting materials as well as the quality of the painting with its heightened understanding of function and detail make it unlikely that the Dresden Martyrdom of St Catherine served as a prototype for the Nuremberg
Recognition of this fact offers grounds for the assertion that the Portrait of a Young Lady could be a work by Lucas Cranach the Elder. In order to avoid time-consuming sittings for the model, the study for a portrait called for a rapid painting technique on the part of the painter. Use of a tinted ground helped meet this requirement. With the application of highlights and shadow tones, the volumes were easier to model on a medium flesh tone (a pale reddish colour) than on a white ground. The rapid completion of the face on a quickly applied ground and the somewhat carelessly prepared painting support of the Nuremberg portrait convey the impression that this could have been a painted study. The Nuremberg portrait is less representative than the surviving Viennese double portraits of Johannes Cuspinian and his wife Anna (1502/03, fig. 19) and of a scholar and his wife (1503, figs 26, 181) with their rich landscape backgrounds. The format is smaller and the background is just painted blue. Even though single portraits of women were very rare in those times, there is no evidence to suppose that this painting was part of a diptych. The assumption that the Portrait of a Young Lady might be a study painted in front of the sitter is, however, countered by the detailed execution of the robe.
In Cranach’s early paintings the flesh tones are rich in colour and tone and the modelling of details is assured. The surviving portraits differ clearly from each other in the application of paint. During this period Cranach uses quite different techniques. Nevertheless, the execution of the Nuremberg portrait seems somewhat rough by comparison. This difference is less apparent when comparing the saints on the wing versos of the Altarpiece with the Martyrdom of St Catherine. Rieffel and Schade suspected that a journeyman was involved in the execution of the shutters. The difference in speed and care visible in the X-radiographs could support this hypothesis. It is conceivable that the painting of the Nuremberg picture also involved an early assistant. Perhaps the painting of St Margaret and the Portrait of a Young Lady could be traced back to the same pattern.

Although technical examination cannot positively exclude a later date, paintings with closely similar techniques were executed before 1505. Could it be that Cranach was accompanied to Wittenberg by an assistant, who was involved in the Nuremberg portrait? There is evidence that as early as 1505 Christof Maler von München and a journeyman were employed in the court painter’s workshop (app. II, 5).

What we can be sure of is that in 1506 the Portrait of a Young Lady (either in its present state or another version) was used by Lucas Cranach the Elder in Wittenberg as a pattern for the painting of St Margaret. The underdrawing of the altarpiece was clearly based on the portrait and was altered and developed in the course of painting. A comparative examination suggests that assistants were involved in the execution of less important elements of a picture such as garments and headdresses. These indicate the use of patterns and display less understanding of the forms. Alterations in the position of St Margaret’s head and obvious corrections suggest Cranach’s involvement, particularly in painting the faces. As the technical examination establishes that individual sections of a picture were not completed independently of each other, the master and his assistants must have alternated working on the painting. Similarly, van Mander described the workshop practice of Frans Floris (1519/20-1570) in his Schilderboeck: ‘Frans set his journeymen to do the underpainting, after he had indicated to them his intention somewhat with chalk, letting them get on with it, after having said: Put in these or those heads; for he always had a good few of those to hand on panels.’

There are well-known examples of donor portraits being used as models for saints: Elector Friedrich III the Wise and his brother Duke Johann can be found on the wings of the Frankfurt altarpiece from 1509 as members of the holy kin-
ship. The use of the portrait of a young woman as a pattern for a female saint is of particular significance. A portrait had a representative function and as such it was of public interest, which suggests that if we knew who this young woman was, we would possibly have further clues to a greater understanding of the *Altarpiece with the Martyrdom of St Catherine*. However, we do not have an explanation for the fact that the woman painted as a saint is depicted as being younger. Nor do we have a monogram, which, as on other panels, might have helped the viewer to identify her. There must be doubts as to whether the painting of the Virgin with the unicorn served to identify a particular sitter because of the widespread use of this iconography elsewhere. Was this same person, who was then depicted in the role of St Margaret, recognisable anyway? Some portraits were perhaps determined as part of the commission. However, in other works, the depiction of actual likenesses would certainly have aroused the curiosity of Cranach’s contemporaries. It is ‘the highest accolade... to paint people and to paint them in such a way that they can be recognised by everyone and seem to be alive’. This remark made by Christoph Scheurl in his speech of 1508 and often regarded as an early tribute to the portrait painter is doubly appropriate here. Cranach was at pains to produce lifelike figures on the *Altarpiece with the Martyrdom of St Catherine*. Precisely painted portraits may have served like a ‘pattern book’ for this purpose. Cranach’s rational working method – he was renowned for being a fast painter – and his desire for verisimilitude, even going as far as naturalist trompe-l’oeil effects, are no doubt reasons for his using the portrait of a young lady as a pattern for the painting of St Margaret.

**Artistic exchange**

In addition to the designs and models of his own creation, Cranach worked with numerous inventions by other master painters. Research has revealed a good number of more or less obvious borrowings in terms of style and motif. In the early years, Cranach often used prints by other artists as patterns for his own compositions. He also knew how to make exact notes of the form and colour of painted works and incorporated these into the workshop’s collection of reference materials. The most impressive example is the copy of the *Last Judgement* by Hieronymus Bosch, which Cranach executed around 1520/25; this was probably not from the original but from a detailed colour study (figs 263-266). He also had a few originals by his contemporaries: panels by Barbari and Dürer were among the stock left in the studio on his death. Moreover, Cranach used models by other painters as well. There is a payment to Peter Spitzen in Brunswick for lending the Wittenberg court painter portraits of the Dukes of Brunswick, painted on cloth (app. II, 256).
Conversely, numerous painters outside Wittenberg, including former workshop assistants, drew on Cranach’s own wealth of designs. Grimm was the first to draw to public attention the portrait painting of Count Philipp von Solms, dated 1520. On the basis of the monogram H.D., he attributed this to Hans Döring, one of Cranach’s pupils. Technical examination, particularly the rendering of flesh paint, supports this hypothesis. It is known that by 1520, Hans Döring was no longer working in Wittenberg, but was already in Wetzlar in the service of the count depicted in the portrait. Features of the support indicate that it was produced outside the Wittenberg workshop.
However, the former pupil drew on Cranach’s study of a portrait, dated c.1520, for his painting. If the outlines and inner forms of the painting and the study are superimposed, both works coincide for the most part. Therefore, it seems that the painting was executed with the aid of this study of the portrait, a copy or a transfer drawing of the same, or a finished portrait painting. In addition, Döring used the portrait of the count on the retable in Nieder-Weidbach whilst members of the Wittenberg workshop used it for St Sebastian on the altarpiece in Eichstätt. The last two portraits are painted to an obviously smaller but also matching scale. The existing findings make various conclusions possible: either Döring left the Wittenberg workshop at a later point than has hitherto been assumed and was able to take studies, copies or transfer drawings with him, or Cranach let his former pupil have or borrow them after he left the studio. Either way it is thus proved that portraits painted by Cranach also found a use outside the Wittenberg workshop.

**Pacher, Dürer and Cranach**

Benesch, Weinberger and Burke have already pointed out stylistic resemblances as well as a few examples of the adoption of certain motifs between Michael Pacher, his pupil Marx Reichlich and Lucas Cranach the Elder. This drew attention to Salzburg where documentary evidence shows that Pacher and Reichlich worked there between 1495 and 1498. Bierende has also detected a Salzburg motif in Cranach’s early Crucifixion (c.1500, fig. 17). In depicting the rectangular keep and its battlements, in front of which to the right stands an outer castle, also with battlements, he has reproduced the Trompeterschloss fortress similar to the illustration in the Schedelsche Weltchronik.

New technical findings now lend support to the hypothesis that Cranach visited Salzburg and contacted the Pacher workshop. The materials that Cranach chose and his artistic techniques provide an indication that he not only studied Pacher’s works after they were finished but also had access to Pacher’s workshop practices, possibly even developing his own skills there. Michael Pacher produced his last great retable for the high altar of the Stadtpfarrkirche (now the Franziskanerkirche) in Salzburg. There is evidence that he was in that city from 1495, presumably moving there along with the workshop by this date at the latest. The retable was already in position and the work practically completed in the summer of 1498 when Pacher died. This monumental work, which cost the considerable sum of 3300 gulden, must have involved the participation of a large workshop. The only elements that survive are a fragment of a shutter showing The Scourging of Christ and The Betrothal of the Virgin and a panel depicting Joseph Cast into the Well.
In addition to general stylistic similarities between Cranach and Pacher that have been noted elsewhere,\textsuperscript{110} attention can be drawn to a shared taste for a particular purple colour found in the robe of \textit{St Barbara} (c.1500, fig. 268), which is attributed to the Pacher workshop,\textsuperscript{111} and Cranach’s \textit{St Valentine} (c.1502/03, fig. 267),\textsuperscript{112} as well as a certain warmth of tone in painting landscapes.\textsuperscript{113} In his later years, Pacher was concerned with defining a new relationship between figure and landscape,\textsuperscript{114} and the \textit{St Barbara} (c.1500) is reminiscent of Cranach’s earliest works. This hypothetical relationship based on style and motifs\textsuperscript{115} can be substantiated by technical evidence. Methods of underdrawing,\textsuperscript{116} paint application and modelling in Cranach’s early works all recall Pacher. A lively brushwork with broad, alternately spreading and stippling application of paint\textsuperscript{117} as well as an often diverging distribution of light and lead white are typical of both painters. This is visible in the flesh paint of the fragments from the Salzburg retable (cf. figs 269, 270). The modelling differs strikingly from the hatching technique used by Rueland Frueauf the Elder, who also worked in Salzburg. It also differs from the meticulous application of paint in Dürer’s works.\textsuperscript{118} In Pacher’s \textit{Scourging of Christ}, the heads of the thugs are modelled in
brown glazes and finished with sharply applied highlights. The same practice can be found in the faces of Cranach’s Saints Valentine and Francis (c. 1502/03). These techniques are not sufficiently characteristic to suggest the necessity of direct transmission from Pacher to Cranach; rather, they indicate how widespread comparable technical practices were, and, while the present findings do not prove Cranach’s activity in Michael Pacher’s large workshop, they do indicate a level of artistic exchange previously unexamined between contemporaneous south German and Austrian panel painters, which certainly warrants further investigation.

The nature and the degree of association between Cranach and Dürer is controversial. Both artists were about the same age and Cranach’s early works reflect a close scrutiny of Dürer. Drawing inspiration from his woodcuts as much as his paintings, Cranach reworked numerous motifs in new contexts. Koepplin rejected the suggestion that Cranach even actually worked in Dürer’s workshop. Erichsen, however, has argued that the degree of access to Dürer’s paintings implies that Cranach could well have been present in his studio. Possibly, like Dürer, he spent a period in Michael Wolgemut’s workshop and conceivably he spent time in Nuremberg both before and after his stay in Vienna.
271
Albrecht Dürer, Oswolt Krel, 1499. Panel, 49.7 × 38.9 cm. Munich, Bayerische Staatsgemäldesammlungen.

272
Albrecht Dürer, Jesus among the Scribes, 1506. Panel, 64.3 × 80.3 cm. Madrid, Museo Thyssen-Bornemisza.

273
Detail from Martyrdom of St Catherine, c. 1508 (fig. 40).

274
Albrecht Dürer, Lucretia, 1508. Drawing on paper, 42.3 × 22.5 cm. Vienna, Albertina.
Technical evidence lends support to a connection at the workshop level. A striking example of shared practice is the use of reddish grounds and *imprimature*. For the portrait of Oswolt Krel from 1499 (fig. 271), Dürer chose a reddish mixture of red lead and lead white, the same ground that Cranach used in 1502 for *St Jerome* (fig. 81); this ground remains exceptional within the work of both artists (see p. 97). Judging from the preserved works, Cranach applied a reddish *imprimatura* on a white chalk-glue ground for the first time on the *Crucifixion* from 1503 (fig. 27); this technique was also used by Michael Wolgemut and Albrecht Dürer only a few years earlier (see p. 103). Dürer chose this particularly efficient painting technique again when he painted his *Jesus among the Scribes* (1506, fig. 272), which was completed in five days. He modeled volume using the application of highlights and shadows over a medium flesh tone rather than a white ground. This was also a technique preferred by the quick-painting Cranach. Since the use of a red ground or *imprimatura* could not be deduced visually from the finished painting, this indicates familiarity with workshop practice routine at the time.\(^{126}\)

However, it seems that this borrowing was mainly one-sided and Dürer barely responded to the challenge,\(^{127}\) whereas Cranach pursued the artistic competition even while he was court painter in Wittenberg. Dürer painted the *Martyrdom of the Ten Thousand Christians* for the Saxon Elector Friedrich III between 1507 and 1508.\(^{128}\) Cranach finished the Budapest *Martyrdom of St Catherine* (fig. 40)\(^{129}\) of approximately the same size and proportion at about the same time. It probably relates to a further meeting of both artists. As the features of the wooden support for the *Martyrdom of St Catherine* differ noticeably from those of other Wittenberg works (see p. 65), it seems likely that the panel was produced outside the workshop, perhaps even in Nuremberg.\(^{130}\) This assertion is supported by the observation that Cranach probably used motifs of the *Heller Altarpiece*, which were being produced at the same time in Dürer’s workshop (1507/09).\(^{131}\) In addition, Cranach gave this work special attention in terms of composition and technical execution. The preliminary design on the panel appears to have been drawn in a concentrated way and with shadows partially deepened by hatching (fig. 87). This is reminiscent of Dürer’s urge for precision.\(^{132}\) Subsequently, Cranach applied the reddish *imprimatura*.\(^{133}\) In the course of the painting process, the composition was corrected again; the colour, plasticity as well as the materiality were modeled with an extraordinary sensibility. Some passages of paint were accentuated in a graphic way with a pointed brush, which again reveals a direct relation to Dürer’s meticulous painting (figs 273, 278).
Most likely Cranach had also studied Dürer’s depiction of Adam and Eve from 1507. This is evident in his earliest version of the same subject today in Besançon and until now disregarded by research (figs 275-277). Cranach relied on similar design elements: the progenitors are painted on two separate panels and stand on stony earth in front of a black background. Some details, such as Adam’s legs and feet – including their illumination – appear almost identical on Cranach’s version. Possibly Cranach also knew Dürer’s drawing of Lucretia from 1508 (fig. 274). The motif of her right hand plunging the dagger into her chest appears to be reused on Cranach’s Eve in a different context: here Eve holds an apple in her left hand in almost the same pose. The technical features of the two panels by Cranach are comparable to his early Wittenberg works: the planks are joined in cross-direction to the largest dimension of the panel and the *imprimatura* was applied with a brush more than three centimetres in width. An impulsive black brush underdrawing delineates individual forms without determining conclusively the borders for the rapid application of paint. Eve’s right foot was initially positioned adjacent to the left one, an almost mirror image of Dürer’s *Lucretia* (1508). This close relationship supports the assumption that Cranach developed his earliest version of Adam and Eve as a synthesis of Dürer’s inventions as well as his own ideas probably between 1508 and 1510.

It would, of course, be all too simple to explain Cranach’s artistic development from Pacher’s or Dürer’s work. Although his compositions and techniques are connected to their painting, they are nevertheless formed without doubt by his own artistic merit as well as numerous other stimuli and influences. The many references to Netherlandish panel painting, which appear in his work as a result of the journey of 1508, should be borne in mind. What is new in this exploration of Cranach is the recognition that there was apparently an exchange between these painters, which went beyond the appropriation of motifs and elements of style and took in aspects of the use of materials and the techniques of painting. This level of technical exchange leads to the conclusion that the painters met each other in their workshops.
276
Detail from Adam, c. 1508/10 (fig. 275).

277 (page 231)
Detail from Eve, c. 1508/10 (fig. 275).
The history of the reception of Lucas Cranach the Elder’s artistic practices is characterised by different perceptions and fluctuating interest. During his lifetime, the speed of execution and the lifelike nature of his painting were much admired, and, with the general rediscovery of German old masters in the eighteenth century, interest grew regarding the durability of his pictures. Only later did aspects such as the working process and division of labour within the workshop become the subject of art historical research. During the twentieth century, technical examination and instrumental analysis began to be widely applied to his work. As an integral part of this research, a considerable number of paintings by Lucas Cranach the Elder and his workshop were examined for the first time using a broad range of analytical methods. Evaluation of these results was undertaken in conjunction with an analysis of documentary sources and the practices of his contemporaries. The aim was to extend our understanding of the technical and artistic production processes in Cranach’s workshops.

Investigation into the interaction between different crafts in the course of the production of paintings and altarpieces shed light on the influence of non-artistic factors. The discovery that any change in the carpenters employed brought about a modification of techniques in the production of wooden supports has led to revised dating and provided insight into the original correlation of paintings. A completely new view of many pictures results from the evidence that Cranach carried out numerous commissions in standard formats. The majority of the surviving paintings produced between 1520 and 1535 can be categorised in a system of six format groups. Because of this we now understand that Cranach compelled himself and his assistants to harmonise designs within predetermined vertical and horizontal limits of the panel. Because different subject matter can be found within one standard format and the same themes appear also in different format groups, production without specific commission was presumably part of the court painter’s regular practice. Cranach replaced the medieval unity of panel and frame with a non-uniform sequence of operations. The frame could either be produced at the same time or upon completion of a painting, in accordance with the commissioner’s wishes.
The results of technical examinations and the evaluation of written sources bear evidence of carefully planned and co-ordinated stages of work from the first step – the production of the wooden panel – to the final step of packing in a case for transport. An analysis of display practices demonstrates that Cranach took into account not only the designated location of a work but also the position of the viewer, an aspect that until now has barely been reflected in the public display and viewing of his paintings in museums and galleries.

In his early years, Lucas Cranach’s search for new forms of expression corresponded with continually changing materials and techniques. The preparation of wooden panels is characterised by many – possibly experimental – variations. Pink-coloured grounds and light reddish *imprimature* not only enabled the painter, who was celebrated for his speed, to model flesh tints rapidly, they also provide evidence of more intensive artistic exchange with his Nuremberg contemporaries.

While serving as the Wittenberg court artist, he made full use of a great wealth of different painting materials. By deploying different precious metal leaves and powder in varying ways, he exploited numerous modes of decoration. The value of gold versus the artistic virtuosity of depicting it with paint were frequently reconsidered. New analytical results broaden our knowledge in terms of the variety, production, sources of supply, quality, prices and application of altogether more than 25 different colourants used in the painter’s workshop. This demonstrates that Cranach had a far wider range of pigments at his disposal than it has hitherto been possible to establish for his contemporaries Dürer and Grünewald. Pigments and binding media vary both within single works and across different commissions. The choice is influenced not only by traditions, the commissioner’s wishes and his financial resources, but also by local sources, as well as artistic exchange and trade. For example, Cranach used fluorite only on a few panels painted in Vienna, and the use of ultramarine apparently remains restricted to a short period after his visit to the Netherlands. In the second decade of the sixteenth century, Cranach reverted to more traditional combinations of material and extended his range of painterly effects by using various gilding techniques as well as aqueous and oil paints simultaneously on his panel paintings. This diversity of material diminishes with the serial picture production of later years where more finely ground pigments predominate. As a result, the paint layers are often extremely thin.

Investigation of the layer structure reveals, for the first time, evidence of Cranach’s constant search for both the most appropriate and the most efficient techniques. Usually each form was built up separately in several layers.
Starting with the flesh painting, which showed the greatest variation in technique, Cranach gradually worked up the whole image uniformly rather than completing one area after another in sequence. Cranach’s brushwork in flesh painting is predominantly rapid and vigorous. Changes in composition are rare and, compared to Dürer, he was definitely a ‘quick painter’. But in other cases, areas of flesh are built up laboriously in many layers and often the paint is stippled with a blunt bristle brush. This technique, which was particularly easy for Cranach’s collaborators to copy, became the predominant method for modelling flesh tones in his workshop in the second decade. While Cranach himself appears to have preferred methods to complete a single painting rather quickly, with increasing workshop production, the use of more traditional and time-consuming practices also increased. This can only be understood as efficient in the context of serial picture production. Cranach absorbed an enormous wealth of practices; he developed and varied them with consummate ease to fulfil both the commissioners’ expectations and his own ideas on painting. Several technical solutions, as well as forms of organisation, foreshadow later developments or occupy a unique position in the history of art.

This research offers a re-evaluation of Cranach’s canvas paintings. Preserved invoices show how inadequately the few surviving examples represent their early popularity and the range of subject matter. In the 1530s, Cranach painted almost as frequently on canvas as on panels and, in the following decades, the cloth support even predominates in his invoices. Between 1505 and 1553, more than 200 paintings were listed as being on textile supports and as many items again, which were intended for temporary use. In addition, during this period the workshop used more than 1200 ellen (c.500 square metres) of linen as a painting support. Account books and contemporary weavers’ ordinances have been consulted, as these document the different origin and varying quality of the cloth. Proteinaceous and oil-based paint media were identified by instrumental analysis, and technical particularities such as, for example, preparatory layers containing starch, were investigated in the context of contemporary painting. The use of a textile support was in accordance with Cranach’s quest for efficient workshop organisation and canvas paintings were popular with the court, as they were valued for their specific optical and technical characteristics, not just as inexpensive substitutes or practical alternatives.

Cranach’s invoices reveal that he painted not only on wood and textiles but deployed almost all techniques of painting for his time with great artistic finesse. He created not only individual items of furnishing but also decorations of complete rooms of impressive diversity. The range of his activity
extends far beyond that of his contemporaries Dürer, Holbein and Grünewald. The research shows that Cranach was particularly adroit at maintaining high standards of quality by employing several collaborators permanently, in addition to reacting to the level of commissions at any one time by engaging jobbing journeymen on a temporary basis or co-operating with other painters commissioned by the court. In this way he organised a workshop that functioned simultaneously on very diverse levels and in different areas. Close examination of the panel paintings suggests that there were different forms of division of labour in the workshop. This varied according to the competence of the workshop assistants, time constraints, the commission, the format, the use of preliminary studies and models, the significance of individual passages within a painting and, not least, the eminence and standing of the commissioner. There are numerous indications supporting the idea that the master and his journeymen were involved on an alternating basis even within a given painting. However, it was not possible to discern the existence of a co-operative painting process in which different assistants were allotted a clearly defined or consistent repetitive task as part of a ‘conveyor-belt production’. The attempt to make a clear distinction of the individual contribution founders on a workshop practice, the aim of which was to eliminate any separation of hands by ensuring imperceptible differences in quality.

As a result of this research, knowledge of how portrait studies were used in Cranach’s workshop has been considerably enhanced. What is of particular importance here is the discovery that a Portrait of a Young Lady, hitherto disregarded by earlier researchers, served as a model for St Margaret on the right wing of the Altarpiece with the Martyrdom of St Catherine (1506). The rational working method of such a rapid painter as Cranach and his quest for realistic representation are investigated as possible reasons for the integration of the portrait into the altarpiece.

The vast number of results from technical examination and instrumental analysis, as well as comparative evaluation with written sources, have allowed a detailed characterisation of the wide spectrum of materials and techniques employed in Cranach’s workshop. On the basis of this information it was possible to designate works which, because of obvious divergences, in all probability did not originate in the Wittenberg workshop. It will only be possible to distinguish clearly between the unique features of his techniques and general contemporary practice when more analytical results from his contemporaries become available for comparison. This research deals with the question of where Cranach could have found stimuli for his choice of material and his
techniques of painting. In addition to stylistic similarities, the technical findings suggest that there was an exchange between the young Cranach and the older Michael Pacher in Salzburg. Also, an artistic exchange between Cranach and his Nuremberg contemporaries Michael Wolgemut and Albrecht Dürer was obviously not restricted to the appropriation of motifs and elements of style, but took in aspects of use of materials and techniques, which at the time could not have been identified in the finished painting. This level of technical exchange leads to the conclusion that Cranach called in on these well-known workshops during his years of travel and took a good look at not only ideas for subjects but also the materials and techniques employed there. There is no doubt that his own techniques and artistic practices were shaped by his personal artistic talent as well as numerous other stimuli and influences.

By drawing together aspects of research in the fields of art history, philology, science and technology, it has been possible in the present study to elucidate the influence of materials and techniques as well as economic factors on the production of art, and thus considerably broaden our understanding of Lucas Cranach the Elder’s works. It is hoped that this example will stimulate intensified co-operation between the various disciplines in the future. There is no doubt that scientific and technical evidence, like historical evidence, continually needs to be re-examined and, where appropriate, re-interpreted in the light of new discoveries.
Notes

Preface
1 Herberts 1957, 1.

Chapter I

Cranach’s practice of painting in the judgement of history

Selected primary documents are collected in appendix II and are referred to in the text in the following way (app. II). Full references for all works cited in footnotes are given in the bibliography. For each painting, only the date is provided; full information is available in appendix I.

1 Herberts 1957, 1.

Cf. Heiland 1953; Ladendorf 1953.

Here an effort was made to take into account literature relevant from my point of view out of the immense and almost overwhelming number of publications since the second half of the nineteenth century.

Scheurl 1509 (Schuchardt 1851, I, 27-35)

Cf. Plinius XXXV, 77, 95. The realistic form of painting is also the subject in the writings attached to the letter of dedication by Christian Baivarius (Köhler 1794, 179), in the description by Philipp Engelbrecht in 1514 of a marriage bed painted by Cranach the Elder (Lüdecke 1953 A, 56-57) and in the poem of lament of 1536 by Johann Strigel on the death of Hans Cranach (Schuchardt 1851, I, 103).

Cf. Dürer writing to Jacob Heller on 4 November 1508 and 21 March 1509 (Faensen 1963, 100).

‘Quid referam expressum per mille exempla Lutherum’ Strigel 1536 (Schuchardt 1851, I, 105).


‘Sed mester Lucas est ein grober maler’, Luther 1545 (Kugler 1852, 49).

Lüdecke 1953 A, 138-139.

‘Maister Lucas churfürstlicher Moler zu Wittenberg hat under anderum auch dis lob gehabt das er den besten samet soll gemalt haben darumb das er in schwartz noch schwertzer und aufs aller-schwerzist hat molen kunnen...’, Neudorffer 1555 (Schuchardt 1871, 85-86). See pp. 162, 192.

Guderam 1556 (Lüdecke 1953 A, 84-88).


Cf. Goldberg 1890.

Daniel Fritsch of Torgau, for example, copied the Altarpiece with the Martyrdom of St Catherine (1506) in 1586 (Wörlitz, Gotisches Haus) and 1596 (Berlin, Tempelhof, Alte Kirche).

He ranked him among the ’good masters’ whose works have been mostly lost but are still to be found in engravings (Mander 1617 A, 10).

Sandart 1675, 74.

Christ 1726, 344.

Christ 1726, 346-347.


Reimer 1761, 33-34.

Hagedorn 1762, 742; cf. Wagner 1988, 16-17.

Cf. Berger 1912, 47-63.


Meusel 1780, 63.

Cf. Knirim 1839, 112; Fernbach 1845; Losos 1888, 123.

‘The immortal likeness of his spirit Luther brings out himself, his mortal features however the wax of Lucas’. Cf. Wex 1996, 8; Warneke 1984, 37-39; Strehle, Kunz 1998, 144.

Cf. Köhler 1794, 192.

Cf. Keller 1821; Kugler 1847; Schuchardt 1851; 1871.

His few remarks on technical details were wrong. The images of the electoral family are not painted upon a ‘gold ground’ which presumably at that time was a characteristic feature of old German masters (Meyer 1813, 3). Cf. also the wrong description of the paintings of the Leipziger Bilderfund of 1815, Heiland 1997, 155.

Lucanus 1828, 9.

Goethe 1830 (Heiland 1997, 10-19).

Morgenblatt für gebildete Stände, 22 March 1815, No. 69, 273-274 (Heiland 1997, 155).

Cf. Holst 1934, 32, 43.

‘...nicht wenig hierzu trug die glückliche Wahl gut getrockneter Tafeln von Lindenholz bei, die er gut zu grundieren verstand, und die von Würmerfraß und Restauratorenhand bis auf den heutigen Tag verschont geblieben sind’, Schadow 1825, 96. The technique was also valued by art-loving writers of this time. Concrete comments remained the exception, however. Cf. Schopenhauer 1822.

Cf. Voigt 1820, 242-265; Förstemann 1836, 1837.

Schuchardt 1851, I, 89.

Schuchardt 1851, II, 8.

Schuchardt 1851, I, 120.

Kugler 1852, 47.

Kugler 1852, 67.

Eisenmann 1877, 34.

Lindau 1883, 234.

Cf. Meyer 1813, 3-5; Schadow 1825, 96-99; Howard 2003, 1; Nadolny 2005, 1028-1033.

Cf. Knirim 1839, VIII; 1867 Pettenkofer expressed this necessity (Eibner 1922, XIII).


Cremer 1895, 81; cf. numerous publications of the Deut-
sche Gesellschaft zur Beförderung rationeller Malverfahren in Technische Mitteilungen für Malerei since 1884.

49 Friedländer 1899, 238-249.
51 Woermann 1900, 88.
52 Flechsig 1900, 7.
53 Michaelson 1902, 2-4.
54 Friedländer 1902, 228.
55 Friedländer 1902, 228.
56 Cf. Friedländer 1902, 2.
57 Ameseder 1910, 80.
58 Heidrich 1909, 8.
59 Roch 1910, 268.
60 Benesch, for example, describes the cloak of St Francis (c.1502/03) as painted on a reddish-brown ground, and mentions ‘clear layers of varnish’ to the ‘thickness of several millimetres’ between the different paint layers of the foliage (Benesch 1928, 98).
61 Flechsig 1909, 93.
62 Cf. Friedländer 1919, 84; Glaser 1923, 96; Schenck zu Schweinsberg (Schade, Schuttwulf 1994, 18).
64 Friedländer 1909, 276.
65 Raehlmann 1910.
66 Eibner 1909, 421-422.
67 Doerner 1921, 187-191; Wehle 1946, 164-166.
68 Gronau 1972, I, 137.
70 Decker 1983, 50.
71 Guratzsch 1997, 66.
72 Benesch 1928, 1.
73 Michaelis 1989/90, 131.
74 Degen 1953, 195.
75 Riemann 1972 A.
76 Staatliche Museen zu Berlin 1980, 47.
77 Old entry in the Conservation Report on the Altarpiece with the Martyrdom of St Catherine, Staatliche Kunstsammlungen Dresden, Gemäldegalerie Alte Meister, unpublished.
78 Giebe, Schölzel 1996, 72.
80 Koepplin, Falk 1977, 53-54.
81 Guratzsch 1997, 60.
82 Mahn 1972, 276-277.
83 Zaglmair 1988, 25-30, fig. 48-54; Barkowsky 1980, 76-77.
85 Faber 1914.
86 Bode 1921.
88 Brandmayr 1930; Wolters 1932.
89 Wolters 1938, 53.
90 Today the collection contains X-radiographs of more than 75 panel paintings by Cranach the Elder, Cranach the Younger and by the workshop. The material is kept in the Landesamt für Denkmalpflege, Sachsen-Anhalt in Halle/Saale.  
92 Couto, Valadares 1938, 49-54.
93 Since c.1928 paintings are examined in ultraviolet light (Nicolaus 1978, 35-37).
94 Benesch 1928, 78, 81.
96 Riemann 1972 A; Mairinger 1972; Gronau 1972; Schade 1972 A; Schade 1974, 48-49; Schade 1977, 11-12.
97 Hentschel 1948; Dege 1953; Kostrov 1954; Wenig 1954.
98 Scheidig 1953; Lüdecke 1953 A; Schade 1974.
100 Schade 1961/62; Schade 1972 A, B.
101 Schade 1972 B, C.
102 Riemann 1972 A, B.
103 Giebe, Schölzel 1996, 72.
104 Koepplin, Falk 1974, 12.
105 Friedländer, Rosenberg 1932.
107 Giesecke 1955, 187.
108 Koepplin, Falk 1974, 12. On painting technique, one still refers to Benesch’s comments of 1928. The condition of the works was not always well established so that, for example, Cranach’s Self-portrait (1531), was wrongly taken to be a fragment of a larger panel (see p. 47).
112 Cadorin, Brockhoff 1994.
114 Grimm 1994, 42.
119 Giesecke 1955, 187.
120 Giebe, Schölzel 1996, 72.
121 Koepplin, Falk 1974, 12.
Chapter II

Panel painting

The wooden support

4 Cf. Tacke 1994, 54.
6 This kind of coordination is clearly visible in the Neustadt Altarpiece (1511-13) in St. Johannis at Neustadt/Orla. Cf. also Koller, Wibiral 1981, 177.
7 Sächsisches Staatsarchiv, Dresden, Loc. 9126, Artillerie- und Bausachen 1576-1584, Bl. 446; Schade 1974, 452, No. 529; Löcher, Gries 1997, 171.
8 FR 4 (56.5-55.8 x 41.4-41.6 cm).
9 FR 6, 7 (60.3-60.1 x 45.4-45.2 cm; both panels trimmed at the sides c.0.3 cm).
10 FR 8 (54.0 x 40.3 cm); FR 9 (52.6-52.4 x 36.2-36.4 cm). Both panels were trimmed along the edges to a varying degree. Due to preserved ground edges the original measurements of c. 54 x 40 cm can be reconstructed. In this, Koepplin’s assumption that the panels in their untrimmed state were the same size as those of the Cuspinian portraits, is thus not confirmed. Cf. Koepplin 1964, 66.
11 FR 10 (70.8-70.5 x 52.9-52.5 cm).
12 Pythagorean numbers (after Pythagoras of Samos) result when three connected whole positive numbers a, b, c, make up the equation $a^2 + b^2 = c^2$, e.g. $3^2 + 4^2 = 5^2$.
14 FR 77, 379, Sup. 6A.
15 It remains an open question whether the largest preserved panels from the Wittenberg workshop, along with contemporary Flemish altarpieces, relate to the lengths in which boards were traded. It is more than likely that, apart from the wishes and financial means of the commissioner, the characteristics of the material and workshop capacity set upper limits for the largest panels. Cf. Verougstraete-Marcq, Schoute 1989, 16-17, 77. The centre shrine of the Neustadt Altarpiece (1511-13) is 282 cm high and 225 cm wide, the wings with frame have a dimension of 282 x 112.5 cm. Assuming that one elle is equivalent to around 56.6 cm, then the width of the shrine would be 4 elles and the maximum length of boards 5 elles.
16 FR 64D, 91, 100, 156 et al.
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[34] FR 166, Portrait of Emperor Charles V, Eisenach, Wartburg-Stiftung.
[37] More than 210 panels were investigated (Friedländer, Rosenberg 1978, Nos. 140-350), winged altarpieces, diptychs or parts thereof, and tondi excluded. The measurements are mainly based on Friedländer and Rosenberg. Inaccuracies result from this, since trimming has hardly been taken into account and little agreement existed as to whether it is the painted surface or the size of the panel which is given as measurement. For a more precise evaluation, most panels would have to be measured again. The formats (A-F) were named by the author (cf. Heydenreich 1998A).
[38] Cf. Alberti 1957; Pfeiffer 1975 and appendix Measurement and Coinage.
[40] Grimm 1994, 42.
[41] In order to achieve a consistent size in all models, the corner points are marked with pinholes, in other words a stencil was transferred onto the individual sheets with a needle. Using a ruler and a pen, the holes were then connected to each other. Cf. Tacke 1992, 236-237; Tacke 1994, 54-55.
[43] According to Friedländer, Rosenberg 1978. By the fifteenth century, altarpieces in the southern Netherlands had already been standardised and it can be assumed that standardisation was also applied to panels made for use as painting supports. In the late sixteenth century this practice was widespread. Cf. Campbell 1998, 23; Brujin 1979; Jacobs 1989; Wadum 1998, 160, 182-83; Wetering 1986, 13-17; Kirby 1999, 20. In England, for example, Anthonius Mor painted several portraits on panels of the same size. Campbell 1990, 65.
[44] Schade 1991 B, 9, 45, according to the result of an investigation by the conservators Anke and Jan Großmann, Dresden, on 27 February 1992. Schade considers the date to be c. 1800. A recent examination confirmed that the composition of the ground and the painting materials on the extended board differ from those on the larger part of the painting.
[46] FR 123, 124, 155, 199, 200, 329 et al.
[47] FR 76, 214A, 303 et al.
[48] FR 311A et al.
[50] Friedländer, Rosenberg 1978, 111, No. 214A.
[51] I am grateful to Jutta Waschke, Landesamt für Denkmalpflege Rheinland Pfalz, Mainz, for the joint examination.
[53] The species given by Schütz 1972, 17, Cadorin, Veillon 1976, 443, Koller 1984, 287 and Schütz 2000, 123 are incorrect. Current identification was carried out by Peter Klein.
[55] The investigations by Koller show that spruce is the wood most frequently used in the alpine regions and those along the Danube for panel paintings between 1300 and 1580 (Koller 1999, 38). The panel in the Angermuseum at Erfurt bearing the legend of St Barbara (c.1530/40) is said to be of spruce, but for this we have no definite results.
[56] Altarpiece of the Virgin (1518), Brandenburg Cathedral, Altarpiece of the Virgin (c.1520/20), Kade (here the shrine is made of coniferous wood and the shutters of deciduous wood).
[59] FR 115 and the Posterstein Crucifixion, Gera, Kunstgalerie.
[60] FR 379, Sup 6A; Weimar, Stadtkirche St. Peter and St. Paul.
[63] Friedländer 1919, 84; Glaser 1923, 96; Koepplin, Falk 1976, 679-683; Friedländer, Rosenberg 1978, No. 27, 28, 56; Schade, Westheider, Schuck 2003, 166. The identification of oak is not sufficient to prove that panels were made in the Netherlands. Also in 1509, Master Hansen, for example, receives ‘Two oakwoods from Cuntzen Balbirer ... for the panel for the new altar’ (app. II, 36). The support of the Portrait of a Woman (c.1508) shows a wide bevelling on the reverse, corresponding to many sixteenth-century Dutch panels (cf. Wadum 1998, 160-161). The coat of arms on the ring finger of the Man with a Rosary (c.1508), apparently that of the Dutch family of Six te Hillegom, would support the view that both pictures were painted in the Netherlands.
[68] Campbell, Foister, Roy 1997 B, 17. As a contradiction, Bünsche 1998 A, 61 and Bünsche 1998 B, 31 names oak as being the support for a portrait of Elector Johann the Steadfast (c.1532) at Schloss Gottorf, although, according to Bünsche (Grimm, Erichsen, Brockhoff 1994, 355-256), only the text was mounted onto an oak panel extension and the actual support, according to details given by the author, is beech.
[69] In Bünsche 1998 B, 31, oak is also named as being the support for a portrait of Martin Luther (c.1543).
Since the eighteenth century, the tool Schrubhobel (or Schrupphobel) is known at least since the eighteenth century. Depending on the area, it was also named Schaufel-, Schärf-, Scharf-, Schur-, Schrupphobel. The term tow (werg) is used here as a technical term to describe fibrous materials (cf. Grimm 1960, 312-320), which could be vegetable fibres (flax, hemp etc.) but also animal products (silk fibres, hair etc.).

The boards of the 100 panels examined so far can be attributed to a small number of trees (Klein 1999, 33). The boards of the 100 panels examined so far can be attributed to a small number of trees (Klein 1999, 33).
length of boards amounted to approximately 12 Antwerp feet (28.68 cm), i.e. approximately 340 cm (Verougstraete-Marcq, Schoute 1989, 78).

112 Theophilus (Ilg 1874, I, XVII).
113 Grimm (Schade 1974, 37.
114 Friedländer, Rosenberg 1978, 68, No.11.
115 Grimm, Erichsen, Brockhoff 1994, 151) as well as Schneckenburger-Broshchek 1997, 53-58, suggest that it is the first preserved commission from another court.
116 There are a few examples in southern German, Austrian and Venetian panel painting, but even in those regions this method is rare. In northern German panel painting, this technique is widespread before 1400. Albrecht, U., personal communication. Cf. also Koller 1984, 283-284; Bartl, Gärtner 1997.
117 The painting was transferred from wood onto canvas and is in poor condition.
118 Koepplin assumes that this little altarpiece was made outside the Wittenberg workshop (Koepplin, Falk 1974, 32). Erichsen proposes that it was a diplomatic gift (Grimm, Erichsen, Brockhoff 1994, 151) and Schnackenburg, Grimm (Grimm, Erichsen, Brockhoff 1994, 315) as well as Schneckenburger-Broschek 1997, 53-58, suggest that it is the first preserved commission from another court.
120 Depending on the size of the support, there are also thicker and thinner panels, e.g. FR 68: 0.3 cm; FR 189D: 0.2 cm; "Altarpiece of the Virgin, Aschersleben 1.9 cm; FR 379: 2 cm. In comparison, the thickness of the boards of coniferous woods varies between 1.3 and 2 cm.
121 While Friedländer, Rosenberg 1978 describe this version as the earliest (c. 1510/12), Schade 1974, 459 places the Warsaw panel at around 1510. The Crucifixion (FR 92) was most probably painted after 1510 (cf. Brinkmann, Kemperdick 2005, 181-187).
122 This panel belonged to the Cathedral of Wrocław (Breslau), but before 1950 it was replaced by a copy (cf. Stankiewicz 1965). The original was offered to several museums and it appeared on the London art market in 1972, confirmed by an X-radiograph discovered by the author. The present location is unknown (cf. Kretschmann 2001, 39-56).
123 In 1536, the transport by cart between Wittenberg and Torgau (c. 50 km) cost between 12 and 18 groschen. At the same time, Cranach prices a wooden support complete with case at 16 groschen (app. II, 205, 222-224, 237, 280).
124 FR 132, Crucifixion, Mahlis, Evangelische Kirche et al.
125 This panel belonged to the Cathedral of Wrocław (Breslau), but before 1950 it was replaced by a copy (cf. Stankiewicz 1965). The original was offered to several museums and it appeared on the London art market in 1972, confirmed by an X-radiograph discovered by the author. The present location is unknown (cf. Kretschmann 2001, 39-56).
126 The widths of the lime panels usually vary between 3 and 25 cm; widths of more than 30 cm were rarely used. Comparing this with coniferous wood panels, more regular widths of between 10 and 25 cm were used. They are almost identical in FR 77, 78, 79.
127 Bartl made similar observations on Franconian supports from the same period (Bartl 1998, 307-308).
128 Schade, Schuttwulf 1994, 17, 216.
129 This panel belonged to the Cathedral of Wrocław (Breslau), but before 1950 it was replaced by a copy (cf. Stankiewicz 1965). The original was offered to several museums and it appeared on the London art market in 1972, confirmed by an X-radiograph discovered by the author. The present location is unknown (cf. Kretschmann 2001, 39-56).
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124 FR 132, Crucifixion, Mahlis, Evangelische Kirche et al.
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Virgin, Kade et al.

This observation makes a rather unconvincing hypothesis FR 64B, 77, 84, 112, 141, 241 et al.

The use of vegetable fibres (flax and hemp) was common FR 64D, 285, 379 et al.

I am grateful to Felicitas Weiße for this analysis.


Knowledge of the direction in which the boards were joined and the presence of a strip of tow in the upper third leads to the conclusion that this panel was originally an upright format and which was cut by at least 22 cm along the lower edge.

FR 48, 74A (the mention in Bartl 1997, 130 ‘along the joins’ is not correct); 84, 85, 87, 105, 112, 112A, 115, 119, 119A, 120, 132, 185, 241, Posterstein Crucifixion, Gera, Altarpiece of the Virgin, Kade et al.


Similar applications of tow on the back, as preserved among others on panels by Altdorfer, Burgkmair and Wertinger, remind us more of the function of cross-battens. Cf. Sandner, Ritschel 1994, 189; Bartl, Gärtner 1997, 27, 118, 551.

Koller 1984, 84; Koller 1999, 42.


Oellermann, E., personal communication; Bartl 1998, 308.

Madrid, Prado, Cat.-No. 2179. On other works by Dürer Hoffmann 1992, 35.

Cadorin, Veillon 1976, 443.

Hoffmann 1992, 35.

Sandner, Ritschel 1994, 189.


I am grateful to Felicitas Weiße for this analysis.

The use of vegetable fibres (flax and hemp) was common practice in Spain (Hodge, Spring, Marchant 1998, 74).

‘Item nym die tafel oder das pild oder was du symt von holcz vergolden wilt und lieg es ob nest hab, oder pech clumsen, die schrot her auß und leym ander holcz hin ein...’ Liber illuministarum fol. 100, Munich, Bayerische Staatsbibliothek, Cgm 821, c. mid-fifteenth century up to 1512, text according to Bartl 1998, 306, cf. Huth 1923, 55; Straub 1984, 138.

FR 64D, 285, 379 et al.

FR 38A, 47A et al.

FR 64B, 77, 84, 112, 141, 241 et al.

This observation makes a rather unconvincing hypothesis put forward by Tacke even more questionable: he proposes that this work was carried out in 1520 in the Cranach workshop, by the Master of the Pope Gregory Masses, and that another pupil added the portrait of the Bishop at the customer’s venue (Tacke 1992, 42-44); cf. also Erichsen (Grimm, Erichsen, Brockhoff 1994, 329-330). Further technical examination may perhaps help to determine more precisely where this panel was made and also shed light on the connection with the wing paintings, today in a different collection (Eichstätt, Bischoflicher Stuhl) showing the Saints Roch and Sebastian.

In comparison with the panels dating from 1506 to 1510/11 the practice of joining in cross direction here can be explained by the more economical use of the usually wider boards.

FR 89A, 129, 141 et al.

FR 184, 179, 182C et al.


Michaelis 1989/90, 130; Friedländer, Rosenberg 1978, on the other hand, date the work to c. 1520.

Frames

1 App. II, 243.


4 Cf. Heyck 1908, 10, fig. 5.


7 FR 19, 23, 47A, 64D, 77, 95, 148, 176, 177, 187, 188, 312B, 313B, 312D, 313D. Adam and Eve. Leipzig, Museum der bildenden Künste, Inv.-No. 1269; Elector Johann Friedrich I the Magnanimous and His Wife Sibylle (1535), Gotha, Schlossmuseum, Inv.-No. 52/13, 52/12; Elector Friedrich III the Wise and Elector Johann the Steadfast (1532), Bildarchiv, Foto Marburg, Neg.-No. 145709, 145710; Crucifixion, Mahlis, Evangelische Kirche.

8 FR 187, 188, 189D (reconstruction possible on the basis of examination) and Hamburg, private collection.

9 FR 10, 11 et al.


11 On the Kemberg Altarpiece (1565) from Lucas Cranach the Younger’s workshop, wooden nails were inserted laterally into the sides of the mouldings.

12 The diptych with St Jerome and St Leopold is a notable exception (FR 68). The panels were provided with a bevel on the front side.


14 FR 47A, 64D.

15 FR 47A

16 In a letter to Dieter Koepplin dated 19 July 1973, F. Lahusen emphasises that in the course of the restoration of the frame (1971-72), it was revealed that it certainly originated from the time that the painting was produced and that it was reworked at a later date. The new gilding and polychromy covering the whole surface did not allow us to check if the frame’s material was the original one.

17 Mieth, Koch, Günther, Fritsche, unpublished examination.

38 FR 19, 176, 177, 312B, 313B.

39 Possibly as a result of similar experiences, Dürr gave different instructions for the Heller Altarpiece: ‘And it would be good if you had the hinges screwed on so that the painting does not vibrate’. (Und es were gar gut, das ihr die bandt afschrauben liest, as das sichs gemäld nit erschelle.) Decker 1996, 114.

40 ‘2 gr idem für vier strenge, damit man die tafel, daran das jüngst Gericht gemacht, hat angeschlagen. 6 pf idem für 1 schlüssel zu derselben tafel, 6 pf vor ein riegel dazu.’ ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. 288a Nr 14, fol. 120r; text after Scheidig 1972, 302. Scheidig’s assumption that it might be FR 99 is rightly questioned by Michaels 1989/90, 130.


42 Grimm 1978, 52 describes this shape as a Tyrolean type of frame. Comparable examples are also preserved from different regions. Cf. Sander 1993, 226.


44 FR 312B, 313B, 312D, 313D, Elector Johann Friedrich I the Magnanimous and His Wife Sibylle (1535), Gotha, Schlossmuseum, Inv.-No. 52/13, 52/12; Elector Johann Friedrich III the Wise and Elector Johann the Steadfast (1532), Bildarchiv, Foto Marburg, Neg.-No. 145709, 145710.

45 Wittenberg, Lutherhalle (FR 77).

46 FR 77, 88 and the Posterstein Crucifixion. According to information kindly supplied by Angela Möller, Dresden, the present frame of the Posterstein Crucifixion is a copy. However, the original frame of the same profile and adorned with rosettes is shown by Degen 1953, 195, fig. 3 (the condition in 1870).

47 Cf. the depiction of the Virgin on the painting Cardinal Albrecht as St Jerome (FR 186), the Altarpiece of the Virgin (1518) in Brandenburg Cathedral and the Crucifixion (c.1523) in Dessau. The casetta frame illustrated by Grimm ‘of a picture from the Cranach workshop, c.1540. Munich Pfefferle’ (Grimm 1978, 53) is a copy after a frame, dated presumably 1565, although the place where it is kept has not yet been established. (Cf. also the frame of the relatable in the Johann-Friedrich-Dannell Museum in Salzwalde.) The frame of the Golden Age (FR 261) is also a copy of this more recent model, carried out in the twentieth century by the Pfefferle Framing Workshop. I am indebted to Mr Pfefferle and Bruno Heimberg, Munich for this information.

48 FR 88 (Photograph in Witt Library, London), Posterstein Crucifixion, Gera, Kunstgalerie (Degen 1953, 195, fig. 3).

49 Cf. Düllberg 1990, 95, 274.


51 The verso of this panel has precisely chiselled notches at the outer edges for fixing the panel in a rebated frame. Also marked with fine incisions and therefore probably made at the same time, the panel was provided with dovetailed battens that, like the engaged frame, counteracted warping.


53 Cf. Koepplin, Falk 1976, 493-494. Several woodcuts also show this form of frame. The assertion that the frame of the Virgin and Child (c.1525, FR 160) could be an appropriate example (Heydenreich 1998 A, 199, Footnote 105) was not confirmed by analysis of the ground material, i.e. calcium sulphate; until now there has been no evidence found that this material was used in the Cranach workshop. The Castle Inventory of 1610 alludes to epitaphs apparently corresponding to the aedicular design ‘with gilded columns and crest’ (mit verguldeten röhren und gesprengt) by Lucas Cranach the Elder in the Schloßkapelle at Torgau (Findeisen, Magirus 1976, 195). In 1520, Lucas Cranach received 1 schock 6½ groschen for the Lucrecia mit dem welsn geheuß auf 3 kleinen teflein (app. II, 95). Whether this refers to the interior design or small aedicular frames remains unresolved.

54 Distel 1889, 156-157.

55 Schade 1974, 55, 385.

56 Löcher 1985 A, 75.


58 What is presumed to be the original inscription on the frame of the Crucifixion in Mahlis MORTE MIHI VITAM MORTVA VITA DEDIT is preserved as an overpainting.


60 Schmidt 1954, 201.

61 ‘2 fl 3 gr idem von 15 rhamen anzustreichen ufm sal und frauenszimmer, darauf die fursten sind kontrafet, blaw, schwarz und mit röslein an der seiten von iglichen 3 gr.’ (app. II, 239); ‘1 fl vor die 11 ramen mit zinnober anzustreichen.’ (app. II, 276).

62 Crucifixion (c.1523), Dessau, St. Johanniskirche, cf. Mieth 1993, 35 and Altarpiece of the Virgin (1518), Brandenburg, Cathedral.

63 This is the result of the great difficulty of proving the original correlations. Cf. Mitchell, Roberts, 1996, 90.

64 ‘13 gr tischerarbeit von 4 ramen zu den conterfektbilder einzuferen gemacht.’ (app. II, 243); ‘2 fl 3 gr idem von 15 rhamen anzustreichen ufm sal und frauenszimmer, darauf die fursten sind gekontrafet...’ (app. II, 239).

65 The panel depicting the Agony in the Garden (1546) reveals ground up to the edges of the panel. Cf. Bünsche 1995, 58. On the double portrait of Martin Luther and Katharina von Bora (1526, FR 189D, 190D) the ground close to the outer edges has been removed prior to separate mouldings being glued on.

66 FR 146, 312B, 313B, 338A, 348, a portrait of Martin Luther (1534, Swiss private collection) et al.
The preparatory layers: ground, isolation and imprimatura
47 FR 9, 10, 16, 18, 30, 48, 58, 92, 132B, 285D, 314D et al.
48 FR 11, 14, 18, 20, 21, 74A, 86, 122, 168, 191 et al.
49 FR 314D; Elector Friedrich III and Elector Johann the Steadfast (1532), Weimar, Kunstsammlungen; Elector Johann the Steadfast, Schloss Gottorf (Büsche 1998 B, 28-29 et al.).
51 A parallel could be drawn with the black subdivisions in the panel of The Ten Commandments (FR 77) or the black borders of Cranach’s woodcuts. Cf. also chapter III, p. 251.
52 The preparatory layers: ground, isolation and imprimatura. Cf. also Campbell, Foister, Roy 1997 B, 21-22; Burmester and Krekel have made similar observations about works by Dürer (Burmester, Krekel 1998 A, 60-61). Cf. also the instruction to burn chalk in the Liber illuministarum, (Berger 1912, 201) and the results of the examination into the production of ‘bianco sangiovanni’ (Zanardi, Arcangelo, Appolonia 1985).
54 As yet there is lack of similar observations for comparison to allow assessment of how widespread this practice was at the time. Cranach was not the only one using this technique as documented the shutters from the Altarpiece of the Holy Kinship of the Pfarrkirche St. Stephan in Mindelheim, executed by Bernhard Strigel and now in the Germanisches Nationalmuseum Nuremberg. With the planks joined vertically there is a barb both top and bottom. On the sides, however, the ground has been applied as far as the edge of the panel (Bartl, Gärtner 1997, 491). The same phenomenon can be observed on the Sigismund Baldinger (1545) by Georg Pencz, Kassel, Staatliche Museen, (Brammer, H., personal communication). Other examples are given by Verougstraete-Marcq, Schoute 1989, 52-53 and Wadum 1998, 160.
55 Appropriate results exist for the paintings in New York, The Metropolitan Museum of Art (Inv.-No. 46.179.1, 46.179.2) and Weimar, Kunstsammlungen (Inv.-No. G 7, G 8). I owe the results from the paintings in New York and the discussion of this phenomenon to the examinations undertaken by Maryan Hout 1998, 160.
56 The shape of these remains unclear. It is conceivable that they were simple, small hooks with a pointed and a flat, rounded end, which were hammered into another and larger auxiliary wooden support.

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also in use for the manufacture and application of relief brocade sheets. A carrier layer made of lead white and red lead was identified on works by Michael Pacher (Koller, Wibral 1981, 141, 191). In the Presentation in the Temple (NG 706) by the Master of the Life of the Virgin, the sheets were attached to the ground using a pink adhesive consisting of chalk with some red lead bound in oil (Campbell, Foister, Roy 1997 B, 33). Further examples from the Multscher workshop and from the southern Swabian, Swiss and Austrian region are given by Krebs 1997, 200-201, 208.

44 Os et al. 1978, 68; Straub 1984, 156, 158; Freitag, Koller, Baumer 1995, 275-276; Strothammer 1994, 12-15; Scharff 2000, 47-52.

45 A Tyrolean altar retable (1515), Burmester, Koller 1994, 40; Wolf Huber’s Christ Taking Leave of His Mother (c.1519), Campbell, Foister, Roy 1997 A, 101; Hans Baldung Portrait of a 29-Year-Old Man (1526), Bartl, Gärtner 1997, 55. I especially thank Franz Mairinger, Vienna for the chance to view his results of the examination of Austrian panel paintings.


47 In 1499 and in 1500, Albrecht Dürer painted Hans, Felici- tas, Niclas and Elsbeth Tucker (Weimar, Kunstsammlungen and Kassel, Staatliche Museen, Gemäldegalerie Alte Meister) as well as a Portrait of a Young Man (Munich, Bayerische Staatsgemäldesammlungen, Alte Pinakothek; cf. Goldberg, Heimberg, Schawe 1998, 358) on a ground containing high proportions of lead white, indicating a further variation of grounds at that period.

48 Berger 1912, 197.

49 The attempt to determine its constituent parts by means of FTIR-imaging technique and PCA (Principal Component Analysis), however, was unsuccessful, although it was possible to detect linseed oil isolation on different works by Dürer. (Baumer, Fiedler, Koller 1998, 102-119).


51 Dürer to Jakob Heller on 24 August 1508 (Rupprich 1956, 66).

52 Sandner, Ritschel 1994, 189.

53 Further examples are FR 11, 20, 31, 41, 78, 112A, 132, 341 et al.

54 It could not be clarified whether, in addition to the artist’s intentions, the obviously lower price of red lead by comparison with lead white might have favoured the choice of this pigment. According to investigations by Boon, van der Weerd and Keune, red lead may be formed in lead white oil paint layers due to chemical changes. This process may also have influenced the colour of the reddish imprimatura (Presentation at a joint meeting of ICOM-CC Working Groups Paintings 1&2 and The UKIC, British Museum, London, 10-11 September 2001).

55 On the panel depicting St Stephen, King of Hungary (c.1511), after application of the imprimatura vertical traces of running paint have formed in the region of the upper left corner; these lead to the conclusion that the panel was set up vertically and that the paint applied was of a fairly liquid consistence.

56 Cf. Sandner et al. 1998, 134.

57 Berlin, SMBPK, Kupferstichkabinett – Sammlung der Zeichnungen und Druckgraphik, KdZ 4450, 4451.


59 Harnisch 1989, 10.

60 Hout 1998, 205; Campbell 1998, 73.


63 Küffner, M., personal communication.
Brockhoff (Barkowsky 1980, 54), FR 263, 336 (Grimm, Agricola 1546, 63). An artificial substitute that has been processed from ochre rally (haematite) in a clay-like matrix. Agricola also describes an attempt on Cranach’s part to enhance the underdrawing, perhaps to compete with Jacopo de Barbari who was employed at the same time at the Wittenberg court (Ritschel 1995, 49-50). According to Sandner an assistant might have re-worked the master’s initial sketch (Sandner 1998 B, 83-95). In German arbeitstechnisch bedingte Unterzeichnung, cf. Straub 1984, 159-164 and slightly different Siejek 2004, 23 and Kirsch 2004, 158.

Practices of underdrawing

1 Sandner, Ritschel 1994; Sandner 1994, 1995; Sandner et al. 1998.
4 The identification of the materials presents a particular problem because the drawing is located beneath layers of paint and consequently it is difficult to gain access to it for the purpose of analytical examination (Bomford 2002, 26-37).
5 Schade 1974, 49.
7 Sandner 1998 A, 57.
8 On dry drawing materials see also Bomford 2002, 26-37 and Siejek 2004, 36-75.
10 Colditz Altarpiece (1584).
12 FR 89 (Schaefe, Saint-George 2005, 25-26).
13 The colouring material is red iron oxide which occurs naturally (haematite) in a clay-like matrix. Agricola also describes an artificial substitute that has been processed from ochre (Agricola 1546, 63).
15 Grimm’s attribution of the underdrawing of the portrait of Johann Friedrich I (1509) to a journeyman cannot be confirmed, as so far no underdrawing has been disclosed (Grimm, Erichsen, Brockhoff 1994, 371).
16 Whether the Venus with Cupid (FR 396) provides such an example has to be further examined. Infrared reflectography revealed traces of a dry and a liquid drawing medium (Sandner, I., personal communication).
17 Cennini (Thompson 1960, 75); De Mayerne 1620 (Berger 1901, 279); Sandner 1998 A, 59. When dealing with the transfer of the layers of paint and ground to a new support, Rüdiger Beck and Andreas Mieth found the sketch of a coats of arms, executed in red chalk, under the ground of the Holy Trinity (c. 1545), Beck, R., Mieth, A., personal communication.
19 It is not possible to discount the fact that the paint has become more translucent over time. However, in this passage there is little modelling achieved by the addition of darker pigments. Dunkerton, Foister, Spring 2000, 14, describe similar phenomena on a work by Michael Pacher.
21 Cf. Westfehling 1993, 168. Highly detailed underdrawings which are covered only by more or less transparent paints can also be found on the works of other masters, e.g. Wertinger, The Seasons (1525-26), Nuremberg, Germanisches Nationalmuseum; Meister der Heiligennartayrien, Wien, Österreichische Galerie, cf. Straub 1984, 165.
22 Schade compares the underdrawing with quill pen and wash drawings on paper (Schade 1977, 12). Rischel suspects an attempt on Cranach’s part to enhance the underdrawing, perhaps to compete with Jacopo de Barbari who was employed at the same time at the Wittenberg court (Ritschel 1995, 49-50). According to Sandner an assistant might have re-worked the master’s initial sketch (Sandner 1998 B, 88). To my mind there are not sufficient reasons to substantiate Grimm’s attribution of the underdrawing to another master (Grimm 1998, 69).
26 ‘Item wenn [du] ein tail an ein tafel vergulden wildt und den andern nit, so reiss voraus und trag den das praunrodt darnach auf’ (Berger 1912, 194); cf. Cennini, chapter 123 (Thompson 1960, 76).
Applications of gold, silver and paper

1 For example, the Remmberg Altarpiece, which was produced in Lucas Cranach the Younger’s workshop in 1565, was provided with a gilded frame.

2 This source, given by Schade 1974, 404, No. 63, could not be traced under the reference quoted therefore the wording has not as yet been verified.

3 Bruck 1903, 310, 323.

4 Sandner 1993, 108.

5 Schulze 1933, 91.

6 Prochno 1933, 26.

7 As early as 1520, Wulf Brenntzdorf received a sum of 30 gulden, but the question as to whether he himself was a goldbeater or a trader remains open.


9 Paulini 1981, 36.

10 The Altarpiece of the Virgin (1529) in Halle, which was painted by a pupil who had probably left the Wittenberg workshop, is so far the only object where, by means of EDX, a higher proportion of copper in the applied gold leaf has been detected.

11 This figure is the result of a comparison of different accounts from the years 1536/38 (cf. app. II).

12 Merhart, Zulehner 1987, 75.

13 St Stephen, King of Hungary (c.1511); c.8.5 cm; Neustadt Altarpiece (1511-13); 9-9.3 cm (authenticity of visible gold leaf on the frame mouldings untested); Portraits of a Couple von Schleinitz? (1526): 9 cm (authenticity of visible gold leaf on the frame mouldings untested). A gold leaf format of 9.2 cm has often been determined on Nuremberg altarpieces (Oellermann, E., personal communication).

14 This calculation means that the information supplied by Erichsen and Müller-Wirthmann that a book of refined gold, invoiced by Cranach, corresponded to one-third of a square square metre of gold leaf is not correct (Grimm, Erichsen, Brockhoff 1994, 254).

15 By comparison with the Dresden pharmacy price list of 1553 (Burmester, Krekel 1998 A, 100), which quotes 1 leaf of aurī at 4 pfennig, Cranach charged a lower price, i.e., 3.36 pfennig. Cf. also Bürgbach 1994, 215, on changes in the value of gold in the sixteenth century.


17 Enlarged ten-thousandfold, the thickness was estimated in a scanning electron microscope. A sixteenth-century Nuremberg guild ordinance states that at least 300 leaves 3.5 Zoll square must be beaten from one Dukat of gold (3.5 g) (Baumann 1988, 25). By comparison, Kühn estimated the thickness of gold in pictures by Niklaus Manuel Deutsch at 300-500 nm (Kühn 1977, 159). The thickness of the leaf from the background of a panel from the San Pier Maggiore Altarpiece of 1370-71 is only about 256 nm (Bomford et al. 1989/90, 22). Cf. Nadolny 1999, 143-145.

18 Merhart, Zulehner 1987, 75.

19 In German usage, the term Mordent denotes an adhesive containing wax, in English ‘mordant’ refers to any type of adhesive for metal leaf. I am using the term mordant in the latter sense.


22 Cf. chapter II, p. 138.

23 Since the previous line mentions minnige, this can hardly be the usual red lead.

24 FR 78, 79, Sup1C, Sup1F, the Altarpiece of the Virgin and the Altarpiece of the Holy Kinship, Aschersleben, St. Stephani.

25 FR 83, 135-38, Sup1F, Sup6H, the Altarpiece of the Virgin and the Altarpiece of the Holy Kinship, Aschersleben, St. Stephani.

26 FR 65.

27 FR 65, the Altarpiece of the Virgin Aschersleben, St. Stephani; a retable shutter depicting St Barbara, Liechtenstein Gallery (Photograph in Witt Library, London).


29 A later example is provided by the Altarpiece of the Virgin (1529, FR Sup 6A), which may have been produced outside the Wittenberg workshop.

30 On the corresponding picture, Portrait of the Wife of a Viennese Scholar, this is a mixture of yellow ochre, lead white as well as small amounts of red and black pigment.

31 Roy, A., personal communication.


35 Cf. chapter II, pp. 138-140.

36 Insufficient dyestuff was present in a sample for positive identification using HPLC: ‘One tiny early component showed some spectral features reminiscent of [but not identical to] those given by brazil wood dyestuff, but unfortunately this was not confirmed by the extraction of the second very small sample.’ Jo Kirby, Analysis report 3.8.2001. Cf. Berger 1912, 196; Straub 1984, 232.

37 Alberti 1540, 138.


39 Other written forms in transcribed sources are zwischgolt and...
Paint, palette and brushes
1 Thüringisches Hauptstaatsarchiv in Weimar (ThHStAW), Sächsisches Hauptstaatsarchiv in Dresden (SHStAD), Staatsarchiv in Coburg (StACo) and Stadtarchiv Wittenberg (StAWB); cf. app. II.
3 Schade 1974, 404, No. 65 (cf. app. II, 37).
4 Schuchardt 1871, 282. My assertion that Cranach also used lackmus (litmus or something similar derived from species of lichen) in his workshop (Heydenreich 1998 B, 108), was based on this false transcription (cf. app. II, 232).
6 The full text appears in appendix II. All pigments and binding media are also listed in table 5. I am grateful to Monika and Dieter Lücke, Nauendorf as well as Rainer Hambrecht, Coburg for transcriptions.
7 Luther (Reimer 1761, 6).
8 For example, four small Netherlandish cloth paintings were bought for the elector at the New Year’s Market in 1505 (app. II, 1).
12 Published without indication of source in Schuchardt 1871, 74-75; cf. also Zühl 1926, 38-39.
13 StAWB, Vertrags-, Gerichts- und Handelsbuch der Stadt Wittenberg von 1523 bis 1551, 113 (Bc 101), fol. 357v, 358r (Lücke 1998, 42).
14 Schuchardt 1871, 75.
15 Zühl 1935, 331.
17 Cf. Saran 1972, 210-213.
20 Another written form found in transcribed sources is: bleyweyß (cf. app. II).
22 Cf. Bomford et. al. 1989, 21; cf. also below linseed oil
23 For example, the lead white on the Fourteen Helpers in Need (c.1505/07), on the Altarpiece with the Martyrdom of St Catherine (1506) and on the Martyrdom of St Catherine (c.1508) contains only traces of calcium. By contrast, significantly higher amounts have been detected on the Princes’ Altarpiece (c.1510) and on the Saviour (c.1515/16). Burmester, Krekel 1998 A, 64-65, made similar observations on works by Dürer. Cf. also Kirby 2000, 29.
24 Ploss 1964, 341.
26 Other written forms found in transcribed sources are: creiden and kreyden (cf. app. II and chapter II, p. 93).
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57 The obviously lower price of chalk by comparison with that of lead white leads to the supposition that, in addition to reasons of painting technique, there were also economic grounds for using it.
59 Calcium is consistently found in copper green glazes from the fifteenth and sixteenth centuries (Koller, Wirbal 1981, 143; Eikema Hommes 2004, 56). Eikema Hommes attributes the presence of calcium to the method of preparation.
60 If you wish to purify blue by washing take lime and let it stand overnight with water over it and then carefully pour off the surplus water on to the blue. Then take lye to get rid of the lime. Afterwards pour clean water on the blue and let it stand overnight to enable the pigment to sink to the bottom. Borradaile 1966, 21. Cf. also Heck 1999. Pigment mills were also cleaned with lime stone (Kremer, G., personal communication 5 June 2003).
61 The Strasbourg Manuscript recommends the addition of a little calcined bone dust in order to make the colour dry well (Borradaile 1966, 25). De Mayerne (1620) also mentions the practice of adding a little glass to the red lake pigment (Borradaile 1966, 56). Eikema Hommes attributes the presence of calcium to the method of preparation.
63 In this instance, bley gel even costs three times the price of red lead and is just as expensive as lead white. Cf. Burmester, Krekel 1998 A, 96-100.
45 Cf. Agricola 1556 B, 110, 221, 232; Brachert 2001, 47.
46 Other written forms found in transcribed sources are: ocker gel, oger gel (cf. app. II).
49 Noll-Minor 1992, 24, was able to detect the extensive use of yellow ochre bound in lime in the Chamber of Mirrors of the castle at Torgau.
50 Other written forms found in transcribed sources are: minnige, mennich, mennig (cf. app. II).
51 FR 16, 78, 89, Sup. 6A; cf. also Kühn 1990 B, 74.
52 FR 15, 16 (cf. chapter II, pp. 184-187).
53 West Fitzhugh 1986, 111.
55 These are the Kunstbuch from the Katharinenkloster in Nuremberg and a Berlin Manuscript (Ploss 1952, 156, 172). This process is also described in manuscripts in Erfurt (Ploss 1952, 178), Trier (Bracht 2001, 163-164) and Brussels (Merrifield 1967, 807).
57 Possibly because of its comparatively lower price, red lead was often used and already as early as the twelfth century as a component of oil-bound grounds. Cf. chapter II, p. 97.
58 Other written forms found in transcribed sources are: zcinober, zcynober and zynober (cf. app. II).
60 Agricola 1556 A, 469; cf. Agricola 1546, 63 and Gockel 1996, 229.
64 The Strasbourg Manuscript refers to red, burnt ochre (roten gebrennten verger), Borradaile 1966, 56-57. Agricola reported that the painters from Hanover burned ochre (Agricola 1546, 63) and the Kunstbuch from the Katharinenkloster in Nuremberg describes how to burn ochre (wie man den oger prennet), the Nuremberg Kunstbuch, second half of the fifteenth century, Nuremberg, Stadtbibliothek, Ms. Cent VI, 89 (Ploss 1952, 138; cf. Roosen-Runge 1984, 78).
67 The price of 126 pfennig per ounce even exceeds the prices listed in the taxae in Munich (1488) and Memmingen (1519).


88 Other written forms found in transcribed sources are: *berckgrin* and *berckgrun* (cf. app. II).

89 *Göttinger Musterbuch* (fifteenth century), Göttingen, Niedersächsische Staats- und Universitätsbibliothek, 8° Uff. 51 Cim, fol. 1, 5, 5° (Roosen-Runge 1984, 117; Fuchs, Oltrogge 1991, 60).

90 *Berlinser Musterbuch* (fifteenth century), SMBPK, Kupferstickkabinett MS 78 A 22, fol. 2, 10° (Roosen-Runge 1984, 90).

91 *Schriver-Musterbuch* (1494), Munich, Bayerische Staatsbibliothek, Codex iconographicus 420 (*Höhle* 1984, 227-228, Brachert 2001, 221).

92 *Liber illuministarum* (c.1450-1512), Munich, Bayerische Staatsbibliothek, Cgm 821, fol. 88v (Bartl, A., personal communication, 28 March 1996; Ploss 1952, 211).

93 Boltz von Ruffach 1549, 76.

94 *Reformatio Und erneuwerte Ordnung der Apotecken... Auffgericht im Jahr 1582*. Printed: Frankfurt a. M. 1582. Munich, Bayerische Staatsbibliothek, 4° Mat. med. 188m.

95 Burmester, Krekel 1998 A, 83.

96 ‘[...] Item 4 lb. span-grin, und 1 firtel, kauft man 6 lb. vor den gulden. [...] Item 2 1/2 lb. schifer-grun, das lb. 1 fl. [...] Item berkgrin 12 lot. [...] Item alichem grun, 5 lot. [...] Item 1 lb. 2 lot schefergrün das lb. 1 fl.’, Staatsarchiv Frankfurt Inv.-No. 16, fol. 1-3, 1528 (Saran 1972 A, 210-213).

97 [...]


99 *Reformatio Und erneuwerte Ordnung der Apotecken... Auffgericht im Jahr 1582*. Printed: Frankfurt a. M. 1582. Munich, Bayerische Staatsbibliothek, 4° Mat. med. 188m; Zedler 1733, 1264.


101 Fuchs, Oltrogge 1991, 60.

102 Roosen-Runge 1984, 89-90.

103 Beckmann 1779, 200; cf. Demachy 1784, 335-338.

104 Bausch 1668, 136; Saran 1972 B, 233.


106 Gesner 1565, 16-17, 68; cf. Bausch 1668, 140; Scheffer 1669, 169.

107 Prange 1782, 319; Krünitz 1826, 482. Fuchs and Oltrogge 1991, 60, also regard the high proportion of quartz and silicates in the colour sample examined in the Göttingen Model book as an indication for the existence of malachite as a product of the weathering of copper shale.


110 Schmidt 1857, 329.


113 Since ancient times chrysocolla (chrysos = gold and colla = solder) was the term for soldering materials, minerals and pigments. Pliny refers to chrysocolla as an indeterminate copper mineral formed from a liquid in the mines (Plinius XXXIII, § 86-93, 64-69). Agricola 1556 B, 110, also uses chrysocolla to describe borax and green copper minerals. Correspondingly, Pfarrer 1578, 50b, writes: ‘*Schifer- oder bergkgrün* which is similar to verdigris has been called *Chrysoallam*, this was used for soldering and to heighten the colour of gold.’ (cf. *Minerophilo Reformatio...* 1707, 527; Pictorio 1730, 105; Eyßvogel 1756, 216.)

114 According to Hoover and Hoover, this description of its
occurrence would apply equally well to modern chrysocolla (copper silicate) or to malachite. The solution from copper ores would deposit some sort of green incrustation, probably of carbonates mostly (Agricola 1556 B, 584, Footnote 15). On the other hand, Harley 1982, 77-79, suspects that it is a copper silicate.

115 Agricola 1556 A, 469-470.
116 Agricola 1557, 482.
117 Zipser 1842, 53-54.
118 Zedler 1733, 1264; Born 1774, 198-199; Ferber 1780, 166-168; cf. Zipser 1817, 102.
119 One Schmönitz lachter was equivalent to approximately two metres.
120 State Mining Archive, Banská Štiavnica, HKG, Resolutions, Prothocoll 1001-1699, 209.
121 Vlachovic 1964, 239.
122 Vozar 1983, 228.
123 Bauer, J. Generelle Darstellung des K.K. Herrgrunder Bergwerkes, manuscript, State Mining Archive Banská Štiavnica, Inv. No. 9099, 1225.
124 Born 1774, 198, 199; Ferber 1780, 168; Delius 1773, 426.
125 Zipser 1842, 53, 54.
129 Cf. Huber 1983, 19-29; Kirnbauer, Steiskal-Paur 1959, 82. According to Peter Jancsy, personal communication of 14 February 2000, there are more copper carbonates in the upper sections of the tailings in Sandberg and, in the lower section, there are also copper sulphates. Jancsy alluded to the occurrence of langite (Cu₄SO₄(OH)₆·2H₂O) on the Richtarova tailings. A green dripstone-like formation from the Herrengrund-Neusohl region, now in the Naturhistorisches Museum, is described by Vera Hammer, personal communication, 8 February 2001, as a mixture of malachite and langite with traces of anglesite. Kirnbauer, Steiskal-Paur 1959, 54-55, describe the occurrence of devillinite (herrengrudinit, CaCu₄(SO₄)(OH)·3H₂O) accompanied by brochantite, gypsum, malachite, tetrahedrite and calcite.
130 Self, Hill 2003, 132.
133 Schloss Colditz: Kellerhaus, Raum 1.05, fragment of a painted loam ceiling, c.1520, and Kellerhaus, Raum 1.05, painted paper partially laminated on to a ceiling with wooden beams, c.1583/84, as well as Wittenberg (Markt 4, Haus Ib, Raum 1.16, west wall). Cf. Schmidt 1998, 119-122.
134 The secondary mineral malachite, crystallised as a result of the natural weathering and the alteration of a pre-existent copper mineral, may be distinguished from a precipitated malachite formed on tailings from water containing copper and dissolved carbonate. Strictly speaking, the drainage from tailings, mines and slag piles is a result of human activities and thus the precipitated malachite is a tertiary or tailing mineral (Jambor 1994, 103-112; cf. Siemroth, Witzke 1999, 5-15).
135 Schi伯-Musterbuch (1494), Munich, Bayerische Staatsbibliothek, Codex iconographicus 420 (Höhle 1984, 126).
136 Göttinger Musterbuch (fifteenth century), Göttingen, Niedersächsische Staats- und Universitätsbibliothek, 8° Uff. 51 Cim, fol. 1, 5, 5′.
137 Trierer Manuskript (fifteenth century), Trier, Stadtbibliothek, manuscript 610/1957, 32v.
138 All these aspects require further investigation which is planned by the author in collaboration with Marika Spring, Martina Stillhammerová and Carlos M. Pina.
139 Boltz von Ruffach 1549, 76, 104.
143 Heydenreich et al. 2005, 484-487.
145 Schweizer and Mühlethaler 1968, 1159-1173 produced spherulitic malachite synthetically from a solution of copper sulphate, to which was added a solution of sodium carbonate. This malachite developed only a low-colour intensity. Cf. Ellwanger-Eckel 1979, 6; Harley 1982, 77-80; Gettens, West Fitzhugh 1993, 183-202; Naumova, Pisareva 1994, 277-283.
146 Kirnbauer, Steiskal-Paur 1959, 46-49.
148 Trierer Manuskript (fifteenth century), Trier, Stadtbibliothek, manuscript 610/1957, 32v.
149 Codex Clm, 1464-1473, Munich, Bayerische Staatsbibliothek, Codex Clm. 20174, 172v (Brachert 2001, 221).
150 Grimm 1893, 53-60; Grimm 1899, 1534.
151 CaCu₄(SO₄)(OH)₆·3H₂O) accompanied by brochanite, gypsum, occurring 54-55, describe the occurrence of devillinite, CaCu₄(SO₄)(OH)·3H₂O) accompanied by brochantite, gypsum, malachite, tetrahedrite and calcite. This malachite developed only a low-colour intensity. Cf. Ellwanger-Eckel 1979, 6; Harley 1982, 77-80; Gettens, West Fitzhugh 1993, 183-202; Naumova, Pisareva 1994, 277-283.
It was not possible to confirm the assertion that Cranach had to be completed.

The information by Müller-Wirthmann that in 1505 Cranach paid only about one florin for a pound of ultramarine proved incorrect (Grimm, Erichsen, Brockhoff 1994, 230; Campbell, Foister, Roy 1997 B, 51, Footnote 132. The invoice quoted refers in fact to blau glasurt farb (see pp. 157-158).

The false-colour infrared photograph of the Altarpiece with the Martyrdom of St Catherine gave no indication of the presence of ultramarine.

Until now the use of slightly inferior quality azurite could only be identified on some workshop productions such as the Altarpiece with the Martyrdom of St Catherine as early as 1506 (Giebe Schölzel 1996, 76). Whereas it was possible in the case of FR 18 and FR 20 to achieve a positive result using both false-colour infrared photography and EDX, the false-colour infrared photograph of the Altarpiece with the Martyrdom of St Catherine gave no indication of the presence of ultramarine.
reibs den gar wol vnd mach in gut dünn, so wird es etwas durchsichtig’ (Berger 1912, 195); cf. Bartl, Lautenschlager 2000, 180. The Munich Painters’ Ordinance alludes to ‘ain matery von olfärbe malen in einer weingulden geprännten feldung’ (Ploss 1960, 79) and the contract drawn up between Michael Pacher and Benedikt, Abbot of Mannsee, of 13 December 1471, stipulates that ‘item dy innern flug der tafel sullen sein guet gemall, dy veldung vergult...’ (Koller 1998, 20).

According to visual examination, its use is also likely on the fixed wings of the Zwickau Altarpiece (c. 1518).

This price is about half that documented in the pharmacy price lists in Munich in 1488 and Memmingen in 1519 (64 pfennig an ounce). We do not know, however, if the quality of this pigment is identical to that in the price lists and on the panels. In 1486, a predecessor of Cranach’s, the court painter Cuntz, charged 42 groschen for a pound of blaw lasur (Bruck 1903, 282).

Liber illuministarum, fol. 121; Munich, Bayerische Staatsbibliothek, Cod. Clm. 20174, fol. 180v-181r, Oltrogge 2003 and Oltrogge, D., personal communication.

Bolz von Ruffach 1549, 77; Burmester, Krekel 1998 A, 80, suspect that lasurische denotes a finely grained azurite which, because of its particle size, appears grey. As Cranach used a very finely grained deep blue azurite on his paintings, the assumption must be that ascherblau was strongly contaminated. Bolz von Ruffach and later Beckmann 1779, 205 comment on this accordingly.

In an invoice from 1545 feltdun plaw and ol plaw are charged collectively (app. II, 272).

Cf. Ploss 1952, 80. The term Ölgrün was still in use in the eighteenth century for an inferior malachite. Cf. Beckmann 1779, 204; Demachy 1784, 338.

In the eighteenth century, Oel-blau was known, amongst other designations, as the pigment smalt (cf. Bracht 2001, 234).

Schade 1974, 402.

Müller-Wirthmann (Grimm, Erichsen, Brockhoff 1994, 230).

Campbell, Foister, Roy 1997 B, 51.

Bruck 1903, 301.

In a instruction dated 1 July 1535, Elector Johann Friedrich I wrote of ‘grune glasurte dachziegel’. Cf. also Ploss 1952, 200, on glasur.

Contemporary painting treatises and trade documents name the colour variously Schmelzze (Bolz von Ruffach 1549, 77) or Smalto (Biondo 1549, Stege 2004, 131).


Campbell, Foister, Roy 1997 B, 36; Stege 2004, 121-142.

Darrah 1995, 74; Stege 2004, 133-134.

Unpublished report of analysis by the Naturwissenschaftliches Labor der HfBK Dresden (Schramm, H.-P., personal communication).

Eisenach, Wartburg-Stiftung.


Cf. Schweikhart 1997, 39. De Mayerne (1620) also mentions the practice of adding a little glass to the red lake pigment (Berger 1901, 121).


A recipe from the twelfth century shows that medieval book illustrators derived the indigo colourant from the lather of the dye pot (Färbekeßel). The term wait blumen was used for this (Oltrogge, D., personal communication); cf. Fuchs, Michon 1896, 361; Bracht 2001, 266.


Indigo has been identified on a Crucifixion (Sold in Vienna, Dorotheum, October 1996, lot 175), Mairinger, F., personal communication. However, in the light of all the technical analysis, it seems unlikely that this work was produced in the Cranach workshop. It is rather a copy of the Crucifixion (1532, FR 218) in Indianapolis.

Berger 1912, 198. The author recommends Kesselbraun for Leberfarbe (liver colour) and indicates that it should be worked in oil (Oltrogge, D., personal communication).


Burmester, Krekel 1998 A, 83. We found nothing in the Latin edition (Agricola 1556 A) or in the German translation (Agricola 1557) to confirm the point made by Hoover on the publication of Agricola 1556 B, 221, that in the Glossary of De Re Metallica, the Latin scholar equated his interpretatio or the German translation Aeris squamae (copper scales) with Kugferhammerschlag and Kesselbraun.


Schreger 1805, 173; Fernbach commented on this, suspecting that it was produced in Franconia. (Fernbach 1834, 70); cf. also Rose 1916.


Kühn 1984, 40.


Recently, Ursula Haller suggested that in the late sixteenth century the term Kesselbraun was used to describe a brown mixture of different copper oxides. (Haller, U., “Administrat or of Painting”: The Purchase- and Distribution-Book of Wolf Pronner (1586-1590) as a Source for the History of Painting Materials’, Lecture given at the conference ‘Trade in Painters’ Materials: Markets and Commerce in Europe to 1700, held at the National Gallery and the Courtauld Institute of Art, London 2005).

Sign. HB XI, 48 (kgl. Privatbibliothek in 8 K 109). Elgin van Treeck-Vaassen and Peter van Treeck kindly drew my atten-
tion to this manuscript. Cf. Mone 1837, 606; Grimm 1873, 623; Ploss 1952, 203; Ploss 1989, 184; Trecek 2000, 247.
238 Stuttgart, Württembergische Landesbibliothek, HB XI 48, 5r.
239 ‘Item crocus martis der edelest der maller welt est und kainer machen mag, den laust euch bringen von[n] venedig oder vo[n] dem see, den rost den man finst an den alten anckern, den guat brun in ain frichen kol südin und loud in kalt werden und reibt in auf einen stein so ist er schon brun als ein scharlach.’
239 Der Fürstlichen Grafschaft Tirol Lanndtreim 1558 (Hormayr 1841, 23).
242 We found traces of copper in the brownish, translucent layers on green underpainting which were in all likelihood originally green and not brown glazes.
243 Schade transcribed this incorrectly as colophony (Schade 1974, 404, No. 65).
244 The amount of 2 faß kotofran was used in the decoration of Schloss Colditz. (ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. Rechnungen Nr. 966, Jahresrechnen des Amtes Colditz 1529/21, fol. 70) Schmidt, T., personal communication, 20 October 1998.
246 Schmidt 2000, 36-40.
247 ‘zu druckerdinte brachet man kadluf, ruz und firnes’ (Grimm 1873, 17).
248 Borradale 1966, 48-49.
249 ‘Thun die knollen in ein hafen, güss gate gout darüber, lass ein tag also erbyssen durcheinander. Setz es darnach zu dem für und lass es den dritten theil ynsieden. Lug plib by dem hafen, ein tag also erbyssen durcheinander. Setz es darnach zu dem für und lass es erkalten und still stan ein good kyn swartz von’n hurne und lass es darnach zu druckerdinte brauchet man kadluf, ruz und firnes’ (Grimm 1873, 17).
250 Since the Kunstbuch from the Nuremberg Katharinenkloster clearly distinguishes between guten kyn swartz and ruf von einer lampen, kyn ruf and lamp black should not be used as synonyms (cf. Ploss 1952, 139).
251 Plinius XXXV, 41-43; cf. Florini 1750, 841; Roosen-Runge 1984, 100.
252 Bamberg, Staatliche Bibliothek, Msc. med.12, Pap., fifteenth century 8, 223Bll., mediz. Sammel-handschrift, fol. 182r, text after Ploss 1952, 139.
254 Soot black is also the pigment used for the grisaille painting on the versos of the shutters of the Altarpiece of the Holy Kinship (1509). See also Tuurnala et. al. 1991, 72; Campbell, Foister, Roy 1997 B, 42.
256 Neudorfer 1555 (Schuchardt 1871, 85-86).
258 De Muyner, De Muyner 1620 (Berger 1901, 267); cf. Eikema Hommes 2004, 11.
259 As a result of incorrect reference to information supplied personally by the author, Neelmeijer, Wagner and Schramm mistakenly describe traces of azurite on the passage of paint (FR 6, 16, 20, 214A).
260 Neelmeijer, Wagner, Schramm 1995, 328). Blue pigment has until now only been observed in the Johannes Cuspiniana’s robe (FR 6). Campbell, Foister and Roy report also a little verdigris added to the black pigment in Cranach’s Portrait of a Man in the National Gallery (Campbell, Foister, Roy 1997 B, 42).
261 Cf. the instruction in the Strasbourg Manuscript on putting lumps of soot in lye (Borradaile 1966, 49, 90).
262 We found low quantities of various red colourants in several passages of paint (FR 6, 16, 20, 214A).
263 Boltz von Ruffach 1549, 84-85.
264 Cf. White 1986. We were not able to confirm the use of red lake pigments in translucent brown shades such as determined by Burmester, Krekel 1998 A, 67, on Dürer’s works. It was not possible in the paint samples examined to detect calcium and aluminium as an indication of corresponding substrata.
266 Borghini 1584 (Berger 1901, 41); Armenini 1587, 122 (Berger 1901, 55); cf. Bothe 1998, 370.
269 Neudorfer 1555 (Schuchardt 1871, 85-86).
271 Since the Kunstbuch from the Nuremberg Katharinenkloster clearly distinguishes between guten kyn swartz and ruf von einer lampen, kyn ruf and lamp black should not be used as synonyms (cf. Ploss 1952, 139).
272 Plinius XXXV, 41-43; cf. Florini 1750, 841; Roosen-Runge 1984, 100.
274 Soot black is also the pigment used for the grisaille painting on the versos of the shutters of the Altarpiece of the Holy Kinship (1509). See also Tuurnala et. al. 1991, 72; Campbell, Foister, Roy 1997 B, 42.
275 Boltz von Ruffach 1549, 93.
278 De Muyner, De Muyner 1620 (Berger 1901, 267); cf. Eikema Hommes 2004, 11.
279 As a result of incorrect reference to information supplied personally by the author, Neelmeijer, Wagner and Schramm mistakenly describe traces of azurite on the Fourteen Helpers in Need (c. 1505/07) to refine the black pigment (Neelmeijer, Wagner, Schramm 1995, 328). Blue pigment has until now only been observed in the Johannes Cuspinian’s robe (FR 6). Campbell, Foister and Roy report also a little verdigris added to the black pigment in Cranach’s Portrait of a Man in the National Gallery (Campbell, Foister, Roy 1997 B, 42).
281 Cf. the instruction in the Strasbourg Manuscript on putting lumps of soot in lye (Borradaile 1966, 49, 90).
282 We found low quantities of various red colourants in several passages of paint (FR 6, 16, 20, 214A).
283 Boltz von Ruffach 1549, 84-85.
285 ‘Nymb bey combasten meher 1 S helffenbeynene abschnidlein
(kost 4 48.) Thue es in ein unverglest seide hefelein deck ein sturtslein darüber verkleybs mit lainen auf das allergenauest gibis einem hafner das ets mit anndern hefen die er breud einsetz, so es nun aus dem ofen wie andere hefen genomen wird brich die sturtsen herab, stos inn einem morser zu Bulver wann das zum schreibenn oder molen brauchen wilt reibs unnder Leynöl so wir-stiu sehen das es schwertzer dann kein schwartz ist. Schuchardt 1871, 85-86. The recipe noted by Schuchardt has barely been taken into account by research. Burmester and Krekel 1998 A, 81, deny that there was any mention of bone- and ivory black in sources of the time. Cf. also Thieme, I, ‘Schwarze Pigmente zur Retusche schwarzer matter Oberflächen’, unpublished seminar paper, HfBK Dresden 1996. In the course of a comparison of different black pigments in different binding media with ivory black, the author was able to produce the deepest shades of black.

White 1986, 69, mentions that ivory black greatly slows down the drying of the oil. This phenomenon could perhaps have persuaded Cranach to use other black pigments. Cf. Christ and the Woman of Samaria (c. 1552); Elector Johann Friedrich I (1578).

616 Idem

619 The table refers only to those materials listed in the invoices (cf. app. II), with amounts and price details, or to those determined on the paintings. In addition, other materials (e.g. yellow lake pigments) may have been used.

619 Cf. Wetering 1997, 225-243; Baumer, Fiedler, Koller 1998. This was the usual practice. Depending on the documentary sources, different qualities can be prepared easily to be distinguished in colour, drying time and adhesive quality (cf. Willers 1986, 115).

620 Cf. app. II and chapter IV, pp. 264-265.

621 Cf. chapter III, p. 245.


623 The fairly frequent use of azurite in oil binding media leads to the assumption that the copper ions were masked. Cf. Campbell, Foister, Roy 1997, 52; Baumer, Fiedler, Koller 1998, 114-117.

624 Beading effects could occasionally be observed (FR 16), the origin of which could correspond to aqueous components. Cf. also Sandner, Ritschel 1994, 189.

625 Cf. Schmidt 2003, 152, 155.

626 Other written forms found in transcribed sources are: leinöhel and leinöl (cf. app. II).


628 The use of other oils, e.g. (wal)nut oil, cannot be discounted.

629 Cf. Keller 1973; Baumer, Fiedler, Koller 1998, 155. Since the invoices do not differentiate between different linseed oils, it is possible that they were made up in the studio.


631 Campbell, Foister, Roy 1997 B, 42. So-called stantöl was used for painting work at Schloss Colditz (Schmidt 2003, 156).
31 ST. Stephani) et al.
32 The use of a pale purple undermodelling for blue appears also
33 The description of the techniques of underdrawing is based on
34 Gronau 1972, I, 151; Riemann 1980, 151.
35 Gronau 1972, I, 61-63; Riemann 1980, 118;
36 312 FR 19:
37 'A grete fox taile' is also documented in the accounts for mate-
38 310 Boltz von Ruffach 1549, 118-119. Cf. also Cennini
39 The Emperor Maximilian in a Painter's Studio
40 Wetering 1997, 140-146.
43 Wolters 1938; Gronau 1972, I, 94-96.
44 Riemann 1972 A; Gronau 1972, I, 61-63; Riemann 1980, 118;
46 Gronau 1972, I, 151; Riemann 1980, 151.
47 The description of the techniques of underdrawing is based on
48 comparison of microscopical investigations of the paintings'
49 surface, examination of X-radiographs and analysis of cross-
50 The use of a pale purple undermodelling for blue appears also
51 fifteenth-century Italian pictures, but it is uncertain whether a
52 Cf. Os et al. 1978, 16.
53 Identified on FR 17, 18, 30, 31; 80, 105, 107, 108 et al.; not iden-
54 on FR 35, 41, 85, 132, 138, 184, 311A, Crucifixion (Gera,
55 FR 80, 89, 132B, 206, 219, Altarpiece of the Virgin (Aschersleben,
56 FR 47A, 78, 79, Sup1C et al.
57 313 FR 219, cf. Barkowsky 1980, 79; it is possible that there is also
grey-black underpainting under green on FR 49.
58 Microscopical examination of the Portrait of a Woman
59 revealed a reddish layer with white, red and black pigment
60 which could not be identified conclusively as underpainting or
61 imprimitura.
62 FR 145, 146. In 1994 in the course of a microscopic
63 examination of the painting's surface, we judged the brown
64 underpainting described in Hand, Mansfield 1993, 40, to be a
65 mixture of white and black pigments, i.e. a grey layer. On the
66 Altarpiece of the Holy Kinship (1509) a grey layer has been found
67 under green foliage.
68 Zaglmaier 1988, fig. 54.
69 It is possible that a relatively early example of more
70 extensive grey undermodelling might be preserved with the
71 Nativity at Night (FR 101/102). Technical examination has yet to be undertaken.
75 FR 412B, 412C, 433 et al.
76 FR 366C, Christ Blessing the Children (c. 1540/45).
77 The brushwork indicates a particularly fast working method
78 experienced in handling paint. Cf. Elaborating the flesh tones.
80 Neudorffer 1555 (Schuchardt 1871, 85-86).
81 Black underlayers for blue are already known in Roman
82 painting as well as in late-medieval European sculpture and
84 Bartl, Gärtner 1997, 297.
85 The term black here describes the appearance under the
86 stereomicroscope. In examinations of cross-sections, there were also traces of colouring elements, e.g. copper green, red
87 iron oxide, vermilion and calcium carbonate.
88 FR 133, 168, 176, 177, 204, 206, 278, 305 et al.
89 FR 60, 65, 89A, 132, 133, 182C, 287 et al.
91 Erfurt, Angermuseum.
92 FR 133 (book binding); FR 206 (clouds).
93 The same technique was used on the Altarpiece of the
94 Virgin in Kade and on the Crucifixion in Dessau (cf. Fritzsche,
95 Günther, Koch and Mieth, Report of examination 1991/92,
96 unpublished, p. 4).
97 The table only distinguishes between opaque red pig-
98 ments, translucent red glazes, white and black but not
99 between individual pigments and lake pigments. It reflects
100 neither slight traces of pigment nor the partial or extensive
101 application of paint, thus allowing only a simplified and
102 incomplete overview.
103 ‘Du mußt so malen, daß ein rotes Ding überall rot und doch
104 erhaben sei... damit nicht jemand sage, schau wie ist der Rock auf

Techniques of painting
3 Wolters 1938; Gronau 1972, I, 94-96.
4 Riemann 1972 A; Gronau 1972, I, 61-63; Riemann 1980, 118;
6 Gronau 1972, I, 151; Riemann 1980, 151.
7 The description of the techniques of underdrawing is based on
8 comparison of microscopical investigations of the paintings'
9 surface, examination of X-radiographs and analysis of cross-
10 The table only distinguishes between opaque red pig-
11 ments, translucent red glazes, white and black but not
12 between individual pigments and lake pigments. It reflects
13 neither slight traces of pigment nor the partial or extensive
14 application of paint, thus allowing only a simplified and
15 incomplete overview.
16 ‘Du mußt so malen, daß ein rotes Ding überall rot und doch
17 erhaben sei... damit nicht jemand sagen, schwar wie ist der Rock auf

NOTES CHAPTER II / PAGES 172 - 184

Joseph's hat is made of a woollen material. Among the later examples there is the Princes' Altarpiece (c.1510).

FR 23, 34 et al. Self-portrait (1500), Munich, Bayerische Staatsgemäldesammlungen, Alte Pinakothek, Inv.-No. 537. FR 34, 39, 47A, 59 et al. The same technique was used later to depict hair on the head and beards.

FR 112A; Adam and Eve (Vienna, Kunsthistorisches Museum, Inv.-No. 929); The Penance of St Jerome (Hamburg, private collection).


In addition to the conscious use of the palms of hands, the presence of presumably unintended fingerprints ought to be mentioned here; an example of this is preserved on the left edge of the King Christian II of Denmark (1523).

Karlsruhe, Staatliche Kunsthalle, Inv.-No. 122. A similar effect appears on the Eve (c.1508/10).

Goldberg, Heimberg, Schawe 1998, 44, fig. III.20. Dürer used fingerprints to create structures in the rock formations.


Similarly streaked application of paint can be discerned in the work of Konrad Witz (Head of Benaja on the Heilspeigel Altarpiece, Basel c.1435/36), cf. Aulmann 1958.

50 This is the same colour combination by which the sky is occasionally lightened towards the horizon (for example in FR 159).

51 'Den gmaine gmäll will ich ain jahr ain hauffen machen, das niemandt glaubte, das möglich were, das ain man thun möchte. An solchen mag man etwas gewinnen. Aber das fleisig kleiblen geht nit von statten.' Dürer writing to Jakob Heller on 26 August 1509 (Rupprich 1956, 72).

52 On the Holy Family (1504), this stippling suggests that Joseph's hat is made of a woollen material.

53 Brinkmann 1993, 87.


55 Cf. Wolters 1938, 110, fig. 54 (portrait of Elsbeth Tucher, 1499).

56 Among the later examples there is the Princes' Altarpiece (c.1510).

57 FR 20, 47A et al.
87 Sandner 1994, 188.
88 Grimm doubts that Cranach painted the central panel himself but disregards its state of preservation. Grimm (Grimm, Erichsen, Brockhoff 1994, 371).
89 It has not been possible to identify the organic colourants within these interlayers. Cf. chapter II, pp. 159-162.
91 FR 176, 177, 184, 168, 160, 206, 106, 311A.
92 FR 35 (Joseph), St Anthony (c.1520/25).
93 FR Sup 1C.
94 Riemann 1980.
95 Barkowsky 1980, 59.
96 Gronau 1972, 1, 74.
97 Sandner 1993, 65.
98 Sandner 1994, 191.
99 Grimm 1994, 34.
100 Cf. Wetering 1997, 33.
101 FR 17, 20, 68, Adam and Eve, c.1512/20, Vienna, Kunsthistorisches Museum et al.
102 FR 14, 17, 20, 68, 54, 145, 146, 168, 304, 305 et al.
103 New York, Metropolitan Museum; Bomford 2002, 11; Schröder, Sternath 2003, 298-300.
105 London, The National Gallery. Dunkerton points to obvious parallels with the giornate of fresco painting, but considers also that there may be a relation to the ordered partitioning of details and colour areas of altarpieces among members of the Ghirlandaio workshop. Dunkerton (Hirst, Dunkerton 1994, 95-96).
107 'Die äußerlichen, die verbessert zum Einzelnen feilen, sollen als ’Berichtigungen’ zusammengefasst werden, diejenigen, die in das Gefüge des Bildes innerlich umprägend eingreifen, sollen ’Wandlungen’ genannt werden.' Wolters 1938, 57.
108 Wetering 1997, 42.
110 Sandner analyses these changes with great detail and consequently they are not dealt with further here (Sandner 1998).
112 Schawe 1998, 164-165.
113 Schawe 1998, 165.
115 Presumably, the pillar on the balustrade was also added at this later stage in order to unify the room.
118 The portrait is painted on a board from the same tree as a board used for the panel of the Otterlo portrait (Peter Klein, report of analysis of 27 April 1998).
120 Tuurnala et al. 1991, 66-68; cf. FR 297 (with hat).

Painting the reverse side, presentation and transport
A movable pair of shutters: FR 12-15, 18, 39, 99 et al.; a movable pair of shutters and a pair of fixed wings: FR 47A; two movable pairs of shutters: Altarpiece of the Virgin, Kade; two movable pairs of shutters and a pair of fixed wings: FR Sup6A (origin presumably outside the Wittenberg workshop)
FR 99, 112A et al.
Cf. Ritschel 1995. There is uncertainty about the original location of the large panel with St Anthony (c.1520/25). On the reverse side it shows Christ in the Sarcophagus, which was presumably once part of a retable. Cf. Erichsen (Grimm, Erichsen, Brockhoff 1994, 331).
Thümmel (Grimm, Erichsen, Brockhoff 1994, 172, Footnote 10).
In 1633, the chronicler Wilhelmus Laurentius writes about the delivery of the Kunigunde Altarpiece from Wittenberg for the Marienkirche in Zwickau on 11 December 1518 (Sandner 1993, 106).
In some cases the use of semi-transparent coatings is suspected.
With her examination of private portrait paintings, Dülberg is the first to systematically and comprehensively explore the relationship between decoration of the reverse and storage (Dülberg 1990).
Only the areas of the joins have been covered with tow and a thick white priming material. The same form of stabilisation can be found for example on the Electors’ triptych (c.1535, FR 338A).
Dülberg 1990, 19.
FR 12, 13, 15, 28, 39, 379 et al.
FR 12.
The panel was restored for the Cranach Exhibition in 1899 in Dresden (Woermann 1900, 31).
The technique of Flaserdruk was intended to imitate natural wood grain. Cf. Schade 1974, 47; Schießl 1980, 14.


25 Findeisen, Magirius 1976, 186.

26 Findeisen, Magirius 1976, 187.

27 Cf. chapter III, pp. 250-253. In the background of this painting (FR 185) there is a small panel with the portrait of Christ on St Veronica’s sudarium secured to the wall in this way. This method is also documented in a fifteenth-century illustration (Alexander book of Johann Hartlieb, 1453). Cf. Dülberg, 1990, 64-65. The convex mirror behind the figure of the Virgin reveals the precise appearance of the space encompassed by the painting. It tells us how the artist positioned his subjects in relation to one another and how one should position the wings such that the reflection in the mirror shows the man to be facing directly towards the Virgin, who sits squarely before the window. Cf. Vos 1994, 130-133.

28 SHStAD, Geheimes Archiv, Loc 8695, Nr. 8; Junius 1926, 247-249; Noll-Minor 1996, 216.


30 Cf. chapter III, pp. 250-253. The invoice from Hansen Jheger von Aldenburg for work in Schloss Colditz also suggests that panels were permanently fixed to the wall: ‘...sunt auch umb die teffeylen und hengende blume, umb die tucher in Euer Chruf. gnad. stub und kammer, nachm reichlichtsten gemalt...’ (app. II, 125).

31 Noll-Minor 1996, 216. The panel was hung with two iron rings only later. The change in load caused damage to the panel and the frame.

32 The eyes turning slightly outwards, when viewed from the front, are also the hallmark of other double portraits, such as of Martin Luther and Katharina von Bora. By contrast, Cranach designed the Duke Heinrich the Devout of Saxony and the Duchess Katharina (1514), laid out for permanent display, and numerous individual portraits, without any fixed viewpoint.

33 Cf. Andersson (Grimm, Erichsen, Brockhoff 1994, 216, fig. A163).

34 Cf. chapter III, pp. 250-253. In the background of this painting (FR 185) there is a small panel with the portrait of Christ on St Veronica’s sudarium secured to the wall in this way. This method is also documented in a fifteenth-century illustration (Alexander book of Johann Hartlieb, 1453). Cf. Dülberg, 1990, 63.

35 Noll-Minor 1996, 216. The ground covers the panel all round as far as the edges, the panel has not been trimmed and shows no signs of having been used as a lid. The eyes turning slightly outwards, when viewed from the front, are also the hallmark of other double portraits, such as of Martin Luther and Katharina von Bora. By contrast, Cranach designed the Duke Heinrich the Devout of Saxony and the Duchess Katharina (1514), laid out for permanent display, and numerous individual portraits, without any fixed viewpoint.


38 Vienna, Kunsthistorisches Museum, Inv.-No. 6080, Glück (Schütz 1972, 32-33); Schade 1974, 464, fig. 222; Dülberg 1990, 300.

39 Dülberg 1990, 164-165, 298. The eyes turning slightly outwards, when viewed from the front, are also the hallmark of other double portraits, such as of Martin Luther and Katharina von Bora. By contrast, Cranach designed the Duke Heinrich the Devout of Saxony and the Duchess Katharina (1514), laid out for permanent display, and numerous individual portraits, without any fixed viewpoint.


41 Rebel (Grimm, Erichsen, Brockhoff 1994, 131). The convex mirror behind the figure of the Virgin reveals the precise appearance of the space encompassed by the painting. It tells us how the artist positioned his subjects in relation to one another and how one should position the wings such that the reflection in the mirror shows the man to be facing directly towards the Virgin, who sits squarely before the window. Cf. Vos 1994, 130-133.

42 We can also perceive the gaze directed out of the picture on the portrait of Felicitas Tucher (1499), which is the right-hand counterpart to that of Hans Tucher, forming a diptych (Weimar, Kunstsammlungen). The noticeably extended left shoulder seems to reinforce the perspective effect, when viewed at a certain angle.


44 Höcker 1985 B, 38.

45 Vienna, Kunsthistorisches Museum, Inv.-No. 6080, Glück (Schütz 1972, 32-33); Schade 1974, 464, fig. 222; Dülberg 1990, 300.

46 Höcker 1985 B, 39. The ground covers the panel all round as far as the edges, the panel has not been trimmed and shows no signs of having been used as a lid. The eyes turning slightly outwards, when viewed from the front, are also the hallmark of other double portraits, such as of Martin Luther and Katharina von Bora. By contrast, Cranach designed the Duke Heinrich the Devout of Saxony and the Duchess Katharina (1514), laid out for permanent display, and numerous individual portraits, without any fixed viewpoint.

47 Lüdecke 1953, 72.


49 Dülberg 1990, 64-65.


51 Gurlitt 1897, 32; Bruck 1903, 286.

52 For the sake of comparison, the court painter’s workshop helpers received a weekly wage of 10.5 groschen and the journeymen 21 groschen, respectively (cf. chapter V, p. 285).
Chapter III

Canvas painting

Documentary evidence and surviving canvases
1 Shakespeare, Henry IV, Part II (Act II, Scene I), written 1596-97.
2 Cf. Schuchardt 1851, I, 122-124, 156, 162, 206-207; Scheidig 1953, 171; Matsche (Grimm, Erichsen, Brockhoff 1994, 79); Grimm (Grimm, Erichsen, Brockhoff 1994, 384-385); Heydenreich 2002.
3 As early as 1851, Schuchardt noted references in Cranach’s invoices to a considerable number of large paintings on canvas and he noticed that neither he nor his predecessors who catalogued Cranach’s work, had come across a single such painting (Schuchardt 1851, I, 122-24).
5 For the sake of simplicity, the figures have been converted on the assumption that one elle uniformly equals at least (57 cm) (cf. Alberti 1957; Buehner 1994), and that the minimum width of the canvas was one and a quarter ellen (c. 71 cm). If other elle measurements were to be applied, the final figure would alter accordingly (cf. chapter III, p. 242; Pfeiffer 1975).
6 In the absence of more evidence of secular court schemes, it is impossible to say whether Cranach is typical or unusual in using so much canvas.
7 In the case of more than 60 paintings, it was not possible to deduce from the invoices the type of support used. It could be wood, canvas or other materials. Diptychs and triptychs were each counted as one work.
8 The three full-length portraits of the electors (FR 338G, c. 247 x 105 cm) in the Lutherhalle in Wittenberg warrant closer examination. According to Friedländer, Rosenberg 1978 and Hoffmann 1992, these are later copies of the portraits in the University of Greifswald was possibly also produced after
9 FR 254 (Ainsworth, M.W., personal communication)
10 FR 274 (transferred to canvas before 1937, cf. Sv. Dagblad 9/1937)
11 FR 22 (transferred to canvas in 1850, cf. Kostrov 1954); 36 (transferred to canvas between 1827 and 1850, cf. Bjerre 1979/80); 60/61 (transferred to canvas before 1876, cf. Rossmann 1876, 46.); 76 (transferred to canvas between 1946 and 1954, cf. Kákkay Szabó 1954, 87, 137); 219 (centre panel transferred to canvas probably in 1899, cf. Barkowsky 1980, 30); 225; 227; 228. Not mentioned by Friedländer, Rosenberg 1978 as being transferred are the following paintings: FR 65 (transferred to canvas in 1815, transferred to panel in 1994, cf. Beck 1995); 83; 359B, outside wings of the altar Sup 6A.
12 FR 297 (X-radiograph, Courtauld Institute of Art, London); a few wooden supports covered completely with canvas have not been examined (e.g. FR 214, 261), i.e. the possibility that they are canvases that have been transferred to a wooden panel cannot be discounted although it seems unlikely. Koepplin 2003, 16, described the support of FR 412C as canvas, but it is in fact also a panel painting.
13 109 x 87.5 cm, Weimar, Kunstsammlungen, Inv.-No. G 207; cf. Hoffmann 1992, 80-82.
18 Wittenberg, Lutherhalle; Bach, Decker 1973; cf. Schade 1974, 47, fig. 432d.
22 Wolflath 1989, 6.
23 ‘8 fl für ein gemalt tuch do die heiligen drey konig anstehen... 4 gulden für zwei gemalte tucher, uf dem einen steth der englisch grus uf dem andern sand Anna und sant Cristof. 14 gulden fur 5 grus uf dem andern sand Anna und sant Cristof.’ (Schuchardt 1851, I, 42; cf. Gurlitt 1897, 23, Wolflath 1989, 19).
25 Christoph Scheurl’s descriptions of Cranach’s paintings in the Veste Coburg do not exclude the possibility that they are large-scale canvas works (cf. chapter IV, pp. 262-263).

Subjects and function
1 Cf. Reynolds 2000, 89-98.
2 Cf. Gurlitt 1897, 6.
3 Findeisen, Magirus 1976, 187. The Croy Tapestry (1554) at the University of Greifswald was possibly also produced after
a cartoon by the Cranach workshop (Staatliche Museen zu Berlin 1983, 368).


5 Bruck 1903, 41.

6 Findeisen, Magirius 1976, 166, 187-188.

7 Cf. Noll-Minor 1996 and chapter IV.

8 Bruck 1903, 41.

9 We do not know whether Cranach ever painted organ shutters on canvas but we know as such from the church in the castle at Torgau. (Findeisen, Magirius 1976, 120).

10 '2 gr idem von dem tuch im rundten thurm wieder geholffen anzuschlaen' (app. II, 213); 'So wollen E. L. mit dem ainen, dorauf die hasenjagt ist, die verordnung thun, das es uf dem neuen jhagthaus zu Wolffersdorff, wan der bau fertigk, angeschlagen werde...' (app. II, 292).

11 With a surface area of some 72 m², this picture is even larger than Veronese's Marriage Feast at Cana painted between 1562 and 1563 and measuring 6.66 x 9.90 m.

12 Surviving animal studies on paper, such as pictures of wild boar, give an idea of these. Cf. Schade 1961/62, 29-41; Schade 1974, figs 164-166.

13 The panel paintings depicting hunting scenes are no larger than c.120 x 160 cm in size.

14 The subject still survives as a large-scale woodcut. Cf. Koepplin, Falk 1974, 250, No. 158; Schuchardt 1871, 127; Hollstein 1955, Vol. VI, No. 20 and app. II.

15 Cf. Sievermann (Grimm, Erichsen, Brockhoff 1994, 70-71).

16 Koller's assertion that it was not until the 1570s and 1580s that Cranach painted portraits on canvas is not correct. (Koller 1984, 294).

17 Findeisen, Magirius 1976, 166-168. It has yet to be established whether these 36 portraits are identical with those figuring in the invoices from 1537 for the Round Chamber towards the Elbe (cf. app. II, 226, 227).

18 As this analysis of the canvas paintings is based on only a comparatively small number of written documents (cf. app. II), the proportion of subjects may fluctuate.


20 Cf. Matsche (Grimm, Erichsen, Brockhoff 1994, 78-88).


22 In the case of the total of 16 canvas paintings by Dürer mentioned by Anzelewsky, there are 9 portraits, 6 pictures of saints including the Virgin and a scene from mythology. Cf. Heinberg 1998, 52. In Saxony, Luther's Reformation discouraged the veneration of saints after 1520.

23 Cf. Dürer's copper engraving on this subject from c.1498 (Strieder 1981, 185, Bonnet 2001, 106-107).

24 Cf. the series of woodcuts known as Das Papstthum (Schuchardt 1851, II, 248-250), The Pope Seated on the Throne Is Thrust into the Flaming Jaws of Hell by Devils in Various Guises Two of Whom Are Removing His Crown, the Passional Christi und Antichristi, 1521, Blatt CV verso - CVI, Christ's Ascension - the Pope's Descent into Hell (Koepplin, Falk 1974, 330; Groll 1990, 271-279) and the drawing The Pope's Descent into Hell, c.1538 (Koepplin, Falk 1976, 511-512).

25 As a result of differences in their original sizes, it is possible to make only a limited comparison between canvas paintings listed in the accounts and surviving wooden panel paintings. There are also discrepancies between the wooden panels listed and those surviving.


29 Wolfthal 1989, 5, assumes that fourteenth century canvas paintings relate to the Franciscan ideal of poverty.

30 The canvas Christ Blessing the Children (after 1540/45) warrants a closer examination in comparison with a similar version on panel in the St. Anna Kirche, Augsburg.


32 In 1477 Mantegna wrote to Ludovico Gonzaga that, ‘If your Lordship wishes to send the [portraits] far they can be done on fine canvas wrapped around a dowel’. (Christiansen 1992, 69).


34 Cennini describes working on canvas as ‘...more pleasant to work on it than on panel, because the cloth holds the moisture a little; and it is just as if you were working in fresco, that is, on the wall.’ (Thompson 1960, 104).


36 Großmann 1998, 80. This would allow large-scale works to be painted upright but it does not confirm such a practice. Other references describe cloth being painted on the floor (Merrifield 1967, I, 88).

37 In a letter of reply dated 6 May 1551, the elector expressed his amazement that the paintings turned out too large. He felt that it certainly would not be harmful to turn them in a little (app. II, 312).

38 Cranach even painted a portrait of Titian, which, however, is no longer in existence (app. II, 316); Schweikhart 1997, 39.

The linen: origin, formats and qualities

1 To date it has only been possible as a result of analysis to establish the use of linen woven from the spun fibres of flax in the Elector Johann Friedrich I in Everyday Attire (1578) by Cranach the Younger. The possibility that occasionally other materials were used, such as silk for banners, cannot be discounted (cf. Bury 2000, 19-20).

2 Nübling 1890, 45, 127, 196.

3 Nübling 1890; Peyer 1959; Peyer 1960.

4 There is no evidence in Ulm to substantiate the view that...
\textbf{Notes Chapter III / Pages 241 - 247}

\textbf{Preparation of the linen and painting techniques}

3. In the correspondence between Johann Friedrich I and his sons in the course of 1549 the terms gemalte tucher, gemalte tuch and gemelde are used as synonyms (cf. Junius 1926, 240).
6. This layer should presumably be termed an \textit{imprimatura}.
8. Cennini (Thompson 1960, 103).
10. Borghini (Bержer 1901, 40).
11. Armenini 1587 (Berger 1901, 56).
12. The starch component could not be characterised by FTIR-imaging technique, but it was confirmed in cross-sections by staining tests with a solution of iodine-potassium. The iodine-starch reaction is so specific and sensitive that it can be taken as qualitative proof. (Cf. Schramm, Hering 1989, 205). Examining the \textit{Elector Johann Friedrich I in Everyday Attire} the ground layers containing starch could be differentiated from the flour paste used with the lining process in 1973 (cf. Bach, Decker 1973). On starch in preparatory layers cf. Koller 1996, 59-82 and Diem, Koller 1999, 59-63.
ICOM Committee for Conservation Paintings I and II Interim Meeting, Dublin 1998.

16 The tacking margins have been folded over the edges of the new stretcher only later (fig. 205).

17 Hans Burgkmair, The Emperor Maximilian in a Painter’s Studio. Woodcut, from Der Weissskunig, c.1518 (Falk, Biedermann 1973, No. 183-184); Jost Amman, Der Maler, woodcut, 1568 (Goldberg, Heimberg, Schawe 1998, 58, fig. IV.2); Young, Hibbered 2000, 212-213.

18 Cennini (Thompson 1960, 103).

19 Cf. Findeisen, Magirius 1976, 186-188.

20 Cf. a late-fifteenth-century Italian tüchlein (Dubois et al. 1997, 234) and Holbein’s paintings on canvas for the Greenwich festivities in 1527 (Foister 2001, 113). Gums were traded at the Leipzig markets in large quantities (Waageordnang, c.1500, Stadtarchiv Leipzig, Tit. XVIII (F) Nr. 115, fol. 8v.)

21 Cf. Mantegna’s paintings on canvas (Rothe 1992, 81).

22 Bruck 1903, 282; cf. also Reynolds 2000, 91.

23 For information on the contemporaneous practice of impregnating cloth with wax cf. Dihle 1930, 136-137.

24 Oil medium was also detected in the Elector Johann Friedrich I in Everyday Attire (1578), Geldorf, Weerd, Heeren, analysis report 6/2000, unpublished.

25 In Cologne it appears to have been usual to paint in oil on cloth by the later fifteenth century (Reynolds 2000, 91). According to Wolfthal 1989, 34, starting with Heemskerck, Netherlandish artists, also strongly influenced by Italian art, only began painting in oil media on canvas in the 1530s.

26 Brunswick, Herzog Anton Ulrich-Museum, Inv.-No. 29.

The background was underlaid in one shade of grey and then painted in blue. The blue appears grey today because of the discoloured smalt pigment.

### Presentation and evaluation

1 Junius 1926, 247.

2 In some of the rooms at the castle at Wittenberg, rails were nailed at the top of the walls ‘on which to hang tapestries’ (Bruck 1903, 41-42). A woodcut entitled The Tournament (1509) shows a large-scale textile depicting Samson’s battle with the lion hanging in front of the balustrade. Koepplin suspects that this is a canvas painted by Cranach, but it is probably a tapestry, the upper end of which is draped over the balustrade on which the spectators could lean. Cf. Koepplin, Falk 1974, 114; Timann (Grimm, Erichsen, Brockhoff 1994, 320).

3 As in later letters, the words tuch and gemelde are used as synonyms, it could be that an invoice dating from 1530 alludes to such a panel: ‘2 gr for 1 tafel zu einem gemelte’ (app. II, 160). The ‘panels in water colour on canvas’ (tafeln in wasserfarben aufleinwand) referred to in the inventories from the castle at Torgau are in my opinion not necessarily conclusive evidence of panels, not least because of the larger formats involved. Cf. Magirius, Findeisen 1976, 166, 186 and app. II.
Chapter IV

Painting on other supports

4 Cf. Schade, Schuttwolf 1994, 18-19; Erichsen (Grimm, Erichsen, Brockhoff 1994, 362).
5 Munich, Bayerische Staatsgemäldesammlungen, Inv.-No. 12475; cf. Erichsen (Grimm, Erichsen, Brockhoff 1994, 362-363).
6 San Francisco, M.H. de Young Memorial Museum, Inv.-No. 43.9.3; cf. Schade 1974, 464.
7 Cf. Schade 1974, 384, Anm. 386, 316.
8 Erichsen (Grimm, Erichsen, Brockhoff 1994, 362); Schade, Schuttwolf 1994, 18-19.
11 In 1543 he charged for nine views of Wolfenbüttel on parchment (9 ausgestrichene und illuminierte pergamenen Wulfenbeutel, app. II, 254).
13 Heimberg 1998, 49.
14 Koller 1999, 40.
15 Heraclius (Ilg 1873, III:XXIV); Theophilus (Ilg 1874, I., XVII); Straub 1984, 147-148; Fuchs, Meinert, Schrempf 2001, 82.
16 Campbell 1990, 85.
17 Examination of Dürer’s Munich Virgin with the Pink revealed that a piece of animal skin was glued on a panel before the painting process began (Goldberg, Heimberg, Schawe 1998, 431).
19 Conservation report (Gm 1570) in the Germanisches Nationalmuseum in Nuremberg (unpublished).
20 Dendrochronological examination by Klein 1990: with a minimum storage time of two years for the wood, the picture could have come about from 1502 onwards (Schade, Schuttwolf 1994, 18).
23 Bartl, Gärtnert 1998, 135; Gronau 1972, II, 187; Möller, A., ‘Conservation and Analysis Report of 27.05.97’ (unpublished). Whereas in the course of microscopic examination of losses in the paint layers, Gronau and Möller were unable to detect any preparatory layer, Neelmeijer and Wagner, using PIXE/RBS, instead determined a ground layer containing calcium salts and lead white. However, when they examined the Fourteen Helpers in Need (c.1505/07), the method that they had used, by comparison with examination of cross-sections to establish information about preparatory and undermodelling layers, proved unreliable, thus casting doubt on the results of this analysis (for information on the method of examination cf. Wagner, Neelmeijer, Schramm 1994).
27 Heimberg 1998, 49. On Altdorfer’s Landscape with a Footbridge instead exists a thin chalk ground (Gettens, West Fitzhugh, Feller 1974, 178) and Gossaert’s Elderly Couple painted on parchment has a lead white ground (Campbell, Foister, Roy 1997 B, 25).
28 Kühn 1977, 159.
32 Köhler 1973, 28.
33 Assessments of this work differed greatly in the past: whereas there is no doubt in Flechsig’s mind that it was done by Cranach, Grimm rejects this notion. Cf. Flechsig 1900; Köhler 1973, 29; Grimm (Grimm, Erichsen, Brockhoff 1994, 342).
38 Schade, Schuttolf 1994, 19.
43 Cf. Dülberg 1990, 188-189. The painting of the coat of arms of the Portrait of a Man (FR 62) is no longer part of the panel but is exhibited next to the portrait.
44 Liber illuministarum (Berg er 1912, 196).
45 Sieveking, (Grimm, Erichsen, Brockhoff 1994, 364-365).
48 Schade 1961/62; Grate 1961, 30-37; Erichsen (Grimm, Erichsen, Brockhoff 1994, 358-361).
51 Cf. Holbein the Younger Portrait of Benedikt von Hertenstein,
39 Bünsche 1990.
40 Vinci (Ludwig, Herzfeld 1925, 18).
41 Komanecky et. al 1998, 136-139; Koller 1984, 298-299.
42 Bünsche 1990, 202-209.
43 Cf. Schuchardt 1851, I, 27-35.
45 Hambrecht also presumes that there are wall paintings by the young court painter in the castle at Heldburg to which he could have travelled from Coburg. Since no close examination of these paintings has yet been undertaken this attribution has not been confirmed (Hambrecht 1995, 359).
46 Cf. Schade 1974, 50.
47 Schade 1974, 47; Kaiser, Möller 1975, 127.
48 Schade, 1974, 47; Findel, Magirius 1976, 162; Noll-Minor 1996, 209-217. This does not exclude the possibility that further fragments survive in other locations.
49 Noll-Minor 1996, 211. Following further examination, Noll-Minor revised her original assumption that the yellow mordant contained massicot (PbO), Noll- Minor, M., personal communication, 7 June 1999.
51 Schmidt 1998, 120-121.
53 Noll-Minor 1996, 211.
54 Schmidt 1998, 120.
55 Bruck 1903, 25-26; Ruhmer 1963, 19; Grimm 1994, 27.

Chapter V
Workshop organisation

Contracts, commissions and marketing

1 Wer ein Bildwerk zu einem festen Preis macht [...] kümmert sich mehr um die Vollendung als um die Schönheit. Wer aber seine Entlohnung gemäß der Schönheit erwartet, sorgt sich mehr um die Schönheit, als um die Schnelligkeit der Ausführung. Extract from a sermon by Jacob of Lausanne, †1321 Schönbach, Miszellen aus Grazer Handschriften. Mitteilungen des historischen Vereins für Steiermark. (1900) 156ff (Huth 1923, 29).
2 Hambrecht 1995.
3 In his notes (1556), Gunderam refers to 1504 as being the year Cranach was appointed (Lüdecke 1953 A, 84).
4 Luther (Kärn 1925, 130).
7 Koepplin, Falk 1974, 74.
8 Rachfahl 1906, II, 108.
9 Scheurl 1509 (Schuchardt 1851, I, 30); Gunderam 1556 (Lüdecke 1953 A, 86).
10 Cf. Dihle 1930, 92-127; 1956, 92-127.
11 Marx 1989, 81.
12 Bruck 1903, 103-104.
13 There are, for example, portraits of Elector Friedrich III the Wise and Johann the Steadfast on the large retables for St. Johannis, Neustadt/Orla (1511-13, FR 47A) and St. Katharinen, Zwickau (c. 1518, FR 64D).
15 Amongst others, the tradesmen Heinrich Ackermann from Frankfurt and Raymund Fugger from Augsburg owned Cranach paintings (Zülich 1935, 311; Busch 1973, 85).
17 Cf. FR 11, 18, 19, 20 et al. (no serpent); FR 23, 60, 61, 97, 189, 190, 312, 313 et al. (serpent)
18 In 1553, Johann Friedrich I decreed that Peter Gottland ‘should be responsible for supplying the paint for all pictures, at his own expense’ (...die farbe zu allem mahlen uff eine gosten selbst zu verschaffen schuldig sein sollte), Schuchardt 1871, 93.

Studios

1 Scheurl 1509 (Schuchardt 1851, I, 34).
4 ‘Christophori Scheurli I.U. Doctoris libellus de Sacerdotum ac rerum ecclesiasticarum prestantia etc.’ (Schuchardt 1871, 76).
5 Cf. Plinius XXXV, 71. He refers to Alexander’s regular visits in the workshop of Apelles.
Partnership and workshop members

2 Also sent a considerable number of portraits which the carpenter had carved in wood and which were casted in silver (app. II, 189). Meister Hans von Amberg worked for Elector Friedrich III on several occasions, painting, carving and working as a carpenter. Similarly, Claus Heffner who worked at the court, was a carpenter and woodcarver (cf. Bruck 1903, 67-68, 121-122).
3 This payment order is followed by one for '20 groschen for 3 bushels of flour (app. II, 206). Item den malern ist vergönnt und zugeben, das sie in ire heuser, tafeln and anders, schreinergesellen nemen und inen geheuse, tafeln and anders, zu irem hantwerk dienende, in irer koste arbeiten laßen mögen.' act. feria 2a Kyliani (8 July) [14]82. Nuremberg Council records vol. 3, fol. 201b. (Gümbel 1922, 284, Footnote 116).
4 Cf. Bruck 1903, 242-246.
5 Cf. Bruck 1903, 57, 261, 263.
6 Cf. Bruck 1903, 247; Findeisen, Magirius 1976, 203.
7 Hans Wurffel, described by Lücke 1994, 61, as a carpenter or cartwright, was in fact a blacksmith (app. II, 68).
8 This payment order is followed by one for '10 floren for the two panels in the saalstube, the Virgin Mary and Lucretia which he [Cranach] made at Wittenberg' (app. II, 206).
9 'Item den malern ist vergönnt und zugeben, das sie in ire heuser schreinergercellen nemen und inen geheuse, tafeln and anders, zu irem hantwerk dienende, in irer koste arbeiten laßen mögen.' act. feria 2a Kyliani (8 July) [14]82. Nuremberg Council records vol. 3, fol. 201b. (Gümbel 1922, 284, Footnote 116).
12 According to Straube there were four carpenters working in Wittenberg in 1542. At the same time, Cranach employed only two journeymen, two apothecaries, a taverner and three maids. This information, together with the observation that the production of paintings and especially those on standard-sized panels was in decline in the second half of the 1530s, could indicate that the workshop had been restructured yet again. Cf. Straube 1985, 181.

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to strengthen the canvases’. Cf. chapter III.
44 Schade 1972 B; Schade 1974, 45.
45 Schade 1972 B, 149.
46 App. II, 159, 253, 265-267, 272 et al.
48 Emmendörffer 1998, 224.
50 Cf. Wetering 1986, 55.
53 Ehlers 1919; Emmendörffer 1998, 206, 213.
54 The width of the board (33.1 cm), the thickness (1.25 cm), a rebate, and the reverse are similar to other works of this period (cf. chapter II). Another example would be the portrait of Magarethe von Ponickau (1536, FR 349B), signed ‘Zc’. This portrait is painted on a beech wood panel typical for the Cranach workshop at the time (cf. Kolb 2005, 492).
55 Emmendörffer 1998, 224.
58 Schuchardt 1871, 126.
59 Cf. Ehrenberg 1899, 199, No. 480.
60 Surviving guild regulations give indications for normal practice at other places (cf. Stock 1993, 47-53). Since Cranach was court painter there could have been different forms of specialisation in his workshop.
61 Schade 1974, 405, No. 71-78.
63 Huth 1923, 15. For further details on the inconsistent usage of the terms geselle and knecht, cf. also Hellweg 1924, 174-185.
64 The helpers (knechte) employed by Friedrich Maler, who was court painter between 1503 and 1505, received the same wage of half a gulden per working week. Cf. Gurlitt 1897, 47.
65 There is nothing to confirm the view held by Schade 1974, 45, that the majority of these journeymen stayed at least two years in the Wittenberg workshop. To date, there has only been evidence that Jobst Steter stayed between August 1535 and 1537.
66 A few of them may have been apprentices who had just completed their apprenticeship in Wittenberg. In Hamburg and Lübeck, for example, the carpenter apprentices had to stay on one more year in the master’s workshop.
68 Straube 1985, 181. It is not clear whether in his comment, written for King Christian III of Denmark five years after Lucas Cranach the Elder’s death, Georgius Maior made a distinction between journeymen and helpers. ‘As result Lucas always has some six or seven skilled journeymen painters around him’ (So hat auch Lucas geschickter malergesellen stets ein sechs oder sieben bei sich...), Schumacher 1758, 234. Cf. also the reference ‘Lucas Maler with many of his journeymen’ (Lucas Maler mit etlichen seinen gesellen...) in a letter by the so-called adel gesel-

Artistic co-operation and exchange in panel painting

1 Gunderam 1556 (Lüdecke 1953 A, 84)
3 Schade 1972 A, 10.
4 Koepplin (Koepplin, Falk 1974, 37).
6 Grimm 1994, 29, 37. In addition, further authors commented on this question: thus Wirth: ‘supposer plusieurs mains, le maître tracant les contours, exécutant l’incarnat, le paysage du fond, puis abandonnant à d’autres le remplissage des bosquets et des sols’ (Wirth 1977, 85) and Bonnet: ‘there were even painters specialising in heads and painters specialising in the body’ (Bonnet 1992, 268). Technical examinations have so far not been able to confirm these assertions.
7 The complexity of this relationship has been examined elsewhere (cf. Wetering 1986, 61; Campbell 1998, 422-425 et al.).
9 FR 47A, 39, 64D et al.
10 Grimm 1994, 34.
11 Woermann 1900, 32.
12 FR 63, 150, 285D, 353 et al.
15 According to dendrochronological findings the earliest that a portrait of Luther, dated 1533, can have been painted is 1536 (cf. Klein 1994 A, 199-200).
16 Cf. Ladendorf 1953, 184.
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19 Schuchardt 1851, I, 120.
21 Erichsen 1997.
22 Sandner 1998 B, 93.
23 Grimm (Grimm, Erichsen, Brockhoff 1994, 371). There is, however the portrait of Johann Friedrich I the Magnanimous (1509) amongst these works although, as far as this picture is concerned, it has as yet not been possible with the help of infrared technology to detect any underdrawing.
24 Grimm attempts, for example, to determine Lucas Cranach the Elder’s own hand in the Princes' Altarpiece (c.1510) from over-cleaned and retouched contour lines. Cf. Grimm 1998, 77-80.
25 Grimm (Grimm, Erichsen, Brockhoff 1994, 371).
27 A contract with Adam Krafft dated 1493 expressly states that the foot of the Sakramentshaus was 'not to be worked in too grand a manner' (werklich doch nicht kostlich) as it would ‘almost not be seen’. By contrast the staircase was to be ‘worked subtly’ (subtil werklich) as it would after all been seen. (Huth 1923, 56).
28 An illustration from the Spalatin Chronicle (c.1530) shows a painting, Christ and the Woman Caught in Adultery, in a gilded frame hanging above a high door arch (cf. Grimm, Erichsen, Brockhoff 1994, 216, fig. A163). See also chapter II, p. 225).
29 Schade 1961/62; Schade 1972 A; Schade 1974, 49, Footnote 316. Details have yet to be examined.
33 Hanover, Kestner-Museum.
34 Elector Friedrich III the Wise sends Duke Georg of Saxony a 'pattern for a small panel' (müster zu den teffl ein) (Koepplin, Falk 1976, 477-479).
36 Tacke 1994, 66.
37 Tacke 1994, 65.
38 Tacke’s assertion that a journeyman, rather than Cranach himself, was responsible for these important changes might help to clarify any analysis of the underdrawings yet to be undertaken.
41 Montout 1994.
42 Schade 1961/62; Schade 1972 A.
44 Erichsen recognises a copy of a detail taken from a painting Three Graces in the Heads of Three Girls in Truro, Royal Institute of Art, Inv.-No. 1824-4. This sheet could well have been used as a pattern for the preserved painting of the Three Graces (FR 251A), Erichsen 1994 B, 183, 364.
45 Cf. the dog in FR 34 and FR 73; the head of John the Baptist and Holofernes in FR 32, 33, 73, 230, 231, 232 et al. or the Studies of Wildfowl in Dresden, Kupferstich-Kabinett with FR 272-275 and FR 290 (cf. Grate 1961; Schade 1961/62; Schade 1974, 49).
46 Emmendörffer 1998, 213.
47 Emmendörffer’s attempt to re-date the work of the master at 1520 is not convincing in terms of style and technique. For instance, no comparative examples of this kind of intense brushing and stippling application of flesh paint can be found after 1512 (cf. Couto, Valadares 1938, figs 15, 16).
49 Cf. Lübkebe, Bushart 1985, 70-71. Two further barely distinguishable variants held in the Bayerische Staatsgemäldesammlungen (WAF 187 and 186) are mentioned here.
50 JAPS Collection, Mexico (Christie’s, 8 July 1994, lot 91; mentioned by Koepplin, Falk 1976, 548, as being at Cassirer’s in Amsterdam).
51 Cf. also FR 132 and 132B.
52 The Berlin version measures 51.3 x 37.7 cm and the one in Mexico 67 x 57.5 cm.
53 Cf. also FR 74 and FR 74A (Löcher, Gries 1997, 130-131); FR 131 and FR 131A as well as FR 131B (Drecka 1954, 22-25); FR 132 and FR 132B; FR 230 and FR 230A.
54 The head of Martin Luther (c.1532), in a private collection in Scotland, is painted on parchment according to catalogue details. Cf. Witt Library, London, File No. 173 and Schade 1974, 49, Footnote 316. Details have yet to be examined.
56 There were also many other portraits on altarpieces now lost. Cf. Köhler 1794; Schuchardt 1851, I, 45; Rossmann 1876, 51; Michaelson 1900, 281.
57 Only the portraits on the panels in Copenhagen and Karlsruhe and the fragments of the retable in Coburg are drawn to a similar scale. However, various differences make it unlikely that they were transferred by means of tracing. Also the portrait painting in Nuremberg (FR 64A), alluded to as a later copy, differs in scale from the other versions.
59 Vienna, Graphische Sammlung Albertina, Inv.-No. 26.156 and FR 316.
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61 Cf. FR 312-313A-F, 338B.
62 Comparison with the version in Dresden (FR 311) has yet to be undertaken. Cf. Schade 1972 A, 8-9. The X-radiograph of the portrait in Otterlo (FR 311B) reveals that here, too, the painter used a pattern without headgear and covered the forehead with a black cap only at an advanced stage of painting. The dendrochronological investigations by Klein also show that the portraits of Martin Luther were not only produced from portrait studies but also that paintings including dating were copied. Cf. Klein 1994 A, 199-200.
65 Within this study it was not possible to investigate whether there are traces of black pigment on the reverse. Cf. Grimm (Grimm, Erichsen, Brockhoff 1994, 341-342).
66 Nuremberg Kunstbuch (Ploss 1960, 76).
68 In 1994 Sandner, Ritschel and Erichsen suspected the existence of pouncing dots on the panel showing the Virgin and Child with Saints (1516). Sandner corrected this assumption in 1998 (Sandner 1998 A, 60). The examples published by Bünsche (see below) are not convincing (Bünsche 1998 A, 1998 B). Despite lack of evidence, the use of the technique in the Cranach workshop cannot be discounted. It has been possible to prove the use of pouncing on the panel Christ and the Woman Caught in Adultery painted in Lubeck by Cranach’s pupil Hans Kemmer (Sandner 1998 B, 95, 229, 230).
69 Bomford 2002, 23.
73 Cf. Sandner et al. 1998, 130-139.
74 Bünsche 1998 A, 63, figs 8.2. and 8.3. with attached scale.
75 A summary of this contribution was published first (Heydenreich 1997, 2000).
76 Cf. Dornhöffer 1904, 179; Loßnitzer 1913, 13; Kaemmerer 1931/32, 193-194; Michaelsoon 1902, 26; Rudloff-Hille 1953, 7-8; Mahn 1972; 274-277; Friedländer, Rosenberg 1978; 68-69; Marx 1996, 18.39; Marx 1997.
77 ‘Magdalena Görzitz, 21 years old, 1532, half-length portrait, 0.42m.h., 0.34m.w.’, Katalog der im Deutschen Nationalmuseum befindlichen Gemälde (1882) 30, No. 498. Now: ‘Portrait of a Bride’, attributed to Lucas Cranach the Elder’ (Löcher, Gries 1997, 160-161).
78 Cf. Albrecht Dürer, Portrait of the So-called Fürlegerin (1497), Berlin, SMBPK, Gemäldegalerie.
80 The panel measures 42.1 x 33.7 cm and it varies in thickness between 5 and 9 mm.
82 Two wings of the Paumgartner Altarpiece, 1613; Jakob Muffel, c.1580, Nuremberg, Germanisches Nationalmuseum; St Jerome, Kassel, Staatliche Museen; Portrait of the So-called Fürlegerin, Leipzig, Museum der bildenden Künste.
83 The red material of the costume here is also moire but is conspicuous by the red ‘threads of brocade’, pedantically drawn parallel to each other; they are missing underneath the arms, and the X-radiograph reveals that sections of the robe have been scraped out and re-modelled. The reason for this is not damage to or correction of the formation of the folds, but more likely closely connected to severe drying cracks. Such defects become apparent, particularly in the X-radiograph, in adjoining sections of the robe where the first application of paint is preserved.
84 This was where Einhorn, who was not acquainted with the Nuremberg portrait, suspected a compression of the scenic motif of the catching of the unicorn to become a more static single group of woman and beast. In his view this occurred alongside two developments; that of the dynamic similitudo (for Christ’s becoming flesh) and that of passio (for the lovers’ passion). Cf. Einhorn 1976, 183.
85 Cf. Riemann 1980, 116, fig. 2.
86 There are also the drawings with the thieves on the cross, worked in black chalk or charcoal on paper tinted in pink, from Cranach’s Viennese period (cf. chapter II, pp. 101-102).
87 In this context, the Portrait of a Man with a Spotted Fur Collar (FR 58), which Koepplin and Falk date around 1508/10, is of particular interest (Koepplin, Falk 1974, 265, Tafel 10). Until now it has been regarded as Cranach’s earliest surviving portrait painted against a monotone light blue background. The similarity between this portrait and a head directly above St Catherine’s hands in the Dresden altarpiece also places these works in relationship, possibly also chronologically, with one another.
88 Rieffel 1906, 272; Schade is reminded of Christoph Maler in the painting of the right wing of the altarpiece (Schade 1974, 382). Grimm perceives Cranach’s personal contribution to the Altarpiece with the Martyrdom of St Catherine in the faces of
Philipp von Solms in Schloss Laubach, also dated 1520 but not of the following works to Hans Döring: the portrait of Count Mansfeld, attributed to Hans Döring by Schade 1972 B, 150. There is the modelling of the flesh tones matches that of the retable in Schloss Nieder-Weidbach, also attributed to Hans Döring. There is can be found in the underdrawing of the retable in Schloss Laubach, also dated 1520 but not as well as in the bridle of two horses.  

97 Cf. the figure of a unicorn in the coat of arms on a portrait of Hieronymus Tedenhamer, a copy of a painting by Lucas Cranach the Elder from c.1503, Vienna, Kunsthistorisches Museum, Gemäldegalerie. A unicorn was also part of the coat of arms of the Reuss family. (cf. Lübbeke 1991, 262). 

98 Scheurl 1509 (Schuchardt 1851, I, 30). 

99 Distinct parallel hatching for the modelling of the shadows match those on the panel depicting the 

100 Although the choice of a standard format by the Cranach workshop points to the conclusion that the painter knew about the Wittenberg workshop practice, in fact, the differing cut of the boards and the lack of fibrous material covering the joins, as practised from 1514/15, are important indications of the production and preparation of the support outside Lucas Cranach the Elder's workshops. 

101 The size and form of the eyes as well as the distance between the eyes and the mouth are identical on both drawings. The only difference on the painting is that the nose has been shortened and the beard has been cut shorter. 

102 Emmendörffer suspects that Döring left the Wittenberg workshop in 1514 (Emmendörffer 1998, 206). The results of the investigations as set out in chapter V, p. 292, make it possible that he left at a later date. It is believed that Döring had been employed in Wetzlar since 1518. 

103 Benesch 1928, 77-89. 

104 Weinberger 1933, 10-11. 

105 Burke 1936, 31. 

106 Bierende 2002, 71-72, fig. 29. 


108 Madersbacher (Rosenauer et al.1998, 207). 

109 Vienna, Österreichische Galerie, Inv.-No. 4845, 4846; cf. Rosenauer et al. 1998, 207-211. 


111 Letters are worked into the necklace and bodice of St Cunigunde, St Dorothy, St Catherine and St Genevieve as well as in the bridle of two horses. 

112 Compare also the unusual aubergine colour apparent in The Scouring of Christ and in many of Cranach's works FR 11, 15, 132, 372 et al. 

113 Cf. Pacher's St Barbara (c.1500) and Cranach's Crucifixion (c.1500) and St Valentine (c.1502/03). 

114 Cf. Madersbacher (Rosenauer et al.1998, 179). 

115 Appropriate examination is left to future art historical research. Attention should be drawn for instance to the drawing of the thug on the left in the Scouring of Christ and the epileptic on Cranach's panel depicting St Valentine. 

116 Cf. Emmendörffer suspects that Döring left the Wittenberg workshop in 1514 (Emmendörffer 1998, 206). The results of the investigations as set out in chapter V, p. 292, make it possible that he left at a later date. It is believed that Döring had been employed in Wetzlar since 1518. 


118 E.g. Cranach's engraved golden haloes of St Valentine and St Francis in terms of motif and the use of materials match those on the panel depicting the Betrothal of the Virgin by Pacher. They can also be found used in the same way for example in the work of the Meister von Utenheim (cf. Rosenauer et al. 1998, 127-127). Cranach and Pacher used fluorspar, a pigment rarely found before, and a few years later,
painters such as Wolf Huber and Albrecht Altdorfer were using it (cf. Spring 2000, 20). Pacher and Cranach used grey underpainting derived from vegetable black and calcite for blue passages (cf. Koller, Wibiral 1981, 150-151).

120 My thanks to Franz Maringer for the opportunity to peruse the results of his examination of Austrian panel painting. The relationship with Jörg Breu the Elder has yet to be investigated.


122 Koepplin (Koepplin, Falk 1974, 118).

123 Erichsen (Grimm, Erichsen, Brockhoff 1994, 293); cf. also Marx 1997, 11-24. The close relationship between Dürrer and Cranach is also documented in the fact that Anzelewsky 1999, 134-137 attributed the Portrait of a Young Man (Anton Neubauer?) to Cranach for stylistic reasons, while previously it had been ascribed to Dürrer. However, technical examination provided no evidence that the portrait was painted by Cranach. Erichsen (Grimm, Erichsen, Brockhoff 1994, 293).

124 The payment of 50 gulden to Lucas Cranach in Nuremberg in 1505, mentioned by Koepplin, Falk 1974, 112 with reference to Gurlitt 1895, 113 but with no further source detail (Flechsig 1900, 3, refers to the year 1504) could not be confirmed until now despite further perusal of the account books of the Wittenberg court.

125 Cf. also the remarks on the application of tow in chapter II, p. 70. It needs to be demonstrated whether Wolgemut and Dürrer also used silk fibres. Cranach could of course find out about other practices by studying finished paintings closely. Thus Dürrer for example modelled the flesh tones of the portraits of Elsbeth and Felicitas Tucher mainly by stippled application of paint. This technique can be found on many pictures from the Wittenberg workshop. By comparison, Dürrer’s hatched highlights produced with the pointed brush were nothing like Cranach’s working method. Only rarely did he model with a pointed brush, for example on the Altarpiece of the Holy Kinship (1509) and the Princes’ Altarpiece (c. 1510). Both artists used their fingers on their early works not only to disperse the glazes but also to give structure to the paint (cf. chapter II, p. 193).

126 What is remarkable here is the underdrawing on the insides of the shutters of the Paumgartner Altarpiece (c. 1498), which has been performed with great virtuosity and restricted to essential features. The underdrawing differs both from the centre panel and Dürrer’s other works and resembles Cranach’s lively style of drawing (cf. Goldberg, Heimberg, Schawe 1998, 193, fig. 2.15, 191, fig. 2.23).

127 Vienna, Kunsthistorisches Museum, transferred from wood to canvas, today c.99 x 87 cm. The painted surface of the Martyrdom of St Catherine measures c.108 x 92 cm. We also know of the esteem in which Dürrer’s painting was held in Wittenberg; in 1548 it was stored in Cranach’s house (app. II, 291).

128 Commissioner and original location are not documented.

129 A possibility for this would be the period between 21 October 1507 and 27 January 1508 when there is no evidence of Cranach working for the electorate court in Wittenberg. There is documentary evidence that he was in Nuremberg on 6 January 1508 for the bestowal of his personal coat of arms by Elector Friedrich III. He had not yet arrived in Nuremberg by 7 October 1508 on his return from the Netherlands and by 23 November 1508 he was working in Wittenberg again. Cf. Schade 1974, 403-404.

130 Cf. Grimm (Grimm, Erichsen, Brockhoff 1994, 300-301).

131 Cf. Sandner et al. 1998, 114-117, fig. 13.3b.

132 Up to now there was no information available on the layer structure of Dürrer’s Martyrdom of the Ten Thousand Christians and the surviving fragments of the Heller Altarpiece.

133 Madrid, Museo del Prado, Cat.-No. 2177, 2178, c.209 x 81 cm and 209 x 83 cm; cf. Bonnet 2001, 185-196; Schoen 2001.

134 Besançon, Musée des Beaux-Arts et d’Archéologie, Inv.-No. 896.1-54, each 139 x 53.9 cm.

135 Vienna, Albertina, Inv.-No. 17533, 42.2 x 22.6 cm; cf. Bonnet 2001, 201-204; Schröder, Sternath 2003, 373-376.

136 Cf. also Dürrer’s earlier depictions of the same subject (Bonnet 2001; Schröder, Sternath 2003).

137 Madrid, Museo del Prado, Cat.-No. 2177, 2178, c.209 x 81 cm and 209 x 83 cm; cf. Bonnet 2001, 185-196; Schoen 2001.

Glossary

AEDICULAR
A niche or a small structure used as a shrine.

BARB
A raised lip of grounding material caused by its accumulation in the angle between the panel and the frame mouldings.

BEADING
The contraction of a line of paint or ink in a water-based binder into small drops or beads when it is drawn over an oily surface.

BEVELLING
Giving a sloped or slanted edge to a panel board in order to fit in a frame.

BOLE
A clay containing iron oxide used as the underlayer for metal leaf in water gilding.

BUTTERFLY KEY
A butterfly-shaped piece of wood set into a panel, usually across a join between planks, for the purpose of reinforcing the join.

CRAQUELURE
A network of cracks in a coating layer, such as a ground, paint layer, or varnish.

CROSS-SECTION
By examining minute samples of the painting in cross-section under the microscope, the layer structure can be determined for that sample point. Cross-sections can be examined in reflected visible light usually at 100-800 times overall magnification. Supplementary information on the layer structure, pigments and binding media is yielded for example by ultraviolet illumination (fluorescence microscopy), analysis by EDX (q.v.) or FTIR microscopy (q.v.).

DENDROCHRONOLOGY
A technique used to date wood by matching the pattern of growth rings in the wood. This pattern of variation is due to variable growth conditions from one year to the next.

DIPTYCH
A painting or carving on two panels, normally hinged like a book.

ENERGY-DISPERSE X-RAY ANALYSIS (EDX)
A method of elemental analysis carried out in the scanning electron microscope (q.v.). Small areas of a sample, often a cross-section (q.v.), can be selected and analysed for their component elements.

FALSE-COLOUR INFRARED PHOTOGRAPHY (IR)
A technique used to examine the distribution of certain pigments in paintings. A pigment with relatively little infrared reflectance such as azurite appears blue while ultramarine, for example, is converted into various shades of red.

FOURIER TRANSFORM INFRARED SPECTROSCOPY (FTIR)
A technique for the analysis of organic and inorganic compounds based on the absorption of infrared radiation. The resulting pattern of infrared wavelengths transmitted is processed mathematically using Fourier analysis.

FOURIER TRANSFORM INFRARED IMAGING MICROSCOPY (FTIR IMAGING MICROSCOPY)
A technique for the analysis of organic and inorganic compounds using a non-dispersive infrared imaging microspectrometer.

FOURIER TRANSFORM INFRARED MICROSCOPY (FTIR MICROSCOPY)
A technique for the analysis of organic and inorganic compounds using a Fourier transform infrared spectrometer coupled to an infrared microscope.

FRESCO
A wall painting, usually executed using colours applied to fresh and still-wet plaster.

GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS)
A combined technique for studying complex mixtures of organic materials, for example, paint media, on the molecular level. The sample products separated by gas chromatography are analysed by a mass spectrometer.

GLAZE
A layer of translucent paint.

GRISAILLE
French: from gris, grey. A painting executed entirely in shades of a single colour – not necessarily grey.

HALO
A disc, a ring or radial patterns of virtual light, usually represented in gold, around the head of a saint, angel or deity.

HATCHING
The use of a series of parallel lines.

HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC)
A technique for the separation and identification of organic compounds of low molecular weight in which a liquid solution is forced through a column under high pressure.

IMPRIMATURA
An overall translucent toning of the ground, applied to the whole surface but with the possible exception of passages of water gilding or silvering.

INFRARED PHOTOGRAPHY (IR)
In infrared photography, an image is recorded in an ordinary camera using film sensitive to infrared radiation. An infrared photograph shows layers below the visible surface of a painting, especially carbon black underdrawings on a white ground.

INFRARED REFLECTOGRAPHY (IRR)
Infrared reflectography involves the use of a television-type tube camera with a special coating sensitive in the infrared region of the electromagnetic spectrum. At present, solid-state detectors are also being used. An infrared reflecto-
gram, like an infrared photograph, shows layers below the visible surface of a painting, especially carbon black underdrawings on a white ground.

LIGHT MICROSCOPY
A technique to examine the painting’s surface with a stereo light microscope usually at magnifications of 7 to 80 times with appropriate fibre-optic illumination. More powerful light microscopes are employed to examine cross-sections (q.v.) at magnifications up to 800 times.

MAHLSTICK
From German, mahlen/malen, to paint. A long stick, padded at one end, used by artists to steady the hand holding the brush.

MODELLO
An initial, often highly finished, version of a painting, usually made to be shown to the patron in order to indicate what is intended.

OGEE MOULDING
A strip (of wood) with a profile in the form of a letter S.

OPTICAL EMISSION SPECTROSCOPY (OES)
An earlier method for elemental analysis of sample material, yielding similar information to EDX analysis (q.v.).

PANEGYRIC
A formal or elaborate praise or eulogizing.

POLIMENT
An underlayer, usually of a reddish, yellow or black colour, for metal leaf in water-gilding (cf. bole).

POUNCING
Transferring a design by dusting a coloured powder through holes pricked along the outlines of a drawing on paper, parchment or other material.

PUNCH
A roughly cylindrical metal tool often with a decorative motif cut into one end. This motif is imprinted into a gilded ground by punching.

PREDELLA
Italian: literally, plinth, altar-step or dais. The long horizontal structure supporting the main panels of an altarpiece.

PROTON-INDUCED X-RAY EMISSION (PIXE) AND RUTHERFORD BACKSCATTERING SPECTROMETRY (RBS)
A combined technique for the identification of elements and their distribution in a material or sample. When a material is exposed to an ion beam, atomic interactions occur that give off electromagnetic radiation of wavelengths in the X-ray part of the electromagnetic spectrum specific to an element.

RAINSILL
The lower flat-sloped edge of a frame or a window. Sills derive from the window surrounds of Gothic architecture.

REBATE
A rectangular groove, or recess cut out of the edge of a panel.

RETABLE
Literally, behind the (altar) table. A structure above and behind an altar, often comprising both sculpted and painted elements.

SCANNING ELECTRON MICROSCOPY (SEM)
A technique capable of revealing fine details of sample material at magnifications up to 100,000x. The scanning electron microscope uses a beam of electrons to scan the sample under examination. This technique is frequently employed in combination with energy-dispersive X-ray analysis (q.v.) to identify component elements.

SCOTIA
A concave moulding used especially in classical architecture in the bases of columns.

SGRAFFITO
Literally, scratched. In painting, a technique in which paint is applied over metal leaf or other paint and then scraped away from specific areas to reveal the layer beneath.

SOPRAPORTE
Italian: over doors. Decorative elements over a doorway or doorframe, such as pictures or carved panels.

STIPPLING
In painting, the application of paint in short dabs or spots of colour.

STRAINER
A kind of chassis for mounting canvas that usually has rigidly joined corners, and therefore cannot be expanded.

STRETCHER
An expandable wooden frame or chassis on which an artist’s canvas is fixed by pulling it tight and tacking it to the frame all the way round.

TARGET
A shield (variously shaped) used by infantry soldiers and in jousts.

TOPOS
Greek: a commonplace. Recurrent device or formula.

TORUS
A moulding of convex profile commonly occurring in the base of a column next above the plinth.

TOW
Coarse or broken fibrous material which could be vegetable fibres (flax, hemp et al.) or animal products (silk fibres, hair et al.).

TRACING
Copying by drawing over onto a transparent or translucent piece of paper, cloth, or other material. In order to transfer a drawing, the reverse of it or a backing sheet was blackened for example with charcoal dust and then laid over the ground in order to trace the outlines of the drawing with a stylus.

TRIPTYCH
A painting or carving consisting of, or mounted on, three attached panels; a common form for altarpieces.
TROMPE L’OEIL
French: deception of the eye; creating an illusion which fools the viewer into thinking he is looking at real rather than painted objects.
UNDERDRAWING
Preliminary drawing on the ground before the application of paint and gilding.
UNDERPAINTING
The first coat of paint applied to a prepared surface, preliminary to working-up.
WORKING-UP
Execution of the final stage of painting.
X-RAY DIFFRACTION ANALYSIS (XRD)
A technique for the identification of crystalline materials. The regular arrangement of atoms in the crystal scatters X-rays, producing a characteristic pattern.
X-RAY FLUORESCENCE SPECTROSCOPY (XRF)
A technique for the identification of elements in a material or sample. When a material is exposed to X-rays of high energy, interactions occur that can be detected by a fluorescence detector.
X-RAY RADIOGRAPHY
An imaging technique for the examination of paintings’ supports, grounds and paint layers (brushwork, sequences of painting, changes in composition and condition). X-ray radiation passes through solid objects, but is obstructed to differing degrees by differing materials. The heavier the atoms of which the substance is made, the more opaque it is to X-rays.

Measurement and Coinage
There was no common system of measurement in sixteenth-century Germany. States and frequently even individual cities had their own system of weights and measures. There were also differences in the systems in use for individual trades.

WEIGHT
The following weights and subdivisions were adopted from the documentary sources given in appendix II.

1 zentner = 5 stein = 110 pfund
1 stein = 22 pfund
1 pfund = 2 mark
1 mark = 8 unzen
1 unze = 2 lot

The weight of the zentner varied according to location, goods and date. In the sixteenth century, the Leipzig trade zentner was equivalent to about 51.4 kilograms, a Frankfurt zentner had a weight of approximately 50.5 kilograms and a Viennese zentner around 56 kilograms. One pfund in Cranach’s invoices for pigments was presumably equivalent to about 0.467 kilograms.

LENGTH
The principal unit of length in trade was the elle. Its length also varied significantly in relation to location, goods and date. According to the measurements given by Agricola (1550), the Leipzig elle was equivalent to 56.6 centimetres and the handelle of the Saxon Elector August from 1579 was 56.8 centimetres. Seven Wittenberg ellen were equated with eight Leipzig ellen. The Nuremberg elle is given with 65.5 centimetres and 66.1 centimetres. The Ulm elle was, according to drawings in sixteenth-century trade books, 67.2 centimetres in length and according to a documentation given by Johannes Kepler (1571-1630) it was equivalent to 59.85 centimetres. The St. Gallen elle for canvas was according to drawings in sixteenth-century trade books 78 centimetres, and in 1851 it was equal to 73.54 centimetres.

COINAGE
The system commonly used for accounts was based on gold coins, the rheinisch floren or gulden. The silver coin guldengroschen was usually converted.

The following values of the units of currency were adopted from the documentary sources given in appendix II:

1 floren = 1 gulden (rheinisch) = 21 groschen
1 groschen = 12 pfennig/denare
1 schock groschen = 60 groschen
1 pfennig/denar = 2 heller/halbpfennige
Notes Measurement and Coinage

1 Alberti 1957, 366-388.
2 Alberti 1957, 385.
4 Cf. Pfeiffer 1975.
6 Kunze 1958, 75.
7 Alberti 1957, 236; Bußemer 1994.
8 Baumgartner, Meder (*Schulte* 1923, 251). The standardisation by Kepler is documented in the so-called *Kepler Kessel* (Weig, G., Stadtarchiv Ulm, personal communication).
9 Schulte 1923, 251.

Abbreviations

app. : appendix
c. : *circa*
Cat.-No. : Catalogue number
cf. : compare
d : Pfennige/Denare
ed. : Editor
EDX : Energy-dispersive X-ray analysis
fig. : figure
fl : florin/gulden
fol. : folio
FR : Friedländer, Rosenberg (1978) Number:
FTIR : Fourier transform infrared spectroscopy
FTIR imaging : Fourier transform infrared spectroscopy imaging microscopy
FTIR mic. : Fourier transform infrared spectroscopy microscopy
GC-MS : Gas chromatography-mass spectrometry
gr : guldengroschen; groschen
h : heller
HPLC : High-performance liquid chromatography
Inv.-No. : Inventory number
IR : Infrared photography
IRC : False-colour infrared photography
IRR : Infrared reflectography
lb : librum/pfund
Loc. : location of source
MLHAS : Mecklenburgisches Landeshauptarchiv Schwerin
MT : Microchemical tests
No. : Number
OES : Optical emission spectroscopy
PIXE : Proton-induced X-ray emission
q.v. : quod vide
r : recto
RBS : Rutherford backscattering spectrometry
SEM : Scanning electron microscopy
ß : schock groschen
SHStAD : Sächsisches Hauptstaatsarchiv Dresden
SMBPK : Staatliche Museen zu Berlin, Preußischer Kulturbesitz
StACo : Staatsarchiv Coburg
StAWB : Stadtarchiv Wittenberg
ThHStAW : Thüringisches Hauptstaatsarchiv Weimar
v : verso
vtl. : *viertel* (quarter)
WAF : Wittelsbacher Ausgleichsfonds
XRD : X-ray diffraction analysis
XRF : X-ray fluorescence spectroscopy
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N


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O

P
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R


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Scheffer 1669 – Scheffer, J., De Arte pingendi, Nürnberg (1669).


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<th>X-ray radiography</th>
<th>IR / IRR</th>
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<th>Other analysis</th>
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<td>001</td>
<td>c.1500</td>
<td>Vienna, Kunsthistorisches Museum, Gemäldegalerie</td>
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<td>St Valentine and a Kneeling Donor</td>
<td>002</td>
<td>c.1502 / 1503</td>
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<td>St Francis Receiving the Stigmata</td>
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<td>Penance of St Jerome</td>
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<td>1502</td>
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<td>Crucifixion</td>
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<td>1503</td>
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<td>Portraits of Johannes Cuspinian and His Wife Anna</td>
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<td>Nuremberg, Germanisches Nationalmuseum; Berlin, Staatlichere Museen zu Berlin, Preußischer Kultures, Gemäldegalerie</td>
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<td>Holy Family (Rest on the Flight into Egypt)</td>
<td>008</td>
<td>1504</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kultures, Gemäldegalerie</td>
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<td>Martyrdom of St Catherine</td>
<td>009</td>
<td>c.1508</td>
<td>Budapest, Ráday Collection</td>
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<td>010</td>
<td>1506</td>
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<td>Fourteen Helpers in Need (verso: Christ as the Man of Sorrows)</td>
<td>016</td>
<td>c. 1505 / 1507</td>
<td>Torgau, Marienkirche</td>
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<td>017</td>
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<td>Altarpiece of the Holy Kinship</td>
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<td>Frankfurt, Städelisches Kunstinstitut</td>
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<td>Portraits of Johann the Steadfast and Johann Friedrich I the Magnanimous</td>
<td>019</td>
<td>1509</td>
<td>London, The National Gallery</td>
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<td>cross-section, EDX, FTIR mic. GC-MS</td>
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<td>020</td>
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<td>Venus and Cupid</td>
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<td>1509</td>
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<td>Portrait of Christoph Scheurl</td>
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<td>Nuremberg, private collection</td>
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<td>Portrait of Georg Spalatin</td>
<td>024</td>
<td>1509</td>
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<td>Christ Driving the Money-changers from the Temple</td>
<td>025</td>
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<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie Alte Meister</td>
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<td>Portrait of a Woman</td>
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<td>Saints (Elizabeth, Anne, Christopher and George) and Donors</td>
<td>028</td>
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<td>Virgin and Child under the Trees</td>
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<td>c. 1510</td>
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<td>St Catherine and St Barbara</td>
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<td>Kassel, Staatliche Museen, Gemäldegalerie Alte Meister</td>
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<td>Holy Family and Education of the Virgin</td>
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<td>Virgin and Child with St Anne</td>
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<td>c. 1512 / 1514</td>
<td>Kreuzlingen, Heinz Kisters collection</td>
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<td>Judgement of Paris</td>
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<tr>
<td>Adoration of the Magi</td>
<td>c. 1513/1516</td>
<td>Gotha, Schlossmuseum</td>
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<tr>
<td>Adoration of the Magi</td>
<td>c. 1520/1525</td>
<td>Naumburg, Evangelische Stadtkirche St. Wenzel</td>
<td>x</td>
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<tr>
<td>Christ and the Virgin</td>
<td>c. 1516/1520</td>
<td>Gotha, Schlossmuseum</td>
<td>x</td>
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<tr>
<td>Portrait of a Man with a Fur Hat</td>
<td>c. 1510</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x</td>
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<tr>
<td>Portrait of Duke Heinrich the Devout of Saxony and Portrait of the Duchess Katharina of Mecklenburg</td>
<td>1514</td>
<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie Alte Meister</td>
<td>x</td>
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<tr>
<td>Portrait of a Man, Perhaps a Mayor of Weißenfels</td>
<td>1515</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x</td>
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<tr>
<td>Portrait of the Elector Friedrich III the Wise</td>
<td>after 1514/1515</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
<td>x</td>
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<tr>
<td>Wings of an Altarpiece with Portraits of the Elector Friedrich III the Wise and Johann the Steadfast</td>
<td>c. 1514/1515</td>
<td>Coburg, Kunstsammlungen der Veste</td>
<td>x</td>
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<tr>
<td>Zwickau Altarpiece</td>
<td>c. 1518</td>
<td>Zwickau, St. Katharinenkirche</td>
<td>x</td>
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<tr>
<td>Holy Trinity</td>
<td>c. 1515</td>
<td>Leipzig, Museum der bildenden Künste</td>
<td>x</td>
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<tr>
<td>St Jerome and St Leopold of Austria</td>
<td>1515</td>
<td>Vienna, Kunsthistorisches Museum, Gemäldegalerie</td>
<td>x</td>
<td></td>
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<tr>
<td>Beheading of St Catherine</td>
<td>after 1515</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
<td>x</td>
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<tr>
<td>Taking of Christ</td>
<td>1515</td>
<td>West Palm Beach, Florida, Norton Museum of Art</td>
<td>x</td>
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<tr>
<td>The Ten Commandments</td>
<td>1516</td>
<td>Wittenberg, Lutherhalle</td>
<td>x</td>
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<tr>
<td>Saviour</td>
<td>c. 1515/1516</td>
<td>Naumburg, Domschatzgewölbe; formerly located at Zeitz, St. Michaeliskirche</td>
<td>x</td>
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<tr>
<td>Virgin and Child with St Anne</td>
<td>c. 1515/1516</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x</td>
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<tr>
<td>Virgin and Child</td>
<td>c. 1516/1518</td>
<td>Darmstadt, Hessisches Landesmuseum</td>
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<tr>
<td>St Catherine and St Barbara</td>
<td>084</td>
<td>c. 1516</td>
<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie Alte Meister</td>
<td>x x</td>
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<tr>
<td>Virgin and Child with Saints</td>
<td>085</td>
<td>1516</td>
<td>Dessau, Anhaltische Gemäldegalerie</td>
<td>x x x x x cross-section, EDX</td>
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<tr>
<td>Virgin and Child</td>
<td>089</td>
<td>1518</td>
<td>Cologne, Wallraf-Richartz-Museum</td>
<td>x x x x cross-section, EDX</td>
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<tr>
<td>Virgin at Prayer, Dressed in Ears of Grain</td>
<td>089A</td>
<td>1518</td>
<td>Weimar, Kunstsammlungen</td>
<td>x x x x</td>
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<tr>
<td>Agony in the Garden</td>
<td>091</td>
<td>c. 1515</td>
<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie Alte Meister</td>
<td>x x</td>
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<tr>
<td>Crucifixion</td>
<td>094</td>
<td>c. 1515</td>
<td>Colmar, Musée d’Unterlinden</td>
<td>x x x</td>
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<tr>
<td>Crucifixion</td>
<td>095</td>
<td>c. 1520</td>
<td>Havana, Museo Nacional de Cuba</td>
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<td>At Death’s Door</td>
<td>097</td>
<td>c. 1518</td>
<td>Leipzig, Museum der bildenden Künste</td>
<td>x x</td>
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<tr>
<td>The Last Judgement</td>
<td>099</td>
<td>c. 1520</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x x x x</td>
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<tr>
<td>The Last Judgement</td>
<td>100</td>
<td>c. 1520</td>
<td>Kansas City, The Nelson-Atkins Museum of Art</td>
<td>x</td>
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<tr>
<td>Nativity</td>
<td>101</td>
<td>c. 1515</td>
<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie Alte Meister</td>
<td>x</td>
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<tr>
<td>Virgin and Child with St Anne</td>
<td>105</td>
<td>c. 1520</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x x x x</td>
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<tr>
<td>Lamentation</td>
<td>106</td>
<td>c. 1538</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
<td>x x x x</td>
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<tr>
<td>Entombment</td>
<td>E, F</td>
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<tr>
<td>St Jerome</td>
<td>107</td>
<td>c. 1515</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x x x x</td>
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<tr>
<td>St Eustachius</td>
<td>108</td>
<td>c. 1515</td>
<td>Vaduz, The Collection of the Prince of Liechtenstein</td>
<td>x IRC x</td>
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<tr>
<td>St Christopher</td>
<td>111</td>
<td>c. 1518</td>
<td>Private collection</td>
<td>x</td>
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<tr>
<td>Adam and Eve (on the versos Christ and a Virgin)</td>
<td>112A</td>
<td>c. 1515</td>
<td>Vienna, Kunsthistorisches Museum, Gemäldegalerie</td>
<td>x x x cross-section</td>
<td></td>
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<tr>
<td>Adam and Eve</td>
<td>113</td>
<td>c. 1513</td>
<td>Würzburg, Mainfränkisches Museum</td>
<td>x x</td>
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<tr>
<td>Venus</td>
<td>115</td>
<td>c. 1518</td>
<td>Ottawa, National Gallery of Canada</td>
<td>x x x cross-section, EDX</td>
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<tr>
<td>Reclining Water Nymph</td>
<td>119</td>
<td>1518</td>
<td>Leipzig, Museum der bildenden Künste</td>
<td>x</td>
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<tr>
<td>Reclining Water Nymph</td>
<td>119A</td>
<td>c.1515</td>
<td>Berlin, Jagdschloss Grunewald</td>
<td>x</td>
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<tr>
<td>Portraits of a Prince and a Princess of Saxony</td>
<td>123</td>
<td>c.1517</td>
<td>Washington, National Gallery of Art</td>
<td>x</td>
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<tr>
<td>Christ and the Woman Caught in Adultery</td>
<td>129</td>
<td>c.1520</td>
<td>Kronach, Fränkische Galerie</td>
<td>x</td>
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<tr>
<td>Christ Taking Leave of his Mother</td>
<td>132</td>
<td>c.1516 / 1520</td>
<td>Vienna, Kunsthistorisches Museum, Gemäldegalerie</td>
<td>x</td>
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<tr>
<td>Christ Taking Leave of His Mother</td>
<td>132B</td>
<td>c.1516 / 1520</td>
<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie, Alte Meister</td>
<td>x</td>
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<tr>
<td>Sts Willibald and Walpurgis Adored by Gabriel von Eey, Bishop of Eichštät</td>
<td>133</td>
<td>1520</td>
<td>Bamberg, Historisches Museum</td>
<td>x</td>
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<tr>
<td>St Sebastian and St Roch</td>
<td>133A</td>
<td>c.1520</td>
<td>Eichštát, Bischofl čer Stuhl</td>
<td>x</td>
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<tr>
<td>Virgin and Child with Saints</td>
<td>134</td>
<td>c.1522</td>
<td>Erfurt, Cathedral</td>
<td>x</td>
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<tr>
<td>Altarpiece of the Virgin Glorified (Prague Altarpiece)</td>
<td>135 136 137</td>
<td>c.1520</td>
<td>Prague, Collections of the Prague Castle Munich, Bayerische Staatsgemäldesammlungen Karlsruhe, Staatliche Kunsthalle</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Samson Vanquishing the Lion</td>
<td>140</td>
<td>c.1520 / 1525</td>
<td>Weimar, Kunstsammlungen</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Portrait of Count Palatine Philipp of the Rhine</td>
<td>141</td>
<td>c.1520 / 1522</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>cross-section, EDX</td>
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<tr>
<td>Portrait of Margrave Johann of Brandenburg-Ansbach</td>
<td>142</td>
<td>c.1520</td>
<td>Eisenach, Wartburg-Stiftung</td>
<td>x</td>
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<tr>
<td>Portrait of a Bearded Young Man</td>
<td>144</td>
<td>1521</td>
<td>Schwerin, Staatliches Museum</td>
<td>x</td>
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<tr>
<td>Portraits of a Man and a Woman</td>
<td>145 146</td>
<td>1521 / 1524</td>
<td>Washington, National Gallery of Art</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Portrait of Luther as Junker Jörg</td>
<td>149</td>
<td>1521 / 1524</td>
<td>Weimar, Kunstsammlungen</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>cross-section, EDX, FTIR, XRD</td>
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<tr>
<td>Portrait of Christian II of Denmark</td>
<td>150</td>
<td>1523</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>cross-section, EDX, FTIR, XRD</td>
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<tr>
<td>Portrait of Christian II of Denmark</td>
<td>150A</td>
<td>c.1523 / 1530</td>
<td>Leipzig, Museum der bildenden Künste</td>
<td>x</td>
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<tr>
<td>Portrait of Margrave Kasimir of Brandenburg-Kulmbach</td>
<td>152A</td>
<td>c.1522</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Portrait of a Young Girl</td>
<td>c. 1523-1525</td>
<td>Paris, Louvre</td>
<td>x</td>
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<tr>
<td>Portrait of a Young Girl</td>
<td>c. 153 A</td>
<td>Wittenberg, Lutherhalle</td>
<td>x</td>
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<tr>
<td>Virgin and Child</td>
<td>159-1525</td>
<td>Darmstadt, Hessisches Landesmuseum</td>
<td>x</td>
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<tr>
<td>Virgin and Child</td>
<td>160-1525</td>
<td>Bremen, Stiftung Ludwig-Rosellius-Museum</td>
<td>x</td>
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<tr>
<td>Virgin of the Grapes</td>
<td>163-1525</td>
<td>Munich, Bayerische Staatsgemäldesammlungen, Alte Pinakothek</td>
<td>x</td>
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<tr>
<td>St Mary Magdalene</td>
<td>168-1525</td>
<td>Cologne, Wallraf-Richartz-Museum</td>
<td>x</td>
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<tr>
<td>Young Woman and Child</td>
<td>170-1525</td>
<td>Eisenach, Wartburg-Stiftung</td>
<td>x</td>
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<tr>
<td>Portrait of a Young Lady</td>
<td>172-1520-1530</td>
<td>London, The National Gallery</td>
<td>x</td>
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<tr>
<td>Portraits of a Couple von Schleinitz?</td>
<td>176-1526</td>
<td>Weimar, Kunstsammlungen</td>
<td>x</td>
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<tr>
<td>Portrait of Elector Friedrich III the Wise</td>
<td>179C-1525</td>
<td>Darmstadt, Hessisches Landesmuseum</td>
<td>x</td>
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<tr>
<td>Portrait of Cardinal Albrecht of Brandenburg</td>
<td>182C-1520-1525</td>
<td>Mainz, Landesmuseum</td>
<td>x</td>
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<tr>
<td>Cardinal Albrecht of Brandenburg as St Jerome</td>
<td>184-1527</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x</td>
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<tr>
<td>Cardinal Albrecht of Brandenburg as St Jerome</td>
<td>185-1525</td>
<td>Darmstadt, Hessisches Landesmuseum</td>
<td>x</td>
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<tr>
<td>Portraits of Martin Luther and Katharina von Bora</td>
<td>189D-1526</td>
<td>Eisenach, Wartburg-Stiftung</td>
<td>x</td>
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<tr>
<td>Adam and Eve</td>
<td>191-1526</td>
<td>London, The Courtauld Institute Galleries</td>
<td>x</td>
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<tr>
<td>Adam and Eve</td>
<td>193-1533</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
<td>x</td>
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<td>Adam and Eve</td>
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<td>Adam and Eve</td>
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<td>David in the Desert of Siphmot</td>
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<td>Lot and His Daughters</td>
<td>1528</td>
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<td>Self portrait of Lucas Cranach the Elder</td>
<td>1531</td>
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<td>Death of Holofernès</td>
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<td>Altarpiece of Georg the Bearded</td>
<td>1534</td>
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<td>Fail and Salvation of Man</td>
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<td>1527</td>
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<td>Stag Hunt of the Elector Friedrich III the Wise</td>
<td>1529</td>
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<td>Ill-matched Lovers</td>
<td>1530</td>
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<td>Portrait of a Young Woman</td>
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<tr>
<td>Portraits of Johann Friedrich I the Magnanimous and Princess Sibylle of Cleves</td>
<td>1526</td>
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<td>Portrait of the Elector Johann the Steadfast</td>
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<td>Portrait of the Elector Johann the Steadfast</td>
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<td>Portraits of Martin Luther and Katharina von bora</td>
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<td>Portraits of Hans Luther and His Wife Margaretha</td>
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<td>Portrait of Duke Heinrich the Devout of Saxony</td>
<td>1528</td>
<td>Kassel, Staatliche Museen, Gemäldegalerie Alte Meister</td>
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<td>Portrait of Philipp von Freising</td>
<td>1528</td>
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<td>Portrait of Margarete of Austria</td>
<td>1525</td>
<td>Dessau, Anhaltische Gemäldegalerie</td>
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<td>Portrait of Herr von Kökeritz</td>
<td>1526</td>
<td>Paris, Louvre</td>
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<td>Portrait of a Prince of Saxony(?)</td>
<td>1529</td>
<td>Cologne, Wallraf-Richartz-Museum</td>
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<tr>
<td>Portrait of Johann Friedrich I the Magnanimous as Heir Apparent</td>
<td>334</td>
<td>1531</td>
<td>Paris, Louvre</td>
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<tr>
<td>Portrait of the Elector Johann Friedrich I the Magnanimous</td>
<td>335</td>
<td>c. 1532 / 1535</td>
<td>Berlin, Jagdschloss Grunewald</td>
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<td>Three Electors of Saxony: Friedrich III the Wise, Johann the Steadfast and Johann Friedrich I the Magnanimous</td>
<td>338A</td>
<td>c. 1535</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
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<td>Portraits of Friedrich III the Wise and Johann the Steadfast</td>
<td>338B</td>
<td>1534</td>
<td>Weimar, Kunstsammlungen, Inv.-No. G7, G8</td>
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<td>Portrait of Friedrich III the Wise</td>
<td>338B</td>
<td>1534</td>
<td>Paris, Louvre, Inv.-No. 1181</td>
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<td>Portraits of Friedrich III the Wise and Johann the Steadfast</td>
<td>338B</td>
<td>1533</td>
<td>New York, The Metropolitan Museum of Art, Inv.-No. 46.179.1, 46.179.2</td>
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<td>Portrait of Gregor Brücker</td>
<td>341</td>
<td>1533</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
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<td>Portrait of a Bearded Young Man (by Hans Cranach)</td>
<td>342</td>
<td>1534</td>
<td>Madrid, Fundación Colección Thyssen-Bornemisza</td>
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<td>Portrait of the Emperor Charles V</td>
<td>345</td>
<td>1533</td>
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<td>Portrait of Sigismund Kingsfelt, Knight</td>
<td>353</td>
<td>c. 1530</td>
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<td>Portrait of a Young Man</td>
<td>354</td>
<td>1532</td>
<td>Dessau, Anhaltische Gemäldegalerie</td>
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<td>David and Goliath</td>
<td>357G</td>
<td>after 1537</td>
<td>Berlin, Verwaltung der Staatlichen Schlösser und Gärten</td>
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<tr>
<td>David and Bathseba</td>
<td>357F</td>
<td>after 1537</td>
<td>Berlin, Verwaltung der Staatlichen Schlösser und Gärten</td>
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<td>Judith</td>
<td>359B</td>
<td>after 1537</td>
<td>Schwerin, Staatliches Museum</td>
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<tr>
<td>Christ and the Woman Caught in Adultery</td>
<td>365</td>
<td>c. 1535 / 1540</td>
<td>Ottawa, National Gallery of Canada</td>
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<td>Christ and the Woman of Samaria (canvas painting)</td>
<td>366C</td>
<td>c. 1552</td>
<td>Kronach, Festung Rosenberg, Fränkische Galerie</td>
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<td>Christ Mocked</td>
<td>371A</td>
<td>c. 1515 / 1520</td>
<td>Weimar, Kunstsammlungen</td>
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<td>Crucifixion with the Converted Centurion</td>
<td>378C</td>
<td>1536</td>
<td>Washington, National Gallery of Art</td>
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<td>Schneeberg Altarpiece</td>
<td>379</td>
<td>1539</td>
<td>Schneeberg, St. Wolfgangskirche</td>
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<td>Christ as the Man of Sorrows</td>
<td>381E</td>
<td>c. 1515</td>
<td>Weimar, Kunstsammlungen</td>
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<tr>
<td>Virgin and Child</td>
<td>390</td>
<td>c. 1535 / 1540</td>
<td>Washington, National Gallery of Art</td>
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<td>Date</td>
<td>Location/Institution</td>
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<td>Virgin and Child with the Boy St John</td>
<td>1526/1530</td>
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<td>Venus with Cupid, Stealing Honey</td>
<td>after 1537</td>
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<td>1537</td>
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<tr>
<td>Venus with Cupid, Stealing Honey</td>
<td>after 1537</td>
<td>Nuremberg, Germanisches Nationalmuseum</td>
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<td>Reclining Water Nymph</td>
<td>after 1537</td>
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<td>Reclining Water Nymph</td>
<td>after 1537</td>
<td>Kassel, Staatliche Museen, Gemäldegalerie Alte Meister</td>
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<td>The Fountain of Youth</td>
<td>1546</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie</td>
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<td>Judgement of Paris</td>
<td>c.1540/1546</td>
<td>Gotha, Schlossmuseum</td>
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<tr>
<td>Portrait of Duke Georg the Bearded of Saxony</td>
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<td>Eisenach, Wartburg-Stiftung</td>
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<td>Portrait of Martin Luther</td>
<td>1546</td>
<td>Weimar, Kunstsammlungen</td>
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<td>Conversion of St Paul</td>
<td>1549</td>
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<td>x x x x</td>
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<td>Merseburg Altarpiece</td>
<td>Sup 001A</td>
<td>Merseburg, Cathedral</td>
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<td>Sup 001C</td>
<td>London, The Royal Collection Trust</td>
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<td>Martyrdom of St Erasmus</td>
<td>1516</td>
<td>Aschaffenburg, Staatsgalerie</td>
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<td>Altarpiece of the Virgin</td>
<td>Sup 006A</td>
<td>Halle/Saale, St. Marienkirche</td>
<td>x x x x</td>
<td>cross-section, EDX</td>
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<td>Virgin Standing on a Crescent Moon</td>
<td>Sup 006H</td>
<td>Frankfurt, Städelisches Kunstinstitut</td>
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<td>IRC x</td>
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<td>Jüterborg Altarpiece</td>
<td>c.1515/1520</td>
<td>Jüterborg, St. Nikolaikirche</td>
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<td>Portrait of a Young Lady</td>
<td>c.1500/1506</td>
<td>Nuremberg, Germanisches Nationalmuseum, Inv.-No. Gm 614</td>
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<td>Adam</td>
<td>c.1508/1510</td>
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<td>c.1511</td>
<td>Nuremberg, Germanisches Nationalmuseum, Inv.-No. Gm 1666</td>
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<td>Adam and Eve</td>
<td>c.1512/1520</td>
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<td>St Jerome</td>
<td>c.1515</td>
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<td>St Jerome</td>
<td>c.1515</td>
<td>Hamburg, private collection</td>
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<td>Posterstein Crucifixion</td>
<td>c.1515/1516</td>
<td>Gera, Kunstsammlung</td>
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<td>Altarpiece of the Virgin</td>
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<td>Kade, Pfarrkirche</td>
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<td>x x EDX, FTIR</td>
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<td>St Francis Receiving the Stigmata</td>
<td>after 1515</td>
<td>Nuremberg, Germanisches Nationalmuseum, Gm 1352</td>
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<tr>
<td>Altarpiece of the Virgin</td>
<td>c.1515/1520</td>
<td>Aschersleben, St. Stephani-Kirche</td>
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<td>x x x x cross-section, OES, MT</td>
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<tr>
<td>Altarpiece of the Virgin and Child with St Anne</td>
<td>c.1515/1520</td>
<td>Aschersleben, St. Stephani-Kirche</td>
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<td>x x x x cross-section, OES, MT</td>
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<td>Crucifixion</td>
<td>c.1515/1520</td>
<td>Bremen, Stiftung Ludwig-Rosellius-Museum, Inv.-No. LR 2356</td>
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<td>x x cross-section, OES, MT</td>
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<td>Virgin and Child</td>
<td>c.1516/1518</td>
<td>Oslo, Nasjonalgalleriet, Inv.-No. NG.M.173</td>
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<td>Altarpiece of the Virgin</td>
<td>1518</td>
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<td>Lucretia (by Hans Döring)</td>
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<td>Mansfeld Altarpiece (by Hans Döring?)</td>
<td>1518 or later</td>
<td>Mansfeld, Castle</td>
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<td>Portrait of Graf Philipp von Solms (by Hans Döring)</td>
<td>1520</td>
<td>Paderborn, private collection</td>
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<td>Crucifixion</td>
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<td>Crucifixion</td>
<td>c.1523</td>
<td>Dessau, St. Johanniskirche</td>
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<td>Date</td>
<td>Location</td>
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<td>x</td>
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<td>Ultrastructure</td>
<td>FTIR Mic.</td>
<td>XRF</td>
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<td><strong>Portrait of Martin Luther as an Augustine Monk</strong></td>
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<td>Nuremberg, Germanisches Nationalmuseum, Gm 1570</td>
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<td><strong>St Anthony (verso: Christ as the Man of Sorrows)</strong></td>
<td>c. 1520 / 1525</td>
<td>Litoměřice, Biskupství Litoměřice</td>
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<tr>
<td><strong>Salome</strong></td>
<td>c. 1525</td>
<td>Halle/Saale, Moritzburg</td>
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<td><strong>St Jerome</strong></td>
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<td>Mainz, Landesmuseum, Inv.-No. 439</td>
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<td>IRC</td>
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<tr>
<td><strong>Ill-matched Lovers</strong></td>
<td>c. 1525 / 1530</td>
<td>Darmstadt, Hessisches Landesmuseum, Inv.-No. GK 793</td>
<td>x</td>
<td></td>
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<td>IRC</td>
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<tr>
<td><strong>Fall and Salvation of Man</strong></td>
<td>after 1529</td>
<td>Nuremberg, Germanisches Nationalmuseum, Inv.-No. Gm 220/221</td>
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<td><strong>Aristotle and Phyllis</strong></td>
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<td>FTIR mic. XRF</td>
<td>IRC</td>
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<td><strong>Portrait of Elector Friedrich III the Wise</strong></td>
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<tr>
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<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie, Cat. No. 635</td>
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<td><strong>Ill-matched Lovers</strong></td>
<td>c. 1535</td>
<td>Berlin, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Gemäldegalerie, Cat. No. 1606</td>
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<td><strong>Salome</strong></td>
<td>1537</td>
<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie Alte Meister, Inv.-No. 1923</td>
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<td><strong>Salomo’s Idolatry</strong></td>
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<td>Dresden, Staatliche Kunstsammlungen, Gemäldegalerie Alte Meister, Inv.-No. 1928</td>
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<td><strong>Justitia</strong></td>
<td>after 1537</td>
<td>Bremen, Stiftung Ludwig-Rosellius-Museum, Inv.-No. LR 58</td>
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<tr>
<td><strong>Christ Blessing the Children</strong></td>
<td>after 1537</td>
<td>Larvik, Church</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>cross-section MT</td>
<td>IRC</td>
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### Notes Appendix I: Investigated paintings

1 Paintings are listed according to numbers in Friedländer, Rosenberg (1978) except those without an FR-No., these are given in chronological order at the end of the list. X-radiographs, infrared photographs and infrared reflectograms have been produced in collaboration with various institutions (cf. Acknowledgements). The large collections of material established by Konrad Riemann and Ingo Sandner have been studied. Peter Klein identified most of the wood species. Examination of panel construction, microscopic examination of painting surfaces and analysis of cross-sections was done by the author with only a few exceptions. Further instrumental analysis of the painting materials has been carried out in collaboration with different laboratories. I am very grateful to all who have co-operated.

<table>
<thead>
<tr>
<th>Painting</th>
<th>Date</th>
<th>Location</th>
<th>Cross-sections</th>
<th>EDX, FTIR</th>
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<td>Virgin and Child</td>
<td>after 1537</td>
<td>Havana, Museo Nacional de Cuba, Inv.-No. 90-3346</td>
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<td>Judgement of Kambyses</td>
<td>after 1537</td>
<td>Berlin, Verwaltung der Staatlichen Schlösser und Gärten, GK I 1188</td>
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<td>Portrait of Martin Luther</td>
<td>c. 1540</td>
<td>Eisenach, Wartburg-Stiftung, Inv.-No. M71</td>
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<tr>
<td>Duke Ernst IV of Brunswick-Grubenhagen</td>
<td>c. 1542 / 1546</td>
<td>Wittenberg, Lutherhalle, Inv.-No. G38</td>
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<tr>
<td>Duke Ernst IV of Brunswick-Grubenhagen</td>
<td>c. 1544</td>
<td>Wittenberg, Lutherhalle, Inv.-No. G89</td>
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<tr>
<td>Duke of Brunswick-Lüneburg</td>
<td>c. 1544</td>
<td>Wittenberg, Lutherhalle, Inv.-No. G89</td>
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<td>Agony in the Garden</td>
<td>1546</td>
<td>Gottorf, Landesmuseum für Kunst und Kulturgeschichte</td>
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<td>Portrait of Hieronymus Tedenhamer</td>
<td>later copy</td>
<td>Vienna, Kunsthistorisches Museum, Gemaldegalerie, Inv.-No. 9107</td>
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<td>Post-1553 Paintings by Lucas Cranach the Younger and workshop</td>
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<td>Altarpiece: Crucifixion, with Allegory of Redemption</td>
<td>434 1555</td>
<td>Weimar, Stadtkirche</td>
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<tr>
<td>Portrait of Gregor Brück (canvas painting)</td>
<td>1557</td>
<td>Weimar, Kunstsammlungen</td>
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<tr>
<td>Portraits of a Young Nobleman and a Young Lady</td>
<td>429 430 1564</td>
<td>Vienna, Kunsthistorisches Museum, Gemaldegalerie</td>
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<tr>
<td>Caspar Niemek Epitaph</td>
<td>1564</td>
<td>Wittenberg, Stadtkirche</td>
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<tr>
<td>Kemberg Altarpiece</td>
<td>1565</td>
<td>Kemberg, Stadtkirche</td>
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<tr>
<td>Portrait of the Elector Johann Friedrich I the Magnanimous (canvas painting)</td>
<td>1578</td>
<td>Weissenfels, Castle</td>
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<td>Colditz Altarpiece</td>
<td>1584</td>
<td>Nuremberg, Germanisches Nationalmuseum, Inv.-No. Gm 1116</td>
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</table>

### Notes

Established by Konrad Riemann and Ingo Sandner have been studied. Peter Klein identified most of the wood species. Examination of panel construction, microscopic examination of painting surfaces and analysis of cross-sections was done by the author with only a few exceptions. Further instrumental analysis of the painting materials has been carried out in collaboration with different laboratories. I am very grateful to all who have co-operated.
Appendix II
Selected primary documents on materials, techniques and workshop organisation

Editorial remarks:
Documents transcribed here, newly or for the first time, can be found in the Thüringisches Hauptstaatsarchiv in Weimar (ThHStAW), the Sächsisches Hauptstaatsarchiv (SHStAD), in the Staatsarchiv in Coburg (StACo) and in the Stadtarchiv Wittenberg (StAWB). Other documents from these and other archives are reproduced in accordance with earlier transcriptions, and are marked accordingly.

The wording of the text is based on recommendations for the edition of New High German texts. Elucidations of abbreviations, comments and factual explanations follow in square brackets. Proper names are reproduced as they appear in the original.

The letters i, j, u, v and w are reproduced in accordance with their phonetic value.

Lower case applies with the exception of the beginning of sentences and proper nouns (names of people, places, rivers, as well as countries, also when used in compound form). In several instances, however, it was impossible to decide whether some words are titles of occupations or just surnames.

All figures have been transposed and have been reproduced in arabic rather than in roman numerals, as they appear in the original.

As far as possible, punctuation has been standardised in line with points of grammar usual today, with no reference being made to the new rules on written German.

1505

(1) 1505 January 22
4 flor für 4 niderlendisch gemalte ducher hat Dolcks m. g. hern zu Leypzig am nawen jars markt kaufft.
Date: 1505, Neujahrsmarkt (in the account book registered: Mittwoch nach Montag Sebastiani)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4187, fol. 4v (cf. Bruck 1903, 319)

(2) 1505 April 14
40 flor Lucas Maler vonn Cronach zu natoff uf bevelh Pfeffigingers als in m. g. herzn zu dinst habenn inngenommen montag nach Jubilate zu Thorgaw.
Date: Torgau, Montag nach Jubilate
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4188, fol. 15v (cf. Gurlitt 1897, 40; Bruck 1903, 296; Scheidig 1953, 156, no. 1; Schade 1974, 402, no. 12)

(3) 1505 May 13
Vor bathelon: 3 gr 8 d kegin Wittenb[er]g hat Lucas Maler farbe geholt.
Date: Dienstag zu Pfingsten

(4) 1505 September 29
17 gulden. 15 gr für 4 bücher fein golt und ein buch silber Lucas Maler außem Michelsmarckt zugeschickt.
Date: Michelsmarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4183, fol. 184r (transcribed by Gurlitt 1897, 41; Bruck 1903, 296; Schade 1974, 402, no. 20)

(5) 1505 September around 29
12 gulden Cristoff Maler von München uff bevelh Dolzks dafür er im Michelsmarckt zu Leipzig m. g. hern farbe, leym und anders laut einer zcettel kauft. 17 gulden demselben Cristoff Maler uf bevelh Hansen von Dolzks, das er bey Lucas Maler gearbeit zu Wittenberg.
Date: Leipzig, Michelsmarkt

(6) 1505 December 11
10 flor 15 gr fur 10 lb 3 vtl [viertel] blawglasurt farb maister Lucas zeait zu der Loch uf bevelh m. g. hern durch Hirsch, donerstag nach conceptionis marie virginis.
Date: Torgau, Donnerstag nach Concept. Mar. Virg.
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4188, fol. 36v (cf. Gurlitt 1897, 41; Bruck 1903, 296; Schade 1974, 402, no. 22)

(7) 1505 December 19
25 flor maister Jacob dem welschenn maler uf sein solt und erbai zu der Loch am freitag nach Lucie bey seym diener, in beywesen meister Lucas Maler.
Date: Torgau, Freitag nach Lucie

1506

(8) 1506 January 17
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4188, fol. 16r (cf. Bruck 1903, 207; Schade 1974, 402, no. 23)
Koburg getragen am thage sancte Anthoni.  
Date: Lochau, St. Anthoni  

(9) 1506 May 1–3 
Ausgab lein [...] 1 virtl Lucas Malern.  
Date: Coburg, 1506, Walpurgis – Jubilate  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. Nr. 816, fol. 104r, annual accounts from the Coburger Kastners Kunz Bader for the year 1506/07 (cf. Hambrecht 1995, 362, no. 6)

(10) 1506 June 12–13 
8 gr hat Crabat fur mis und werg ausgebenn, ist maister Lucas Malern uf bevell Pfeffingers  
Dat. Wittenberg, Freitag/Samstag nach Corporis Christi 1506  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4193, fol. 38r

(11) 1506 July 19 
19 fl 10 gr 6 d Cuntz Irtztenn, das er dem bildschnitzer zu Witzurburk fur den grossen hergot hat gebenn, der genn Witt[enber]g kommen ist und da mit par bezact und vorgnugt, 3 fl 1 gr 6 d mit sampt dem fuerlonn.  
Date: Sonntag nach Margarethe 1506  

(12) 1506 October 6 
54 [altered to gr 4d] gr 4 d hat Lucas Maler den tischen maler mus zole uf bevell Pfeffingers  
Date: Sonnabend nach Oswaldi – Sonntag nach Presentationis Marie 1506  
Loc.: StaCo LA A Nr. 9940, fol. 79r (transcribed by Hambrecht 1995, 362, no. 7)

(13) 1506 October 12 
Lucas Maler 6 eln lundisch zum rock, 2½ eln mechlisch mit der farb zu hosen, 6 eln parchat; bevell meins gnädigsten hern hertzig Fridrichs [...] meister Lucas jungen 7 eln zewickisch zum rock, 7 fiertel mechlisch zu hosen, 6 eln parchat und farb, auß bevell Pfeffingers.  
Date: Coburg, Schneiderrechnung 1506/1507  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb Nr. 5923, fol. 10r, tailor’s invoice from the Saxon Electorate Court (transcribed by Hambrecht 1995, 362, no. 8; different Koch 1954/1955, 187; Schade 1974, 403, no. 30)

(14) 1506 October 18 
5 fl hat pfeffinger dem bilsschnitzer zu Thorgaw gebenn auf dy taffel, dy außwendich am closter gemalt sein und hat gar auch 4 fl [possibly next line] 3 gr einem armen malerknecht durch gotswillen  
Date: Sonntag nach Galli 1506  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4193, fol. 11r (cf. Gurlitt 1897, 63; Bruck 1903, 275)

(15) 1506 October 27 
31 fl 15 gr 5 d fur 6 verguldt flugel, fur schrawben, schlos, bandt, sper, vichschen ducher, strick, dar von zu malern und andere alle notorff zuenn flugeln, welch gelt Pawls Goltschmidt von Nornberg hat aussgeben und dem Pfeffinger berechet zuu Coburck am dinstag vigilia Simonis et Jude.  
Date: Coburg, Dienstag Vigilia Simonis et Jude  

1506/1507 
(16) 1506/1507 
81 fl dem maler zu Auspurck Hans Purckmar fur eine taffel gen Witt[enberg], danar samt Veyt und sandt Sebastian gemalt und ander marterer.  
Date: Sonderausgaben für Herzog Friedrich von Donnerstag Nativitates Christi 1506 bis Freitag Nativitatis Christi 1507 (fol. 22v)  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4193, fol. 21v (cf. Bruck 1903, 296; Schuchardt 1851, I, 45, date given there 1505)

1507 
(17) 1507 September 30 
1 fl 8 gr uff entphelm m. gt. h. vor etzliche tafeln unnde breth zu unsern Lucas Maler lauts end zcetteln, post Michaelis.  
Date: Post Michaelis 1507  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 2750, fol. 53v (cf. Schade 1974, 403, no. 34)

(18) 1507 October 21 
46 gr 4 d 1 h vor tafel, die meister Lucas mahlen sol und vor ein blech zuu sanct Annen altar Michl Tyscher bezcalht (per consequens 11000 virginum)  
Date: während der folgenden 11000 Jungfrauen  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 2750, fol. 84r (cf. Schade 1974, 403, no. 37)

1507/1508 
(19) 1507/1508 
1 gr hat Simon Koralus zur Lochaw verczert, do er m. g. h. Hertzig Hanßen der taffel halben, die man uf den nawen altar zu Unser Liebenn Frawen machen solt, wie die erhaben sot
werden antzeignung geben must.
Date: Torgau, Middle of the annual account (Amtsrechnung Torgau from Walpurgis 1507 to Walpurgis 1508, in the middle of the volume it is stated that the half-yearly account ends at this point, inferring from this at Christmas)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 2408, fol. 84, also Reg. Bb 2407, fol. 51r, 51v (Important in understanding the passage is the fact that on fol. 70v a quarterly payment is made to ‘Simon Koralis und corjungen’.
Cf. Bruck 1903, 253, 275; Ritschel 1995, 44)

1508
(20) 1508 January 6
[...] demselben Lucas von Cranach diese nachbenannte cleynot und wappen mit namen ein gelen schylt darinnen ein schwartz slingenn habend, in der mytz zwen schwartz fl edermeus-fl ugel auf dem heubt ein rote cron unnd in den mund ein gülden ringleyn, darinnen ein rubinsteinlein unnd auf dem schylde ein helm mit einer schwartzen unnd gelen helmdecken unnd auf dem ein gelen pausch von dornen gewunden, darauf aber eine schlange ist, zu gleichermas Im schylde, wie den n das im mitten des briefs aygentliger gemalht unnd mit farben ausgestrichen ist, gnediglich verlyhen unnd gegeben,[...].
Date: Nürnberg am Dienstag der heiligen Dreyer Königtag. funfhundert unnd im achten Jare.
Loc.: Letter patent granting a coat of arms to Lucas Cranach (Wappenbrief), issued by Elector Friedrich III (transcribed by Schuchardt 1851, I, 51–54)

(21) 1508 February 19
3 fl furlon gein Wittenberg mit ein tafeln, sonntags nach Valentini.
Date: Wittenberg, Sonntag nach Valentini

(22) 1508 after July 2
Ausgabe bothlohn – uff schriift m[eines] g[nä]ligen herrn 8 gr mith m[eines] gtl./gnädigen herrn briefenn gen berlyn zcu dem wellisschen maler post visitationis marii virginis gloriosissimo 8 gr mit m[eines] gtl./gnädigen herrn briefen zu den wellisschen maler ken berlyn pol[st] divisiopostapostolorum
Date: Post Visitationis Marie Virginis Gloriaissimo [after 2 July 1508]; post Divisiopostapostolorum [after 15 July 1508]

(23) 1508 July 6
[...] ich hab auch itzo nach abschaiden seiner furstlichen gnaden das tefelein seiner g pildnus an dem gang in der predigerkirchen abnemen und dem Krug, meiner freund münzmeister, uberantwurten laßen, der in arbeit stet, demselben gemèß etwas zu visiren, uf das zu des malers zukunft den sachen und meins gnedigsten herrn bevelh dester eher und mit weniger mühe mócht nachgegangen werden; desgleichen hat gedachter Krug von meines gnedigsten herrn münz noch bisher kein ganz werk gefertigt, soll aber in kurz, wie er mich bericht, beschehen, alsdann wil ich seinen f.g. das zufertigen. Ob auch des malers zukunft sich ain zeitlang verziehen, wollet mich bei gegenwertigem briefszaiger berichten, ob desterminder nit der Krug für sich selbs, on des malers beisein und zutun, materion soll, wie er sich selbs, on des malers beisein und zutun, materion soll, wie er sich zu tun ertoten und gute hoffnung hat, dass solcs nach beraitem werk meinem gnedigsten herrn nit misfellig sein soll [...].
Date: Nürnberg, Donnerstag nach Vdalrici
Loc.: Nürnberger Briefbücher, Bd. 61, fol. 231ff. Anton Tucher writing to Degenhart von Pfeffingen (transcribed by Gümbel 1926, 47–48, no. 7)

(24) 1508 July 8
So hat Hans Krug nach dem gemele und tefelein, so wir zur furdrung der sachen von dem gang in der predigerkirchen abzunemen bevolhen, ainen possen oder visier in einem laimen, eur f. gn. pildnus unsers verstands ganz gleichformig gemacht, und dhweil dann Lucas, e.f.gn. maler, bishere noch nit gein Nurnberg kommen ist, dafur wirs achten, unnot seiner zukunft zu erwarten, sonder Krug stet in teglicher arbait, die stempfel ganz zu verfertigen, des versehens, es werde euren gn, nit minder gefellig sein, dann ob Lucas hie bei der hand gewest were [...].
Date: Samstags nach Vdalrici 1508
Loc.: Nürnberger Briefbücher, Bd. 61, fol. 238v ff. Anton Tucher writing to Elector Friedrich III the Wise (transcribed by Gümbel 1926, 48–49, no. 8; Scheidig 1953, 157, no. 7)

(25) 1508 after July 8
Aufgabe vor die nawe gebewde des Slosses 17 gr 1 d 1 h eym mewrer 1,5 woche vonn etzlichen gerustenn den mahlnern zumache, etzliche locher zcuormawrer, sampt eyme helferknechte post kiliani unde laurenti [fol. 55v] 6 gr 6 d vor 4 pfundt leym dem malernn [fol. 56v]
Date: Post Kiliani und Laurenti
(26) 1508 after July 8
Außgabe vor die kirche
13 gr vor 20 lynden breth Clawes Byldenschnitt [fol. 65r]
3 ß 40 gr vonn eym kasten zcu den ornaten in die sacristei
Fabian Tisscher angedynt [fol. 65v]
42 gr vor 1 geschnitte crucifi x unnde 1 gemalte taffell hat Hans
von Berge globt, do etzliche pferde uf Stosszygk vors forberg
zcu szettzenn Hans Eyfl ender bezcalth [fol. 91r]

Date: 1508
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 2751,
fol. 65r–91r; Book of accounts from the Wittenberg, Zahna
and Wörlitz offices (cf. Bruck 1903, 260–261)

(27) 1508 July 13
Ir habt mir nechst geschiben und daneben einen verschloßen
sendbrief, an Lucas, meins gnedigsten herren herzog Fridrichs
von Sachsen, curfürsten etc. maler, verlautend, übersendet,
demselben Lucaßen zu seiner zukunft gein Nurmberg zu
überantwurten. Und wiewol ich also seiner zukunft gewart, ist
er doch bishere noch nit alhie einkommen, deßhalben ich den
brief bisher beihendig behalten [...].

Date: Nürnberg, Donnerstag nach Kiliani
Loc.: Nürnberger Briefbücher, Bd. 61, fol. 245r; Anton Tucher
writing to Degenhart von Pfeffingen (transcribed by Gümbel
1926, 49, no. 9)

(28) 1508
[...] und wiewol die notturft ervordern, zu der silberin monz
und den großen der 2 ainen gulden gelten, auch einen
sondern stempfel zu graben und zu geprauchen, so hat sich
doch Krug des aus angezaigten beswerden in kainem weg
belesten wollen. Und so dan euer gn. cammerer, Degenhart
von Pfeffingen, oder euer gn. maler mit der zeit gen Nurmberg
kommen wurden, soll bey mir kain vleiß erwinden, gedachten
Krug neben demselben Pfeffingen und maler zu bereden, sich
disarbit verrer zu underfahen, wiewol ich nit zuversichtig
bin, solchs bei ime zu erheben [...].

Date: Nürnberg, no date given
Loc.: Nürberger Briefbücher, Bd. 62, fol. 143v and ThHStAW,
Ernestinisches Gesamtarchiv, Reg. Aa. 2299, fol.11. Anton
Tucher the Elder writing to Friedrich III the Wise (transcribed
by Gümbel 1926, 52–53, no. 12; Schuchardt 1851, I, 62; Bruck
1903, 333; Scheidig 1953, 157, no. 6; Schade 1974, 404, no. 47)

(29) 1508 November 30
[...] So hab ich euer f. gn. pildnus, durch derselben maler in
ainen stain geschnitten, mir daneben zugeschickt, Hannsen
Krugk behendigt und zu euer f. g. verrerm begern moglichs
kleiß bei ime ghandelt; der hat solher pildnus, weil die unsers
verstands meisterlich geschniten ist mit mir sonder gefallen
[...].

Date: Donnerstag St. Andreas 1508
Loc.: Nürberger Briefbücher, Bd. 62, fol. 216 ff. Anton Tucher
the Elder writing to Friedrich III the Wise (transcribed by
Gümbel 1926, 53–54, no. 13)

1508/1509
(30) 1508 after July 13 – 1509 after May 3
Do[nnerstag] post Kiliani [13 July 1508]
Oswalt baumeister, solborder mit 1 4ß, [...] 1 nacht brochte
die maler [...] 5 maler 5 tage [fol. 19r]
Do[nnerstag] post divisio appostolorum [20 July 1508]
5 maler alle die woche. [fol. 19r]
Do[nnerstag] post Maria Magdalena [27 July 1508]
5 maler, alle 4 tage. [fol. 20r]
Do[nnerstag] post Jacobi [27 July 1508 but this can only mean
3 August 1508]
5 maler [...] alle die woche. [fol. 21v]
Do[nnerstag] post Peterstag ad vincula [03.08.1508 but this
can only mean 10 August 1508]
5 maler [...] alle die woche. [fol. 22r]
Do[nnerstag] post Laurentii [17 August 1508]
5 maler [...] alle die woche. [fol. 22v]
Do[nnerstag] post assumptiones marie [17 August 1508 but
this can only mean 24 August 1508]
5 maler [...] alle 3 tage. [fol. 23r]
Do[nnerstag] post Bartholomai [31 August 1508]
5 maler [...] alle die woche. [fol. 24r]
Do[nnerstag] post Egidii [7 September 1508]
5 maler [...] alle die woche. [fol. 24v]
Do[nnerstag] post Nativitatis Marie [14 September 1508]
5 maler [...] alle 5 tage. [fol. 25r]
Do[nnerstag] post exaltationis crucis [21 September 1508]
5 maler [...] sindt alle die woche. [fol. 25v]
Do[nnerstag] post Mauriti [28 September 1508]
5 maler [...] Pavel Maler [...] alle die woche. [fol. 26v]
Do[nnerstag] post Michaelis [5 October1508]
5 maler [...] Pavel Maler [...] alle 5 tage. [fol. 27r]
Do[nnerstag] post Francisci [5 October 1508 but this can
only mean 12 November 1508]
Paul Maler 3,5 tagk. [The 5 painters are not mentioned any
more] [fol. 27v]
Do[nnerstag] post Dionysii [12 November 1508 but this can
only mean 19 November 1508]
Paul Maler 2 tage. [fol. 28r]
Do[nnerstag] post Galli [19 October 1508 but this can only
mean 26 October 1508]
Paul Maler 5,5 tage. [fol. 28v]
Do[nnerstag] post Simonis et Judae [2 November 1508]
Paul Maler [...] alle 4 tage. [fol. 30v]
Do[nerstag] post Omnium sanctorum [2 November 1508 but this can only mean 9 November 1508]
Paul Maler [...] alle 2,5 tag. [fol. 31r]
Do[nerstag] post Martini [16 November 1508]
Lucas Maler mit 1 pfdr. [Pferd] 2 nacht [...] 4 mahler, Paul Maler [...] alle die woche. [The elector and his brother were also present this week. fol. 31v]
Do[nerstag] post Katharine [30 November 1508]
4 mahler, Lucas Maler mit 1 Pferd [...] alle 5 tag. [fol. 32r]
Do[nerstag] post Andree [7 December 1508]
4 maler, Lucas Maler mit 1 Pferd 5 tag. [The elector was present this week; fol. 33r]
Do[nerstag] post Lucie [14 December 1508]
Lucas Maler mit 1 Pferd, 5 nacht, [...] 4 maler [...] alle 6,5 tag. [The elector and his brother were also present this week. fol. 33v]
Do[nerstag] Thome [21 December 1508]
Lucas Maler mit 1 Pferd [...] 7 maler [...] alle 4,5 tagk. [The elector and his brother were also present this week. fol. 34r]
Do[nerstag] post Epiphanias [11 January 1509]
4 maler [...] die woche. [fol. 34v]
Do[nerstag] post Felicis in pincis [18 January 1509]
4 maler [...] alle die woche. [fol. 35v]
Do[nerstag] post Sebastiani [25 January 1509]
6 maler unde buchdrucker, [...] Lucas Maler mith 1 Pferdt 5 tag. [fol. 36r]
Do[nerstag] post Conversionis Pauli [1 February 1509]
Lucas Maler unt 1 Pferd, [...] 6 maler, 7 buchdrucker [...] alle die woche. [fol. 36v]
Do[nerstag] post Purificationis Marie [8 February 1509]
Lucas Maler mit 1 Pferd, [...] 6 maler und buchdrucker [...] alle die woche. [fol. 37r]
Do[nerstag] post Apollonia [15 February 1509]
Lucas Maler mit 1 Pferd, 6 tag, [...] 6 maler unde buchdrucker, [...] alle die woche. [fol. 37v]
Do[nerstag] nach Esto mihi [22 February 1509]
5 buchdrucker unde maler, [...] 7 tisscher an altarien. [fol. 39r]
Do[nerstag] post Invocavit [1 March 1509]
Lucas Maler mit 1 Pferdt 3 nacht, [...] 4 maler [...] alle 6,5 tag. [The elector and his brother were also present this week. fol. 39v]
Do[nerstag] post Reminiscere [8 March 1509]
Lucas Maler mit 1 Pferd, [...] 5 maler, [...] 6 tisscher an altarien. [fol. 40r]
Do[nerstag] post Oculi [15 March 1509]
Lucas Maler mit 1 Pferdt, 6 maler [...] 3 tisscher am gestule [...] alle die woche. [fol. 40v]
Do[nerstag] post Letare [22 March 1509]
 [...] 7 maler unt 1 Pferdt Lucas, [...] alle 6 tag. [The elector was present for six days. fol. 41v]

APPENDIX II
Sonnabend nach Bekehrung Pauli 1509  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4204, fol. 28r (cf. Gurlitt 1897, 41; Schuchardt 1851, I, 60; Bruck 1903, 297; Schade 1974, 404, no. 54)

(35) 1509 April around 8  
40 fl Lucas Maler zu farb geben im ostermarkt zu Leiptzk.  
Anno domini 1509.

Date: Leipzig, Ostermarkt 1509  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4205, fol. 17v (cf. Gurlitt 1897, 42; Schuchardt 1851, I, 61; Bruck 1903, 297; Schade 1974, 404, no. 58)

(36) 1509  
4 d Welßamer von Reichenbach hat 2 eichenn holtzer vonn Cuntzen balbirer in Anders Otte haws geschleifftt, meister Hanßen dem maler ßall zur taffelnn zum nawen altar m.g.f. seligenn post assumpciones.

Date: Torgau, Halbe Jahrrechnung Walpurgis (1.5.) und Elisabeth (15.12.) 1509  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4207, fol. 27r (cf. Gurlitt 1897, 42; Bruck 1903, 297; Schade 1974, 405, no. 65)

1509/1510  
(38) 1509/1510  
30 gr 6 d [werden für mehrere Schlösser und Schlüssel bezahlt, darunter] von eyn schloß meyster Lucas zu besserung  
Date: Dienstag Walpurgis 1509 – Mittwoch in Walpurgis 1510  
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4212, fol. 55r (cf. Gurlitt 1897, 42; Bruck 1903, 297; Schade 1974, 405, no. 80)

1511  
(41) 1511 August 1  
Zehrung von des gotteshauses wegen. 5 groschen 3 neue pfennige geben zu leihkauf da man die tafel verdinget hat Vincula Petri.  
Date: Neustadt/Orla, Vincula Petri.  
Loc.: Kirchenarchiv Neustadt/Orla, Kirchenrechnungen 1496–1528. A. IV. 1.31, Regal 1, Fach 14, fol. 70v (transcribed by Scheidig, 1953, 159, no. 12; Schade 1974, 405, no. 72; Hintzenstern, Dressler 1986, 58)

1511  
(42) 1511 August 1  
Zehrung von des gotteshauses wegen. 5 groschen 3 neue pfennige geben zu leihkauf da man die tafel verdinget hat Vincula Petri.  
Date: Neustadt/Orla, Vincula Petri.  
Loc.: Kirchenarchiv Neustadt/Orla, Kirchenrechnungen 1496–1528. A. IV. 1.31, Regal 1, Fach 14, fol. 70v (transcribed by Scheidig, 1953, 159, no. 12; Schade 1974, 405, no. 72; Hintzenstern, Dressler 1986, 58)

APPENDIX II
(45) 1511 September around 29
Ich Lucas Cranach zu Wittenberck mit diser meiner hant
geschrift beken, das mir dye geschickten des rats zu der
Neustadt an der Orlaw wegen irs gotshaus funfzig fl
reinisch zu Leipzig im herbstmarck anno im alften jar auf
die arwet, die sie mir einer tafel halben angedingt, entrichtet
haben.
Date: Leipzig, Michaelismarkt
Loc.: Formerly ThHStAW, Ernestinisches Gesamtarchiv, Reg. B.
31904, fol. 48r (transcribed by Hoffmann 1954, 15–16; Scheidig
1953, 159, no. 13; Schade 1974, 405, no. 82; Hintzenstern,
Dressler 1986, 58)

1512
(46) 1512 January 5
1 fl   meister Lucas Granach zu Wittenberg, unser g. u. g.
hern mallher, für zcway unser lieben frauen bildenis, welche
unser g. h. her der churfürstl. unserm g. hern hertzog Jorge
und seiner gnad. mall. zu Eylburg an nawen jarstag so ir f. g.
bayeinander gewest, geschenckt.
Date: Leipzig, Dienstag im Markt.
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4214,
fol. 37r (transcribed by Gurlitt 1897, 42; Bruck 1903, 297;
Scheidig 1953, 161, no. 16; Schade 1974, 405, no. 85)

(47) 1512 April around 11
40 fl   meister Lucas Cranach, unser g. hern maler zw  Wittbg,
für eine gemalthe taffel die der obermarschalk bei ime
bestelt und sein fürstlich [Gnaden?] die selbe zu entrichten,
angeschaffen und furlon, berurtem obermarschalck geschank,
geschen auf [...] weysung des haylthums zu Wittenberg.
Dat. Leipzig, Ostermarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4215,
fol. 70r (transcribed by Gurlitt 1897, 43; Bruck 1903, 297;
Schade 1974, 406, no. 91)

(48) 1512 June 10
Aber e l wyl ich nit verholden, dos ich verschafft, dos meyne
ouch der gessellen decken gemacht seyn, ouch den maller
zugeschickt und wohe mir e l decken, die vor e l sal geschickt
worden werhe, wolld ich syhe mit allem fleis zu machen
ouch bestellid hohen.
Date: Weimar, am Tage Corporis Christi 1512
Loc.: SHStAD, Elector Friedrich III the Wise writing to Duke
Georg of Saxony (transcribed by Langenn, 1852, 92)

(49) 1512 September around 29
20 fl meister Hansen Tzinckesen, dem tischer zu Wittenberg,
die ime von meinem g. hern in der vorgangen fasten zu einem
haws, welchs er zu Wittenberg erkaufft, aus gnad zuleyhen
vorschafft. Auch uff das malh 20 fl vom hoffcamerschreiber
so ein [Steffan] Stroelh entfangen, die ime furder an seine
quaterm gelt sollen abgetzogen werden, solch gelt hat sein
hausfrau in gegenwart meister Lucas von Cranach Moller.
Date: Leipzig, Michaelismarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4216,
fol. 50v (cf. Schade 1974, 406, no. 96)

1513
(50) 1512 September around 29
40 fl 13 gr meister Lucas Granach, unser g. h. moller zu
Wittenberg, zu entrichtung etlicher hynderstelliger arbeit,
uff das furstlich beylager hertzog Hainrichs von Sachssen et
uber das svo ime er von Steffan Stroelh hoffcamerschreiber
entpfangen, inhalts seiner hantschrifft.
Date: Leipzig, Michaelismarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bd. 4216,
fol. 60v (cf. Schade 1974, 406, no. 96)

(51) 1513 January
17 fl   meister Lucas Moller fur drey wappen meinem g. hern
hertzog Johanß gemacht uff [...]) (seinß) angebung Ganglauffs
von Witzleuben, seiner f. g. camerer, inhalts einer tzettel
seiner hantschriefft ffreitags in dem newen jars marckte.
Date: Leipzig, Freitags in dem newen jars marckte,
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4217,
fol. 23v (cf. Gurlitt 1897, 43; Bruck 1903, 298; Schade 1974,
407, no. 104)

(52) 1513 May 24
5 fl vor 2 stechdecken, dornach 4 stechdecken ie eines vor
1½ fl, mach vir 6 fl.
10 gr vor 10 silbern oren.
6 fl vor 2 grosse bogen.
30 par menlein die hoffarb, ein par vor ein gr, macht 30 gr.
10 menlein, wie sich die fursten kleiden, eins vor 1 gr mach
and 10 rock j eins vor 1 gr.
20 gr machen die 10 menlein und die 10 rock.
1½ fl 2½ gr vor zweiundfünfzig gedruckte wapen, dar vor auf
to streichen mit farben
4 gr die rendecken in 2 hent ein zu nehen.
7 fl vor 2 decken zum ren- und stechen graf Albrecht
Summa 28 fl 14 gr.
[invoice chit inserted, fol. 17r]
28 fl 14 gr vor etlich renndeckenn und gemoltde nemlich
Lucas Moller betzalt noch lawt seyner zettell.
[zum entered in accounts book fol. 16r]
Date: Belzyg, Dienstag nach Trinitatis
(53) 1513 June
Ausgabe zur neuen Tafeln.
105 alt schock, dem Malermeister Lucas Bruder gegeben, als er die Tafel gesetzt hat am Abend Johannis Baptiste.
12 schock 12 Groschen den Gesellen und seinen Frauen zu Tränkgeld.
5 schock Nicel Clingenstein für Lohn. Hat die Tafel helfen zu Wittenberg holen.
9 schock 19 Groschen 4 Alt Pfennig hat verzehrt Hans Dornberg mit 2 Knechten mir vier der Stadt-Pferd auf dem Hinweg ge- Wittenberg und wieder anheim mit den Malern auf 6 Personen und 6 Pferde den Montag vor Viti.
26 Groschen 2 Neu Pfennig vor Eisenwerk, Blei, Leim, Nagel und anderes zu der Tafel bedürftig - [?] zu Rüsten und - [?] dem Schlosser zuvor mehr und geben und vertan.
5 Groschen der Schosserin zu Tränkgeld, da die Malergesellen in der Herberge gelegen. Vor die Kost hat man dem Schosser nichts dürft geben.
22 Groschen von der Tafeln und anderen Kirchengeräte zu Weihe und dem Bischof zu schenken geben.
31 Schock 10 Groschen hat der Rat von des Gotteshaus wegen Meister Lucas gegeben laut seiner Quittanzie im neuen Jahrsmarkt.
Summa dieser Ausgabe zur neuen Tafeln 167 Schock 7 Groschen 5 Alt Pfennig.

Date: Neustadt/Orla, Dienstag Cruc. Exalt. 1512 bis Dienstag nach Egidy 1513
Loc.: Kirchenarchiv Neustadt/Orla, Kirchenrechnungen 1496 - 1528. A. IV. 1.31, Regal 1, Fach 5 (transcribed by Scheidig 1953, 159, no. 14; Hoffmann 1954, 10, 122 (date given there 1512); Schade 1974, 406, no. 93 (date given there 1512); Hintzenstern, Dressler 1986, 8.)

(54) 1513 June 26
Date: Neustadt/Orla, Sonntag nach Johannis Baptiste.
Anno ector 13.
1514

(57) 1514 March 29
Durchleuchtigster hochgeborner chufurst unnd her[rr] ehre ewern churfurstenlichen gnaden sein mein underthenige vorpflichte und gehorsame dinste meins hochsten vormogung alzeyt gud williglichen bereyt, gnedigst churfurste und her[rr] ehre ewern furstliches gnaden begehrd nach, habe ich neben meist[er] Lucas und Hansen tsicher, die pforkyrchen besichtigt, die dan wol nach des tsichers angeben zu machen ist, aber die weile o f g die vonn applag gantz fettig haben, weil ist es nicht wol tuhelig, ursachen gar heiligenzeyt die sich naher und in der kyrchen gantz beswerlich zu arbeten, dan es wil erbot mit rusten und dag holtz uf zutzihen nemen[nn], szo ist kein droke holtz das dar zu tuglich vorhanden, wie nw e. f. g. der sachen bis nach dem applag anstant geben wolt, szo wolt ich mittelbar zeit balcken und ander holtz dar zu nottorftig hawen und fur[en] lassen, das mittelze[rr]e zeit dohre und leycht zuheben wurde, ouch brothe gar zu vorschaffen, das von stur nach den feyertagen angefange[n] und nach endane[r] slewnig gebawet und gecleybet werde, was e. churf. g. gemuth hat inne ist das bitte ich mir gnediglichen zu troffi  n, In dem und andern richte ich mich nach e. churf. g. alzeyt gehorsam und willigk, dat,[um]mittwoche nach Letare anno 1514, e. churf. g. unterthenig schoss[er] zu Wittenb[er]gh Anthony Nymegk.

Date: Wittenberg, Mittwoch nach Letare anno 1514

(58) 1514 April around 16
6 fl für ein kleines gemaltes teffelein unnsers herren Ihesu Barmhertzigkeit für unsern gnedigsten herren von Lucassen Mahler zu Wittenbergk erkaufft.

Date: Leipzig, Ostermarkt 1514
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4239, fol. 78v, 93r; The identical note is written under: “Ausgabe durch gnade vorlihen gelt” (fol. 78v) but is, however, deleted with a reference to the entry under “Gemeine ausgabe” (fol. 93r) (cf. Gurlitt 1897, 44; Bruck 1903, 298; Schade 1974, 407, no. 118)

(59) 1514 April around 16
50 fl meister Lucassen von Cranach zu Wittenbergk uff arbeit

innhalts seiner quitanten dogegen übergeben, darauff sich Pfeffinger die abrechnung mit ime füreinen soll.

Date: Leipzig, Ostermarkt 1514
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4239, fol. 70r (cf. Gurlitt 1897, 43; Schuchardt 1851, I, 65; Bruck 1903, 298; Scheidig 1953, 162, no. 113)

(60) 1514 April around 16
150 fl meister Lucassen von Cranach zu Wittenbergk uff arbeit

(61) 1514 July 9
Meister Merten Tüncher 2 gr von dem gemele einzutuchen über dem fenster geringst rum darin adelauft tsicher vertafelt hat.

Date: Sonntag nach Visitatio Virg. Marie
Loc.: ThHStAW; Building of Schloss Torgau (transcribed by Bruck 1903, 243)

(62) 1514 September around 29
20 fl meister Lucas von Cranach Mahler zu Wittenbergk von der arbeyt, so er an dem thorm uffm Thorgau gethan, solch geld hat er selbst sambstags im marcket entpfangen.

Date: Leipzig, Michaelismarkt 1514
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4240, fol. 78v, 93r; The identical note is written under: “Ausgabe durch gnade vorlihen gelt” (fol. 78v) but is, however, deleted with a reference to the entry under “Gemeine ausgabe” (fol. 93r) (cf. Gurlitt 1897, 44; Bruck 1903, 298; Schade 1974, 407, no. 118)

(63) 1514/1515
5 gitter auf dem gange wo man aus Herzog Hansen gemach gehet uff die beyden thorme je 1 für 5 gr Ulrich Carmerkxt [?]. 153 [?] gr von denselbigen gittern anzustreichen in rott und gel mit oll farbe, Franz Maller.

3 gulden Michael Tischer von dem eyn thorm zuvorteffeln yn dem obisten gemag ym knopff kegen die stadt von eym eygn holz gemacht, hat ym Adloff Tischer also verdingt.

56 gr Michel Tischer für 8 benk zu machen yn die zwu gemalte stoben mitte yn thormen von eym eyge holz.

2 tischlergesellen haben meister Adlof Tischer helfen vertafeln in dem obersten gemag yn den beyden thormen, haben 9 wochen darin gearbeit bey m. gl. h. kost , auch Adloffs arbeit dauert darin so lange, ebenfalls b. m. gl. h. kost. 24 gr für 1 fl kortze rust bret hat Merten Tüncher gebraucht zu den zwei thormen auswendigk zu rusten wann der tünch wass ein teilsch an etlicht orttern ab gessprungen von dem gebeude, hat auch dasselbige mal alle fenster auswendig umb die thorme reyn vor tünchet, Michel Moller von alden Dresen betzalt.

Date: Sonntag Bartolome
Loc.: ThHStAW; Building of Schloss Torgau (transcribed by Bruck 1903, 243)
1515
(64) 1515 September around 29
60 fl meister Lucassen Cranach maler zu Wittenbergk uff arbeit der thorn zu Wittenbergk unnd Torgaw uff rechnung gebenn furstlichen bevehl nach inhalts dagegen empfangn, dat. freitags im marck.
Date: Leipzig, Michaelismarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4266, fol. 67r (cf. Gurlitt 1897, 44; Bruck 1903, 298; Schade 1974, 408, no. 126)

1516
(65) 1515
60 fl maß Lucas uff die arbethen der “arbist” so schon hat maßen seiner zcetthell anergs deglich in dies acht ergang. [Randbemerkung:] hatten ann ime fil Jahresquittantz 486 fl ṭ 9 gr
Date: 1515
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4251, fol. 49r

(66) 1516 January
207 fl 12 gr Hannsen von Thaubenheym uberantwort zubezalung und entrichtung meister Lucas Cranach zu Wittemberg unnd meister Cristianus Goldschmidt daselbst für ire abgerechent arbeyt. Mittwoch nach loßgang des marcks [...] (transcribed by Gurlitt 1897, 45; Schuchardt 1851, I, 67; Bruck 1903, 298; Schade 1974, 408, no. 129)
Date: Leipzig, Mittwoch nach Beginn des Neujahrsmarkts
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4258, fol. 16v (cf. Gurlitt 1897, 44; Bruck 1903, 298; Schade 1974, 408, no. 129)

(67) 1516 March around 23
10 gr 3 d außlosung einem fuhrmann, hat meister Lucas von Cranach den maler von Thorgau gein Leipzig fur ein nacht.
Date: Leipzig, Ostermarkt 1516
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4262, fol. 83r (cf. Gurlitt 1897, 44; Bruck 1903, 298; Schade 1974, 408, no. 130)

(68) 1516 March around 23
10 fl 17½ gr meister Lucas Cranach von Wittenbergk in Wittenbergk beyh hem je fl ein heylenthumkasten inhalts seind altahrs. 2 fl 17 gr als meister Lucas in studher[?], die er Hannß Wurffel den schmitt[?] gegeben, die er uff freuntlich erborgt uff die barkirch zu Wittenbergk gemacht geben. Solch geld hat meister Lucas mitgetragen errichtet.
Date: Leipzig, Ostermarkt 1516
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4262, fol. 84r (cf. Gurlitt 1897, 44; Bruck 1903, 298; Schade 1974, 408, no. 130)

(69) 1516 June 16
Nachdem dir unser rath und lieber getreuer Dieterich von Schönberg vier bild abgekauft hat, ist derhalben unser begehren, du wolest solche bild wol verwart gein Berlin in Christoph Binzen haus schicken, der furter befelch hat, uns dieselbigen zuzuffertigen. Und übersenden dir hiermit bey disem zayer drei und zwanzig guldin, wie dann der kauf für solche bild getroffen. Wolten wir dir, an dem du uns sonders gefallen thust, gnediger meinung nit verhalten.
Date: Montag nach St. Veits 1516
Loc.: Formerly Staatsarchiv Königsberg, Flt. d. Ordenszeit 38, fol. 111; Duke Albrecht of Prussia writing to the Wittenberg painter (transcribed by Ehrenberg 1899, 143–144, no. 4)

1517
(70) 1517 January
18 fl Lucas Maler zu Wittenberg for ein gemalt teffelein, dye er meynen g. herrn gemacht hat.
Date: Neujahrsmarkt 1517
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4272
(transcribed by Gurlitt 1897, 45; Schuchardt 1851, I, 67; Bruck 1903, 298; Schade 1974, 408, no. 135)

(71) 1517 January 20
Es ist unser gutlich begehren, du wollet uns ufs furderlichts inen Hercules, der ein nackenden kerel zu tod druckt, malen und fertigt machen, wie du an diesem maß die leng und breit uf ein tafel oder brett zu malen finden wurdest.
Date: Königsberg, Fab. et Sebast.
Loc.: Formerly Staatsarchiv Königsberg, Flt. d. Ordenszeit 39, fol. 75; Duke Albrecht of Prussia writing to Lucas Cranach (transcribed by Ehrenberg 1899, 144, no. 5; Scheidig 1953, 163, no. 22; Schade 1974, 408, no. 137)

(72) 1517 March 8
Hochgeborner furst freundlicher liber vetter, e. l. schicke ich moyster Lucos und wude er eher hett wondern konnen, weil ich e. l. den ouch geschickt hoben, er wird ouch e. l. berichten meyn bedencken des teffl eins holben und wos dorouf e. l. geseffolhen wird werden, e l. mir wol onzoigen.
Date: Torgau, Sonntag Reminiscere 1517
Loc.: SHStAD, Elector Friedrich III the Wise writing to Duke Georg of Saxony (transcribed by Langenn, 1852, 103, no. 27; Schade 1974, 408, no. 139)
1518

(77) 1518 May 13
1 fl vor die Lucrecia, die ich gemacht hab, vor das tefelein vom tischler und vom zubereiter und zu vor gulden, 4 fl vor die kleine Lucrecia, 10 gr vor die zwey futer dar in sie vor wart sein.


Date: Altenburg, 13.05.1518
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 2r, 2v, Elector Johann's personal accounts (cf. Scheidig 1953, 164, no. 25; Schade 1974, 409, no. 151)

(78) 1518 May 22

[..] Wir schiken dir hiermit zwey muster ains auf papier und das andere hultzern, wie du sehen wurdest und ist unser gnedigs begeren, du wollest unns zu Nuremberg zum furderlichsten, nach dem papieren muster zwey schlenglein zu giessen bestellen, also das du in aller mas, wie das muster auf dem papier die lenng und größ haben, allein sol der haken an der seiten nun den dorbei geschrieben stet, nit daran gemacht werden [..], wollest auch bestellen so diese schlangen fertig, das zu jedem ain hulzern kasten ader gefess gemacht word […].

Date: Altenburg, Sonnabent in d. heilg. Pfi ngstwochen
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2305, fol. 1r. Letter from the elector to Georg Ratzel in Nuremberg (cf. Bruck 1903, 332)

(79) 1518 September/October
2 gr trangkgelt von golt und geslagen silber einzumachen, hat Laüx Maler aüsgeben

Date: Wittenberg, 1518
Loc.: StAWB Kämmereirechnung, fol. 158v (cf. Förstemann 1836, 650; Schuchardt, 1851, I, 67; Schade 1974, 409, no. 149)

1519

(81) 1519 May 10
5 gr bottelenlohn Sommer genant, hat eyn teffleyn von Wittenbergk anher getragen, bevelh Pfeffingers

Date: Lochau, Sonnabend nach Misericordias domini
Loc.: StACo LA A Nr. 9947, fol. 6r (transcribed by Hambrecht 1987, 69)
(82) 1519 October 1
4 fl 7 gr 2 d Lucas Maler, bevelh Hirschfels fur eczliche farbe vom schieff anzustreichen etc.
Date: Lochau, Sonnabend nach Michaelis
Loc.: StAco LA A Nr. 9947, fol. 33r (transcribed by Hambrecht 1987, 69)

(83) 1519 October 3
3 gr Schlett dem maller wellichs er furder dem tischer fur 2 rennen zu machen geben darauff die renner die Juditt unnd Lucretia gespannt, bevelh Hirschfelds
Date: Lochau, Montag nach St. Michaelis
Loc.: StAco LA A Nr. 9947, fol. 36r und 36v (transcribed by Hambrecht 1987, 69)

(84) 1519 October 11
2 fl 8 gr 4 d Lucas Maler, nhemlich 2 fl 16 gr fur das teffeleyn, dorauf die Lucretia gemalet, und dem tischer fur das futterduh, bindtgarn, bursten etc., lawt seiner zcetteln, bevelh Hirschfelts
Date: Lochau, Dienstag nach Dionysii
Loc.: StAco LA A Nr. 9947, fol. 49r (transcribed by Hambrecht 1987, 69)

(85) 1519 October 12
5 gr abermals dem tischer von zweyen futtern zu gemalthen teffeleyn. Ist m.g.h. her Johanßen wurden gemacht. Bevelh Hirschfelts
Date: Lochau, Mittwoch nach Dionysii
Loc.: StAco LA A Nr. 9947, fol. 51r (transcribed by Hambrecht 1987, 69)

(86) 1519 October 14
8 d Anthonius tischer von einem rham zu machen m.gt. h.
Date: Lochau, Freitag nach Dionysii
Loc.: StAco LA A Nr. 9947, fol. 53r (transcribed by Hambrecht 1987, 69)

(87) 1519 October 21
5 gr Anthonio tischer, nhemlich 3 gr fur 1 lb leym hat Schlett Maler zu den 2 futtern verbraucht und 2 gr fur 1 futter uber die zwey ander futter, bevelh Hirschfeldes
Date: Lochau, Freitag nach Ursule aber 11000 Jungfrauen
Loc.: StAco LA A Nr. 9947, fol. 63v (transcribed by Hambrecht 1987, 69)

(88) 1519 October 26
2½ gr Anthonius tischer vor 20 farbschyn und fur 1 futter uber die klein Lucrecien, Schlet Maler angesagt, bevelh Hirschfeldes
Date: Lochau, Mittwoch nach Crispini et Crispiniani
Loc.: StAco LA A Nr. 9947, fol. 70r (transcribed by Hambrecht 1987, 69)

1520
(89) 1520 January 29
5 fl 57 gr Lucas Maler zu Wittenberg durch Hans Feyoll entricht fur eczliche teffelein gemalth unnd fur 1 groß geschnicz mannes bildt, wie m.g.h. weyß, am tage Conversionis Pauli unnd nur furder abgerechenth
Date: Lochau, Sonntag nach Conversionis Pauli
Loc.: StAco LA A Nr. 9947, fol. 158r (transcribed by Hambrecht 1987, 70)

(90) 1520 February 12
1 fl 28 gr Lucas Maler nhemlich 2 fl seinen gesellen zu trangkgelth unnd 2 fl des goldschmides gesellen
Date: Lochau, Sonntag nach Apollonie
Loc.: StAco LA A Nr. 9947, fol. 173v (transcribed by Hambrecht 1987, 70)

(91) 1520 February 13
12 gr 6 d fur 1 futter zu einem silbern kenley, hat Lucas Maler meinem gt.h. machen lassen
Date: Lochau, Montag Valentini
Loc.: StAco LA A Nr. 9947, fol. 174v (transcribed by Hambrecht 1987, 71)

(92) 1520 April 13
27 gr 2 d Lucas Maler zu Torgaw verczerth mit dreyen gesellen und einem fhurlon mit 2 pferden 1 nacht, inclusis 9 gr fhurlon 1 gr losung, bevelh Hirschfelts
Date: Lochau, Freitag nach Resurrectio Domini
Loc.: StAco LA A Nr. 9947, fol. 208r (transcribed by Hambrecht 1987, 71)

(93) 1520 May 15
6 gr botlon mit meynes gt. hern briven gen Wittenberg zcum schosser, inclusis 2 gr trangkgelt hat ein tefel ein mein gt. herrn anher getragen, Hans Betmeyster angesagt
Date: Lochau, Dienstag nach Vocem Jocunditatis
Loc.: StAco LA A Nr. 9949, fol. 27v (transcribed by Hambrecht 1987, 71)

(94) 1520 May 15
6 gr botlon mit meynes gt. hern briven gen Wittenberg zcum schosser, inclusis 2 gr trangkgelt hat ein tefel ein mein gt. herrn anher getragen, Hans Betmeyster angesagt
Date: Lochau, Dienstag nach Vocem Jocunditatis
Loc.: StAco LA A Nr. 9949, fol. 27v (transcribed by Hambrecht 1987, 71)

(95) 1520 August 8
1 fl 6½ gr Lucas Maler fur die Lucrecia mit dem welsn geheuß auf 3 kleinen tefelin, inclusis 3½ gr auslosung zur Schweinicz
(96) 1520 August 26
4 gr botlon mit meins gt. hern briven geyn Wittenbergk zum Lucas Maller der wappen halben
Loc.: STACo LA A Nr. 9949, fol. 211r (transcribed by Hambrecht 1987, 72)

(97) 1520 September 12
In dem besthet unser gefellig meynung.
Loc.: STACo LA A Nr. 9949, fol. 250r (transcribed by Hambrecht 1987, 72)

(98) 1520 December 6
[...] Fur das ander, so sol kein inwonerne oder frembder kramer zu Wittenbergk gestossen wirtz, confect, zugker, tiraick, geferbtes wachs etc. noch anders so man sonderlich in die apoteken gebraucht feyl haben oder verkauffen, aufgeschlossen in den freyen jharmargkt sol solchs und unnd anreichert man solange der jharmarkt weret unnd nit lenger feyl haben frey sein. Unnd nachdem man in den apoteken sussen wein nit geraten magk, domit nie daran auch nit mangel sey, so soll Lucas oder sein erben, wan ein rath zu Wittenbergk in irem keller nit susse wein schengken haben, süsse wein in der apoteken zu schengken, doch uff entrichtung geburlicher pflichtung [...].
Date: Dresden, Mittwoch nach Maximini Matri
Loc.: SHStAD. Loc. 7352, fol. 1; Payment order from Duke Georg of Saxony

(99) 1521 April 4
Meister Lucas schreibet myr, das es von den genaden gottes mit dem sterben sich ganzz wol zu der Lochau und dor umb heltet, des gleichen zu Wittenberg und Torgaw, dorbei zeeigt er mir an, das er e. l. etliche taffel kein Wormis geschickt, dor under seyynne mir zeustendigk, die habe mein maller gemallet, yst der halben mein freundliche bitt an e. l., e. l. wollen myr die gemalte taffeln schicken, auff das ich sehen mochtte, was guttes er gelernnet hette.
Date: 4. April 1521
Loc.: Letter from Duke Johann to Elector Friedrich III the Wise (transcribed by Kolde 1881, 45 without giving location of source; Michaelson 1902, 5, 58)

(100) 1521 July 22
Und seynt nev etliche pletze ufm salh, do dass gemelle von gefallen ist und wider getüncht [...] so ist zu Torgaw mehr kein maller, dass sulchen gemelde wider formlich kund anstreichen, wie es e. churf. g. gefellig wer, dass meister Lucas ein gesellen dohin schicket, der hette bey acht tagen daran zu arbeiten.
Date: Torgau, Montag St. Marien Magdalenentag 1521
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 282v. Nr. If, fol. 1v; Wolf Metzsch, Gleitzmann zu Torgau reporting on the buildings in the Schiessgarten at Torgau; he is talking about the new house. (transcribed by Bruck 1903, 246; Schade 1974, 410, no. 172)

(101) 1521 September around 29
66 gulden Lucas Malern von der orgel ym schlos Weymer zu molen.
Date: Leipzig, Michaelismarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4309, fol. 59r (transcribed by Gurlitt 1897, 45; Schuchardt 1851, I, 74; Bruck 1903, 299; Scheidig 1953, 167, no. 39; Schade 1974, 410, no. 173)

1522
(102) 1522 May 11
3 fl 9 gr Lucas Maler, nhemlich 2 fl fur eyn teffeleyn, dorauf Paris mit dreyen weybern gemalht, 7 gr fur das futter, 1 fl fur die taffel, dorauf, m.g.h. contrefeyt unnd 2 gr außloßunghe, lauets eyner zettelz, bevelh Hirschfeldes
Date: Lochau, Sonntag Jubilate
Loc.: STACo LA A Nr. 9923, fol. 10r (transcribed by Hambrecht 1987, 73)
also: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb Nr. 1795, fol. 68v (Schade, 1974, 411, no. 175)

(103) 1522 May 29
7 fl 19 gr 6 d Lucas Maller, nhemlich 5 fl vor das Marion bilde auf dem grossen blatt, 10 gr fur das futter, 20½ gr fur lerchen unnd 1 fl 10 gr fur vier orter ygeben unnd außloßung etc. lauts seiner zeetteln, Hans Kemerling angesagt
Date: Lochau, Donnerstag Ascensionis Domini
APPENDIX II

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Dat. Lochau, Mittwoch am Hl. Christabend
Loc.: STACo LA A Nr. 9923, fol. 171r (transcribed by Hambrecht 1987, 76)

1523

(110) 1523 February 20
1 fl 8 gr Lucas Maler lauts einer zetteln, nemlich 4 gr fur 1
futter zw zweien syblerleuchter zw drehen 18 gr davon zw
uberziehen mit leder und fur holtz
3 gr 4 d fur 10 buchlein vom babest und vrebirgischen kalp
und 3 gr 8 d stalimdt uf 2 pferdt 4 nacht und 3 pferdt 1 nacht
Date: Lochau, Freitag nach Estomiihi
Loc.: STACo LA A Nr. 9923, fol. 214v (transcribed by Hambrecht 1987, 77)

(111) 1523 February 27
7½ gr Antzhonio tischer fur eyn rehemen m.gt.h. zu einem
tuche von einer wasserw[...?]aghen zu machen
Date: Lochau, Freitag nach Invocavit
Loc.: STACo LA A Nr. 9923, fol. 225v

(112) 1523 March 12
9 gr Lucas Maler entricht, nhemlich 14 gr fur 2 newe
betbuchleyn eingebunden
3 gr fur 1 betbuchlyn ungebunden undd 1½ gr stalmidt
1 nacht auf 3 pferdt
Date: Lochau. Donnerstag nach Oculi
Loc.: STACo LA A Nr. 9923, fol. 246v (transcribed by Hambrecht 1987, 77–78)

(113) 1523 May 16
3 gr hat der schosser fur botlon ausgeben mit briven, welche
Lucas Maller und der schosser von Wyttenbergk anher
geschickt die er forder m.gt.h. nach gein Eylbergk geschickt,
as s[ein] chur[...]r gc[ein] das nescht malh hidan
abgereyst
Date: Lochau, Samstag nach Vocem Jocunditatis
Loc.: STACo LA A Nr. 9954, fol. 4r (transcribed by Hambrecht 1987, 78)

(114) 1523 June 20
5 gr hat Lucas Maler einem botten geben, welcker ein
Nyderlendisch teffeleyn von Wittenbergk gegen der Lochaw
und forder nach der Schweinicz getragen
Date: Lochau, Samstag nach Viti
Loc.: STACo LA A Nr. 9954, fol. 18v (transcribed by Hambrecht 1987, 78)

(115) 1523 June 20
1 fl 11 gr fur 6 sandtseyger, welliche Lücas Maler hat in silber
fassen lassen unnd von 2 sandtseyger, die zeurbrochen
gewehst m.g.h.

Date: Lochau, Samstag nach Viti
Loc.: StACo LA A Nr. 9954, fol. 58v (transcribed by Hambrecht 1987, 79)

(116) 1523 August 19
2 fl 19 gr 6 d fur 27 stüke in das schießhawß, yhe einen fur 1½ gr Lucas Maler entricht laut seiner handschrift; 6 fl Lucas Maler laut seiner handschrift auf ansagen Hans Betmeisters entricht fur eyßen zu geschossen etc.

Date: Lochau, Mittwoch nach Assumptionis Marie
Loc.: StACo LA A Nr. 9954, fol. 116r, 116v (transcribed by Hambrecht 1987, 80)

(117) 1523 September 14
4 fl 4 gr Lucas Maler laut einer zcetteln entricht, nemlich 35 gr 10 d fur 40 kan Francken weyn, includis 2½ gr fur das feßleyen; 2 fl 3 gr fur 3 bucher Moyßy und einzubinden und anzustreichen undn 5 gr 2 d fur 5½ kan weyn gegen der Lochaw zu kosten bracht auch 1 gr außloßungen oder stalmydt auf 2 pferdt 1 nacht, Hans Betmeister angesagt

Date: Lochau, Montag Exaltationis Crucis
Loc.: StACo LA A Nr. 9954, fol. 135r (transcribed by Hambrecht 1987, 80)

(118) 1523 September around 29
5 gr zcerung dem maler nach Weymar.

Date: Leipzig, Michaelismarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4321, fol. 33v (cf. Gurlitt 1897, 45; Bruck 1903, 299; Schade 1974, 411, no. 191)

(119) 1523 September around 29
10 gr 6 d fur 2 lot lack.
2¼ fl fur ½ lb oelblau.
1 fl 15 gr fur 1 lb 12 [lot?] blau von feldung 1 lb umb 1 fl
1 alt [gr].
1 fl 17 gr 10 d fur 1½ lb 11 lot lasurblau ides umb 1 fl.
1 fl 6 gr fur ½ lb 12 lot schlicht blau feldung, ides umb 9 gr
14 gr 8 d fur 2 lb und 4 lot ascherblau, ides umb 7 gr
15 gr 9 d fur ½ lb scheffergrün.
11 gr 6 d fur 4 lb 12 lot bleyweyß
5 gr 3 d fur ½ lb xcinober
5 gr fur 1 lb spangrün
4 gr fur 2 lb bley gelb
1 fl 5 gr 3 d fur 1 lb parifßrot
2 gr fur 2 lb mennig
6 d fur ein schachtel
Laterre 12 fl 8 gr 3 d

Date: Leipzig, Michaelismarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4321, fol. 34v (cf. Gurlitt 1897, 45; Bruck 1903, 299; Schade 1974, 411, no. 191)

(120) 1524 May 28
16 fl 6 d einen fhurmanne von Wittenbergk hat 2 mahll wey[n] anher und taffell wider gegen Wittenbergk Lucas Malern bracht.

Date: Lochau, Sonnabend nach Corporis Christi

(121) 1524 August 15
23 fl 3½ gr 1d Lucas Moller entricht, nemlich 17 fl 13 [gr] 6 d fur 3 stug leimpt holt, 1 stugk 74 eln zu 1½ gr sal in m[ernes] g[nädigen] h[ern] kammer gein Kolditz etc.
5 fl fur das tuch darauf m h abkanter feygt etc.

Date: Lochau, Sonntags am taghe Assumptionis Marie Virgines

(122) 1524 September 16
16 fl Lucas Moller entricht fur zcwey gemalte tucher, uff eine[m] der Parisch [Urteil des Paris], uff dem andern der Aristotelis [Aristoteles und Phyllis], seint m g hern worden lauts seiner hantschrift b Hans betzahlt

Date: Lochau, Freitag nach Exaltationis Crucis

(123) 1524 December 20
5 fl Bastian fischer zu seiner hochzeit [...] 21 fl Lucas Maller fur 4 gemalte tuchlein und furlon

Date: Lochau, Dienstag Vigilia Thome

(124) 1524 December 26
1 fl 6 d hat Lucas Maller vann Wyttenberg aus geben, nemlich 1 fl Nicklas tischer vann einem muster dem thorm zew Kolditz etc.

Date: Lochau, Montag am tage Steffani

(125) 1524
Hansen Jheger von Aldenburg umb solch das er den boden, sunst auch umb die teffeleyen und hengende blume, umb die tucher in Euer Chruf. gnad. stub und kammer, nachm reichlichsten gemalt, die brustteffelung in der stub fl aderweyst gemacht und mit fi rnis überzogen, die ramen und [...] auch das beth blau angestrichen und von farben gemacht, darüber
gefertigt und die bruststeffelung darselbst geflädert und
gefiorph und die decke nach Lucas Malers angaben gändert.
Date: 1524
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 975, fol. 49v; Half-yearly statement of accounts from the Colditz
office (Thomas Schmidt, Leisnig, personal communication)

1525
(126) 1525 January 13
10 gr zu lon Veit tischer von eym grossen rhamen und der
narren benecke zu machen
Date: Torgau, Sonnabend nach Erhardi
Loc.: StACo LA A Nr. 9967, fol. 49r
(127) 1525 January 13
4 fl 1½ gr Lucas Maller entricht, nemlich 3 fl für das tuchlein,
welches er von Leyptzygk bracht etc.
Date: Lochau, 1525
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 1796,
fol. 259r (cf. Schade 1974, 413, no. 220)
(128) 1525 August 3
Durchleuchtgster hochgborner furst, genedigster her.
Ewern kurfürstlichen genade sey mein vorpflichter
unterteniger dinst als zeit zu vor bereit. Genedigster her.
Hie schick ich ewer genaden in dem langen ror die drey
visirung, die gros mit dem bild, das kumbt an die want und die
schrift dar newen. So gehort die visirung mit dem wapen auf
das grabp. Das las ewer genaden ganz flach gisen, also flach
als sie kuen, aber das an der want macht man der hoben,
wie sie dann sehen wie hoch das geschnitten angesicht ist.
Das werden sie wol wisen zu machen. Ich hab das angesicht
lassen flach schneiden, es wer sunst zu hoch im gisen worden,
aber wens gegosen ist, so will ichs mit leipfarben malen, so
sol es es s. k. g. seliger ganz gleich werden. Der part ist zu
kraus geschnitten, man kans nit wohl anders ins holcz zu
wegen pringen. nit mer. ich befech mich ewern k. f. genaden.
Datum am dunerstag nach S. Peters Ketenenfeiher im 25. jar.
Ewer k.f.g. gantz untentiger Lucas Cranach
Date: Wittenberg, 1525
Loc.: Formerly StAWB Kämmereirechnungen 1525
(transcribed by Förstemann 1836, 650; Schuchardt 1851, I, 86;
Schade 1974, 412, no. 219)
(130) 1525
Aufgab vor den bauhe des rathauses.
Vor gemelde.
42 gr Lucas Mahler geben von der decken in der neuen
weynstuben.
1 fl 20 gr vor die treppe zu mahlen am rathauße.
20 gr idem geben von den 4 fenstern an der obirn stuben, die
grun farbe anzustreychen.
Date: Wittenberg, 1525
Loc.: Formerly StAWB Kämmereirechnungen 1525
(transcribed by Förstemann 1836, 650; Schuchardt 1851, I,
70; Schade 1974, 412, no. 218)

1526
(132) 1526 January 13
9 gr fur zwein groß ramen zu gemalten kurissern in m.gst.
hern gemach
Date: Weimar, Sonnabend nach Erhardi
Loc.: StACo LA A Nr. 9963, fol. 48v
(133) 1526 January 30
3 gulden 12 gr fur 100 messebucher und ordenungen
gotesdinsts, hat doctor Martin Luther außgehen lassen,
Lucas Maler ubirgeschickt
Date: Torgau, Dienstag nach Conversionis Pauli
Loc.: StACo LA A Nr. 9967, fol. 89r (transcribed by Hambrecht
1987, 81)
(134) 1526 February 2
7 fl 8 gr für 300 messebucher und ordenungen gotesdinsts, doctor Luther aufgehen lassen, Lucas Maler zcall, inclusis 5 gr
botlon von Wittenberg domit anher
Date: Torgau, Freitag Purificationis Marie
Loc.: StACo LA A Nr. 9967, fol. 95v (transcribed by Hambrecht
1987, 81)
(135) 1526 February 15
10 gulden Lucas Maler zu Wittenberg fur etliche arbeit, so er
m.gst.herrn gemacht, ubrantwort zu Torgau durch Johan
Rietefel am dorstag nach Estomih allno etc. [15]26
Date: Torgau, Donnerstag nach Estomih
Loc.: StACo LA A Nr. 9964, fol. 53v (transcribed by Hambrecht
1987, 81)
(136) 1526 February 15
14 gr außloßung und zcerung der herberge Lucas Maler von Wittenberg und sein gesellen
Date: Torgau, Donnerstag nach Estomihi
Loc.: StACo LA A Nr. 9967, fol. 129r (transcribed by Hambrecht 1987, 81)

(137) 1526 March 15
5 gr Sommer, dem ambtsboten von Wittenbergk, hat m.gst. hern ein teffelein von Lucas Maler bracht; 6 gr fur leder ubir dießelbe taffel
Date: Torgau, Donnerstag nach Letare
Loc.: StACo LA A Nr. 9968, fol. 38r (transcribed by Hambrecht 1987, 82)

(138) 1526 March 18
5 gulden 4 gr fur ½ buch feingolt, ½ buch zwischgolt, 1 lb. blau und 1 virtel schiffergrun farbe, hat maister Lucas m.gst. hern maler anher geschickt
Date: Torgau, Sonntag Judica
Loc.: StACo LA A Nr. 9968, fol. 49r (transcribed by Hambrecht 1987, 82)

(139) 1526 April around 1
8 gulden 2 gr Lucas Maler von 300 wapen zu machen welche uf den reyßen an dye herbergen geschlagen werden, inhalts seyn hantschrift zcalt
Date: Leipzig, Ostermarkt
Loc.: StACo LA A Nr. 9974, fol. 34r (transcribed by Hambrecht 1987, 82)

(140) 1526 May 4
9 gr fur ein rhamen zu eynem gemalten tuch
Date: Torgau, Sonnaben nach Cantate
Loc.: StACo LA A Nr. 9968, fol. 169r

(141) 1526 May 7
5 gr Somer, dem ambtsboten von Wittenberg, hat etliche gemalte wapen anher tragen; 3 gr fur ein leder darein dye wapen geschlagen
Date: Torgau, Montag nach Vocem Jocunditatis
Loc.: StACo LA A Nr. 9968, fol. 174v (transcribed by Hambrecht 1987, 82)

(142) 1526 September 29
Lieber besunder! es ist an dich unser gültlich beger, du wollest uns alle neue guthe leswirdige bücher, so im kurfe bey adder ander werenn aufgegangen, und umb euch zu bekommen, und welche auch villiche aus dem Latein ins Deußsche transferrirt, und sonnderlich etzliche exemplarie Laurencii Vallensis de Donacione Constantinti in das Deutsche aus dem Leteyn bracht und vorlängst gedruckt, keuffen und uffs förderlichs hiereyn übersenden, dye wollen wir allenthalben gerne betzalen und solichs dorüber umb dich in allen gnaden verschulden [...].
Date: Vicesima Nona Septembr. 1526
Loc.: Formerly Staatsarchiv Königsberg, Flt. der Ordenszeit 26, 40; Duke Albrecht of Prussia writing to Lucas Maler in Wittenberg (transcribed by Voigt 1820, 244; Ehrenberg 1899, 146)

(143) 1526 November 25
40 gulden fur 15 lot perlin hat mein gst. her von doctor Luther erkauffen lassen, c. Johan Rietefels, zcalt zu Weymar durch Lucas Malern am sonitage Katharine anno etc. [15]26
Date: Weimar, Sonntag Katharine
Loc.: StACo LA A Nr. 9964, fol. 48v (transcribed by Hambrecht 1987, 82)

(144) 1526 November 25
Date: Weimar, Sonntag Katharine
Loc.: StACo LA A Nr. 9964, fol. 60v (transcribed by Hambrecht 1987, 84)

(145) 1526 December 21
1 gulden Dhebes Messerschmidt von Wittenbergk, welchn Lucas Moler zu m. gst. h. gefertiget
Date: Weimar, Freitag Thome Apostoli
Loc.: StACo LA A Nr. 9970, fol. 206r (transcribed by Hambrecht 1987, 84)

1526/1527

(146) 1526/1527
5 gr fur 3 Pfund leym von Lucas Maler erkaufft, hat der Tischer zcur arbeit gebraucht.
Date: Wittenberg, no date given, Amtsschosser zu Wittenberg, from Walpurgis 1526 to Walpurgis 1527

1527

(147) 1527 March 5
7 gr botlon Tebes Messerschmidt, hat Lucas Maler mit etlichem gemelde von Wittenberg anher geschickt
Date: Torgau, Dienstag nach Estomihi
Loc.: StACo LA A Nr. 9963, fol. 186r (transcribed by Hambrecht 1987, 84)

(148) 1527 April 5
14 gr außloßung und zcerung in der herberge maister Lucas

422
dem maler
Date: Torgau, Freitag nach Leatre
Loc.: StACo LA A Nr. 9981, fol. 50v (transcribed by Hambrecht 1987, 84)

(149) 1527 April 14
5 gr Maulhans boten in geschefft m. gst. hern gein Wittenberg zu Lucas Malern hat getragen
Date: Torgau, Sonntag Palmarum
Loc.: StACo LA A Nr. 9981, fol. 75v (transcribed by Hambrecht 1987, 84)

(150) 1527 May 20
5 gr botlon Lamprecht hat 3 rendecken geyn Wittemberg Lucas Maller bracht
Date: Torgau, Montag nach Cantate
Loc.: StACo LA A Nr. 9981, fol. 158v (transcribed by Hambrecht 1987, 84)

(151) 1527 May 26
5 gr botlon Cuncz Schadelit in geschefft m. gst. hern gein Wittenberg zu Lucas Maler umß herwiedertragen
Date: Torgau, Sonntag Vocem Jocunditatis
Loc.: StACo LA A Nr. 9981, fol. 171r (transcribed by Hambrecht 1987, 84)

(152) 1527 July 27
Ungefährlicher auszug der ausgabe auf die hiemfahrt m. gn. jungen herrn herzog Johann Friedrich. Akt dieses auszug Sonnabend nach Jacobi a. d. 1527 für malerarbeit 221 gulden 10 groschen 10 pfennig.
Date: Sonnabend nach Jacobi a.d. 1527
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. D. 58. V, fol. 46v (transcribed by Scheidig 1953, 168, no. 44; Schade 1974, 414, no. 244)

(153) 1527 December 21
11 gr tranggelt dem ambtsboten von Gotha, hat m. gst. hern ein teffelein von Lucas Maler bracht und von eym brief an ambitman zu Wasserburgk
Date: Torgau, Samstag Thome Apostoli
Loc.: StACo LA A Nr. 9981, fol. 219r (transcribed by Hambrecht 1987, 85)

(154) 1527
Ausgab maler arbéytt.
1 fl 9 gr 2 d Hanßen dem hoff-maler zu farb zu m g h arbéytt inhalts seiner zettel,
4 fl 9 gr abernals Hansen Maler zu farb inhalts seiner zettel,
2 fl 2 gr 8 d Eustachius Maler, nemlich 1 fl 5 gr von 26 landskniehenten zumahalen vor jd. 1 gr, 6 gr 8 d von 8 reuterleyn unnd 12 gr für 6 stecher, von jd. 2 gr uff befelh des marschalks

sontags Judica [7 April 1527] lauths seiner zett[el], soch gemelde ist auß der cantzlei den amptleuten und andren zugeschenkt, darnach so sich in die farb gebracht,
2 fl 3 gr 10 d Frantzen Maler zu Torgau von 55 parschand von ider 10 d lauths seiner zettel,
12 gr 2 d fur Arynolts ostinbatirn, safftgrun gnug alaun meyster Hansen inhalts seiner zettel,
5 fl Brostg Sollparrth [Ambrosius Silberbart?] hat 5 wochen meyster Hansen helfen mahlen,
4 fl 2 gesellen haben iglicher 14 tag helffn mahlen,
9 gr fur ohl, hat meyster Hans zu Lertt. holen lassen inclusis 5 gr potlohn danach;
8 fl Frantzen Maler hadt 5 wochen meyster Hansen helfen arbetyen unnnd sein haws, kolen fewer und anders dazu geliben, inhalts seiner zettel uff befelh des marschalks,
15 gr erst[mals] wir zu Liptzik hat meyster Hans ein zeyt lang helpfen mahlen uf befelh des marschalks,
2 fl 6 gr Hansen dem hoff maler fur 3 lb Firnis, 8 lb menich, 1 buch silber, 2 lb pley vergs [?] unnd 1 lb spangrun unost erkauft,
2fl 9 gr fur 6 gruter gitter für die fenster [...] 13 fl 13 gr meister Lucas Maler zu Wittenberg von etlicher arbet laut seiner zettel, inleichen 3 fl 3 gr vor 1 stucken, farbe und anderes.
169 fl 1 gr Meyster Lucas fur volgende stuck auf befelh des fursten zahlt, nemlich 36 fl für die 2 großen tücher uffm salh in der hofstuben,
17 fl 1 gr für 240 ellen leymat, 11 ellen fur 1½ gr, Lat. 196 fl 7 gr
8 fl für die umhenge umb die grossen tücher, da verguldt knop anhangen,
40 fl für 20 menner mit den langen helsßen uff die mummerei,
30 fl für 30 affen,
3 fl für 3 schwarzskopff,
20 fl für 2 renndeken,
5 fl für 1 stotzdek,
10 fl für dg. [dergleichen?] 7 helm zaichen.
16 fl maister Hansen meyster 3 maler zu mennich, berckgrun inhalts seiner zettel uff befelh [...] Ritel[s?] zalt Summa maler arbeit 217 fl 5 gr 4 d
Date: Torgau, Register über die heymfardt anno domini 1527; Statement of accounts drawn up by Bernhard Sol for expenses on behalf of “des jungen Herrn” Johann Friedrich, Duke of Saxony

1528
(155) 1528
3 fl 30 gr Lucas Kranach von dem thore zu mahlen und die schrifft zu vorgulden.
(156) 1528
8 gr Lucas Cranach in der apoteken des jhar uber von sigelwachss und materialia zur tinten hat der stadtschreiber holen lassen.

Date: Wittenberg, 1528
Loc.: StAWB Kämmerrechnungen 1528, fol. 233r (cf. Schade, 1974, 414, no. 252)

(157) 1528
2 f 37 gr 1 d Lucas Cranach von etzlich holtz und wergkstucken geben, welche zum baue des rathauses, auch ein teyyl zum baue der schirren kammen, und yhme bisher unbezalit blieben, seind yhme dis jhar allererst endtrichtet.
24 gr 1 d Steffan Tischer gegeben von etlichen hacken büchsen wyder zcu fassen und ladestecken und stopfel zcu machen und sonst die buchsen wyder anzurichten, gegeben.

Date: Wittenberg, 1528
Loc.: StAWB Kämmerrechnungen, fol. 235v (cf. Eschenhagen 1927, 100; Schade 1974, 414, no. 252)

1529
(158) 1529 August 2
An Lucassen Molern zu Wittenberg. Lieber getrawer.
Wir haben dier ungeferlich vor dreyen jaren befolen, uns die hochgeborne fürstinne, frawe Katherina, hertzogin zu Sachsen etc., geborne hertzogin von Mecklenburg etc., unsere freuntliche liebe gemahl, abzucontrafeitten etc., welche contrafectur wir bisher nach nit gesehen adder bekommen: begeren derhalben, das du uns solch gemelt contrafeitbilde (woe es nit albereidt gemolet), dweile du die besoldung albereidt dorauf entpfangen,[...] vorfertigest und uns fordernlich kegenn Freiberg [...] schiciest.

Date: Dresden, 1529, August 2
Loc.: SHStAD Cop. 95, fol. 165v, Duke Heinrich of Saxony writing to Lucas Cranach (transcribed by Distel, 1888, 515; Lindau 1883, 233; Schade 1974, 435, no. 262)

1530
(159) 1530 May 19–June 24
6 gr trangkgelt des malers knechten, do sie m. g. jungen h. ein gemalct tuch nemlich genealogiam des hausses zw Sachssen etc. bracht

Date: Wittenberg, Donnerstag nach Cantate bis Freitag Johannis Baptiste
Loc.: STACo LA A Nr. 10036, fol. 11v (transcribed by Hambrecht 1987, 86)

(160) 1530 November 19
2 gr fur 1 tafel zu einem gemelte ide

Date: Torgau, Sonnabend Elizabet
Loc.: STACo LA A Nr. 10004, fol. 131v

1530/1532
(161) 1530/1532
21 gr Lucassen Maler zu Wittenberg von einer newen Fennigk zuschnitzen und zumahlen, ist auff der Lowischen Hard am Torgische und Zulstorffische Wege angeschlagen, wie dan hivor auch aldo eine gewest. 30 gr Eustachius Maler zu Torgau von einem newen sper zum seiger zumhalen gegeben.

Date: Lochau, Walpurgis 1530 bis 1532

1531
(162) 1531 February 8

Date: Torgau, Mittwoch nach Dorothee 1531

(163) 1531 May 28/29
3 gulden 15 gr hatd meister Laux Maler von Wittenberg in gescheift m. gt. h. außgeben, 6 gr botlon eynen bothen, hatd eyn gemalt teffelein von Wittenberg anher getragen

Date: Torgau, Sonntag und Montag Pfingsten
Loc.: STACo LA A Nr. 10011, fol. 196 – also: Nr. 10015, fol. 206r (transcribed by Hambrecht 1987, 86)

(164) 1531 November 19
13 f 18 gr Lucas Maler flurh arbeit, ßo er am tuech und umbhengen, oben an der decke, in der fladem stuben gethan laut seiner uberantwortung vortzeichniß inhalten, inclusis 2 f 48 gr flur 90 ellen leymat, zweedcke und umbhengen, dest seindt 16 ellen yede zu 2 gr unnd 24 ellen yedezu 1½ gr erkaufft worden, obgemelte summa geldis ist dem maler uff m. g.hern bevehl gegeben worden laut des bevehlbrieffes.

Date: Wittenberg, Walpurgis bis Elizabeth 1531
425

1531/1532
(165) 1531/1532
40 gr Lucas Maler von den zehn laternen zw fyrrnissen, blaw, weiß, leyfarbe und grün angestrichen, von einer 4 gr laut seiner hantschrift.
Date: Wittenberg, Walpurgis 1531 bis Walpurgis 1532
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 2795, fol. 68v, also Reg. Bb. 2796, fol. 107r, Jahrrechnung Valtin Forster

(166) 1531/1532
22 gr 6 d Lucas Maler vom hirschgewey in der schosserey und den ketten, doran es hangt in öhll farbe, gestossen und von m. g.te hern wappen uff ein schilt zu malen, inclusis 1½ gr vom schild zu schmieden laut einer vorzeichnung.
Date: Wittenberg, Walpurgis 1531 bis Walpurgis 1532

1532
(167) 1532 February 14
2 gulden 17 gr vor ½ buch feingolt, 1 buch silber, fi rnis und oel zu m.gst. hern schlitten Lucas Maler zcalt; 3 gulden idem vor ein gros wapen, ist dem wirthe zu Northaußen geschickt wurden
Date: Torgau, Mittwoch nach Estomihi
Loc.: StACo LA A Nr. 10026, fol. 122r (transcribed by Hambrecht 1987, 87)

(168) 1532 September around 29
Aufgabe uf churf[urstlichen] bevelh [...] 21 gulden 17½ gr Lucas Maler zu Wittenberg inhalt eyner vorzeichnuus
Date: Leipzig, Michaelsmarkt
Loc.: StACo LA A Nr. 10028, fol. 47v (transcribed by Hambrecht 1987, 87)

1532/1533
(169) 1532/1533
20 ß 9 gr 9d von des landvogits frauentzimerstuben und kamern zu machen [...] nhemlichen:
 [...] darunter auch Cranachs Arbeiten
4 ß 1½ gr vordingt gelt Lucas Malern, der lantvogt mith ime, umb so hoch selbst das gedinge gemacht, von der stuben und von den wenden oben bey den fenstern zumalen und von einem hirschgewey in die stuben hangende.
Date: Wittenberg, Jarrechnung Wolffen Schifferdeckers Walpurgis 1532 bis Walpurgis 1533

(170) 1532/1535
Veitenstisch zum boden der hertzogen stuben und kammer.
Veitenstisch zum boden in der grossen stuben des frauenzimmers.
Ambrosius Tisch stuben und kammerboden, jungfrauenstube, kammer gang.
23 ß Veit Tisch zum sal boden.
Heinrich Winch thurmstube.
42 ß Clemen Zimmermann im thurm zu decken.
Hans Katzmann salstuben und bänke daselbst.
2 ß zum gerüst der maler in der salstuben.
2 ß nögel dem Zeugmeister daran er die harnisch hengkt.
Thebus Lehmann haussmannsthiuren.
Bürtius Lubelin zum tafeln unter dem tach.
Ambrosius Ticher zum tafeln uff die andern seiten.
Burkardt Kirfelder rahmen anzuschlagen.
Meister Clemen die trepren.
2 ß den malern zu den tüchern (nägel nämlich).
1 ß den malern zu den tüchern.
Lienhart Tischer zum decken über d. cantzlei, zu bänken.
Heinrich Winter zum boden und bank in der salthurn stuben.
Einnahme von verzynnte nägel zum kupferdache von Jacob Kolmer Nagelschmiud [...].
10 bildhauer eysen werden bezogen.
1 lang eyssen meister Cunz zu dem werkstücken,
4 den bildhauer.
13 stück leinwand zu den tüchern [...].
Date: 1532/1535 (?)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 283b. Nr. 1 n; Building of Schloss Torgau (transcribed by Bruck 1903, 248–249)

1533
(171) 1533 May 10
109 gulden 14 gr Lucas Malhern inhalt seiner quitantz 60 par tefflein daruff gemalt sein die bede churfursten selige und lobliche gedechtnus, sonnabents nach Jubilate
Inclus. 3 gr vor ein schrein darzu.
Date: Leipzig, Sonnabend nach Jubilate
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4361, fol. 44r (transcribed by Schuchardt 1851, I, 88; Schade 1974, 435, no. 276)

(172) 1533 August 31
Gottes gnad und frid durch christum sampt untertenige dienst in allem gehorsamst zuvor. Durchlauchtigster hochgeborner churfurst gnediger herr. Eure churfurstl. gnaden weiß ich unterteniger meinung nicht zu verhalden, daß mir meister Lucaß Cranach Maler kurz vorgangener tage umb e. churfurstl. gnaden sechzehn anhen zum gemalten tuch zur deck hie zu Altenburg aufm schloß in der gaststuben geschrieben.
Nun hab ich im die acht von e. churfurstl. gnaden hern vateren hochlöblich und selige gedecktnus namhaftig vertzezeichnet zugeschickt, neben auch antzeigung etlicher von den acht anhen e. chfstl. g. von der mutter her damit er desto furderlicher zum werck mege kommen. Was mir nun an bemelten anhen abgeet werden e. chfstl. g. in hiebey verwarten zeddel finden. Ungezweifelt e. chfstl. g. werden meiner untertengen antzeige nach wol vleis verwenden lassen, dise ding zu furderlichen ende zubringnen. Dan ich hochgedachter anhen nicht alle gehabt noch wissen zu erlangen ec.

Date: Altenburg, Sonntag nach Johanni Enthauptung

(173) 1533 September around 29
30 gulden Lucas Malhern uff etzliche arbeit die er zur Locha machen soll, welche sein son inhalt seines bekentnus entpfangen.
Date: Leipzig, Michaelismarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4371, fol. 30r (transcribed by Schuchardt 1851, I, 90; Schade 1974, 436, no. 279)

(174) 1533
Vors zeughaus
21 gr nd [neue Pfennige] fhur 14½ lb leinöhel, das ziehultz zum gefresse domit zutreeneck und zuschimren, das pfund zu 1½ gr dem Lucas Maler betzalt, weil ane das der zeith keins zubekomen gewesen.
Date: Wittenberg, Amt Wittenberg, Half-yearly account from Walpurgis 1533 to Elisabeth 1533

1534
(175) 1534 January 16
13 gr Mhuelsans pothen mit rendecken kegen Wittenpergk zu meister Lux [...] 1 gulden 6 gr zu lon einem kerner hat eczlich gemhel undt tefelein nach Freibergk herzog Heinrich bracht
Date: Altenburg, Freitag nach Felicis
Loc.: StACo LA A Nr. 10047, fol. 65r (transcribed by Hambrecht 1987, 88)

(176) 1534 February 21
77 gulden 7 gr Lux Mahlers von Wittenpergk fur die mommercy lauth einer czedel
Date: Altenburg, Samstag nach Estomihi
Loc.: StACo LA A Nr. 10047, fol. 151v (transcribed by Hambrecht 1987, 88)

(177) 1534 August 6
5 gr potenlon Lux Mahlers sohn nach Wittenpergk ausgegeben
Date: Torgau, Donnerstag nach Vincula Petri
Loc.: StACo LA A Nr. 10052, fol. 177v (transcribed by Hambrecht 1987, 89)

(178) 1534 August 19
6 gr zu lon Sommer, hat farbe von Wittenpergk anher getragen
Date: Torgau, Mittwoch nach Assumptionis Marie
Loc.: StACo LA A Nr. 10052, fol. 214v (transcribed by Hambrecht 1987, 89)

(179) 1534 September around 29
150 gulden meister Lucas Malhern zu Wittenberg auff etzliche arbeit geben. Inhalt einer zeteln im confluft uff bevehel die sich auff 176 fl 6 gr erstrecken thu, Solch gelt hat sein son inhalt seines bekentnus entpfangen, und das ime die sma nicht vollig entrichet ist die ursache das an derselben zeteln solle etwas abkurzt werden. Nachdem meinen gnedigsten hern bedunckt das die arbeit zu hoch angeschlagen.
Date: Leipzig, Michaelismarkt
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 92; Schade 1974, 436, no. 287)

(180) 1534
84 gulden 16 gr meister Lucas Cranach dem malher zu Wittenberg vor etlich gemelhe inhalt seiner zeteln.
Date: 1534
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 93; Schade 1974, 436, no. 290)

1535
(181) 1535 January 8
2 gulden 15 gr zu lon Anders Hecht von Wittenpergk auf 1 pfertd 10 tage eine taffel von Lucas Mahlers anher gefert; 1 gr 4 d losung auf 2 nacht idem
Date: Weimar, Freitag nach Circumcisionis Domini
Loc.: StACo LA A Nr. 10053, fol. 28r (transcribed by Hambrecht 1987, 89)

(182) 1535 March 22
1 gulden 4 gr potenlon undt tranckgelt Joachim Kalzisch eczliche gemalte tucher von Wittenbergk von Lux Mahler anher getragen
Date: Weimar, Montag nach Palmarum
Loc.: StACo LA A Nr. 10058, fol. 78v (transcribed by Hambrecht 1987, 89)

(183) 1535 June 27
Meister Lucas Maler hat noch nit angefangen das haus im gartenn gruine zu ferben. Unnd nachdem die gruine farbe


Date: Torgau, Montag nach Johannis Baptiste Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 286a Nr. 1 s., fol. 22 r, 22 v; Extract from report by Hans von Pack, kursächsischer Amtmann zu Torgau, to Elector Johann Friedrich of Saxony

(185) 1535 June 30 Der amtmann bericht, das meister Lucas Maler ankommen unnd welcher gestalt er die wende im neuen creuzgange anzustreichen bedacht.

Date: Torgau, Mittwoch nach Johannis

Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 287;

Building of Schloss Torgau (transcribed by Bruck 1903, 253)


Date: Weimar, Donnerstag nach Petri und Pauli Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 286a Nr. 1 s., fol. 25 r; Extract from instructions from Elector Johann Friedrich to his Amtmann Hans von Pack in Torgau concerning the building of Schloss Torgau (cf. Schuchardt 1851, I, 94; Schade 1974, 437, no. 294)


(188) 1535 September 5
28 gulden meister Lucas Maler uff Rechnung. Ist selb 45 fl.
Date: Torgau, Sonntag nach Egidii
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 286a Nr. 1 s, fol. 31v; Statement of account for work carried out in the course of the building of Schloss Torgau. According the invoice, Lucas Cranach is supposed to receive 28 gulden. The money due to him is shown under several items, marked 'vorrat' (stock). It has not as yet been paid. However, Cranach's bill at the time amounted to 45 gulden.

(189) 1535 September 11
Item überschickt etzliche contrafect, so der tischer in holz geschnitten und ferner in silber gegossen [...] [In the report Hans von Pack writes that a carpenter had carved the portrait of Elector Johann Friedrich in wood and subsequently cast it in silver. The man received 30 taler to do this and was required to reproduce the portrait 11 times. There was also a commission to cast a portrait of the daughter of the King of Poland as well as one of the Margrave of Brandenburg in silver.
A bill from the Bauschreiber in Torgau is enclosed with the report. The carpenter, who was from Halle, accordingly received 30 taler. From this he cast '11 large groschen', in other words portrait medallions. Each one weighed 5 lot, the portrait of the Margrave of Brandenburg 2 lot in silver weight. The craftsman was paid 3 gr for each lot of silver processed.]

(190) 1535 October 18
3 gr 4 d potenlon Hans Schadalat mit des tapestrimeisters brief gegen Wittenpergk zu Lux Maler
Date: Torgau, Montag nach Galli
Loc.: StACo LA A Nr. 10062, fol. 66r (transcribed by Hambrecht 1987, 90)

(191) 1535 December 7 and 26
Betreffende die fenster, so auf dem sal, salstuben und frauenzummern mit mosirten scheiben besetzt sollen werden und das die scheiben so wir zu Torgau lassen nit reichen wollen. Begen wir du wollest Lucassen Maler derselben ein muster abreissen undn die scheiben darnach machen lassen.
Date: Torgau, (?)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 284a, Nr. 1 r, fol. 20r, 25r, 25v (transcribed by Schuchardt 1851, I, 93; Schade 1974, 437, no. 298)

(192) 1535
Die große salstube wie ichs ansehe sol mit dem gemelde fast in 14 tagen fertig werden.
Date: Torgau, (?)
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 95)

(193) 1535
Date: Neujahrsrechnung
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 95)

1535/1536
(194) 1535 August 13–1536 January 3
Kost und lohn und schlaftrunk, nemlich 1 fl Hans Abel, ½ fl Frantz Zubereiter, ½ fl Lucas Mercker, ½ fl Hans Steter, ½ fl Jobst Steter, ½ fl Paulus Steter (lahon), 4½ fl die kost vor jede person, 10½ gr seine person, 12 gr schlaftrunk von der person 16 d.
197 fl 9 gr uf 11 person 16 Wochen von Assumptionis Marie bis uf Nicolai [15 August – 6 December 1535] ist im wochentlich 12 fl 15 gr zu kost und lohn gangen, nemlichen lat. 206 fl
5½ fl kost, 6½ fl lohn, 15 gr schlaftrunk […] woch. Dorunder zwen iglichen ein wochen 1½ fl zu lohn. Einem 1 fl.
Die anderen zu 8 fl, dorunder einer so 1½ fl die wochen zu lohn gehabt, 3 wochen nicht gearbeit, farb, kost, lhon, schlaftrunk 6 fl 5 gr 4 d.
Nemlichen 4½ fl kost, 5 fl lhon für ein woch 12 gr schlaftrunk. sechß person haben lhon entpf[angen], dorunder sein zwen son iglichen 1½ fl, die andern iglichen ½ fl. Meister Lucas sampt zwen lehr knaben haben nicht lohn entpfangen.
Lat: 40 fl 6 gr.
Date: Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1 u, fol. 141v, 142r (cf. Schuchardt 1871; 266–267; Schade 1974, 437, no. 296)

(195) 1535/1536 October 18–January 3
21 fl Ambrosio Silberbart uf 21 wuchen, ein zabureiter hat sich selbst bekostiget, igliche wochen 1 fl.
1 fl 11 gr 7 d vor licht geben, ehe die licht arbeit angangen vor
sant Lucas tag [18 October 1535].
15 fl 12 gr 3 d vor liecht geben von sant Lucas biß ufs nau jhar [3 January 1536], 11 wochen.
10 fl 7 gr für 29 föder holtz zuprennen.
Farbe.
57 fl vor 38 lb plaw, ides lb vor ½ fl zu der salstuben.
21½ fl vor 43 lb gering blaw, das sie zum ersten haben angestrichen.
Lat. 126 fl 20 gr 4 d.
66 fl vor 44 lb blaw, das ganz hauß außwendig und inwendig und die tucher anzustreichen.
10 fl 6 gr für 12 lb plaw zu der hofstüben.
20 fl für 30 lb lack. Aber leipfarb zu der großen stüben und allenthalben.
14 fl für 14 lb schiefer grün.
4½ fl für 18 lb bergk grün.
3 fl für 30 lb pleygel.
9 fl für 9 lb indisch weit blumen.
2 fl für ½ centner ocker gel.
3 fl für 7 lb zcynober.
1 fl gulden für 1 lb guten fi ernus.
6 fl gulden für 24 lb gemein fi ernus.
3 fl 6 gr für 60 lb leinöl.
2 fl für 40 lb mennig.
4 fl für 28 lb bleyweiß.
Lat. 148 fl 1 gr 6 d
Dat. Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 143r (cf. Schuchardt 1871, 267–268.)

1536
(196) 1536 January 8
Aufgabe maler arbeit
1 gulden 5 gr meister Lucas Maler von dem grossn messen bild außzupoliren
1gr davon zutragen

(197) 1536 May 14
30 fl meister Lucas Cranach von den den drei speren am haufmans thurm zumalen und vorgülden.
49 fl 3 gr idem von 86 knauf auf die gibell zumalen und vorgülden, von iglichen 12 gr
4 fl idem von dem grossen knauf ufs haufmans thurm zuvorgülden, solch gold ist alles sein gewesen.
204 fl 51 buch feingolt von Leipczk geholt bey Wofflin Brennsdorff und Caspar Goltshalen. Jedes buch vor 4 fl, solch goldt hat meister Lucas zu den stuben und rosen auch am steinwegk so vorgüldet vorpraucht, laut seiner übergiben zeudeln.
Summa lateris 287 fl 3 gr.
Date: Torgau, Cantate
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 141r. (cf. Schuchardt 1871, 265–266; Scheidig 1953, 170, no. 48; Schade 1974, 437, no. 300)

(198) 1536 October 1
20 gr meister Lucas für 2 lb plaw dem tüncher zu den bencken in der stuben des gefirten thurm darin die genealogie stehet.
3 gr idem für 1 lb pleigel den tunchern obin im gefirten thurm.
2 gr 8 d für 2 lb mennige.
10½ gr idem für ½ lb schon plaw dem tischer zu den bencken.
Summa lat. 7 fl 2 gr 9 d.
Date: Torgau, Sonntag nach Michaelis
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 146r (cf. Schuchardt 1871, 272)

(199) 1536 October 22
20 gulden meister Lucas Cranach von wegen meister Caspar von der kamer im gefirten thurm zumalen.
Date: Torgau, Sonntag nach Galli
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 146v (cf. Schuchardt 1871, 272)

(200) 1536 October 29
15 gr 9 d Ambrosius Silberbart ein wochen zu lhon, um knauf zuvorgulden uf den rundten thurm.
5 gr idem 2 tag an den stuben zumalen, befel meister Cuntz.
2 fl 2 gr für ein halb buch gold, das sein gewesen doran ich ihm wider von gold eines buchs so mir meister Lucas gesant und ich ihm noch schuldig 40 gr werth vorgnugen sal.
Date: Torgau, Sonntag nach Simonis et Judae
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 146v (cf. Schuchardt 1871, 272)

(201) 1536 November 26
2 gr idem von dem knauf zuvorgulden auf dem klein wendelstein.
Summa lateris 23 fl 3 gr 9 d.
Date: Torgau, Sonntag nach Catharine
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 146v (cf. Schuchardt 1871, 272)

(202) 1536 December 16
30 gr Ambrosius Silberbart für das ubrig golt zu den vier
knauffen uff den rundten thurm, darzu er gehapt ein buch und 4 plat, ist meister Lucas gewest fur 54 gr, das ander hat er darau addirt.

Date: Torgau, Sontag nach Lucie
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 147r (cf. Schuchardt 1871, 272–273)

(203) 1536

Date: Wittenberg, 1536
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 95; Schade 1974, 437, no. 304)

(204) 1536
5 fl für 40 lb kesselpraun.
2 fl für 2½ centner creiden.
17½ fl für 2½ centner leyrm.
1 fl 9 gr für 1 butten vol carlof rham.
15½ fl vor 700 rosen und flammen zu drücken zu Wittenbergk von Obßwalt Schnitzer uf papir. 3 fl von 70 rosen zuvorgulden gen Grym [Grimma?] geschickt worden alda zuvorgulden.
12 gr von den rosen gen Grim und herwider zutragen.
16 gr für nagel domit man die rosen haben aufgeschlagen.
20 gr für 3 scheffel mel, die tücher domit zustercken.
1 fl 14 gr von 150 tücher zu nehmen.
16 gr für die holzte tafel doruf das evangelium von der ehebrecherin gemalt zu Wittenbergk gemacht.

Lat. 49 fl 3 gr.

Date: Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 143v (cf. Schuchardt 1871, 268–269)

(205) 1536
Maler.
2 fl 18 gr von drey fuhrn gen Wittenburgk die ihm zeug geholet.
1 fl 9 gr für 5 bothen lhon gen Leipczk die im golt und farb geholet.
1 fl 9 gr für 6 bothen lhon ghen Wittenburg die im zeug holeten.
18 gr fur lhon von Grim haben meister Caspar und sein schwager anher gefurt.
16 gr vor die tafel und das futter zumachen, doruf der Lazarus gemalt.
6 fl 15 gr 9 d meister Lucas selb 9 zu kost 1½ wochen vom naunen iahr biß uf den dornstag nach trium regum
10½ fl nemlich meister Lucas zwen son, zwen lehrknaben, Franz, Paul, Jobst und Mercker.
7½ fl uf sechß person die 1½ wochen zu lohn, nemlich seinen zwen son jedem ein wochen 1½ fl, die andern viern jden 1 woch 10½ gr.

Lat. 21 fl 12 gr 3 d.

Date: Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 144r (cf. Schuchardt 1871, 270–271)

(206) 1536
18 gr uf die 9 person slafranck, von der person 16 d.
1½ gulden ist auf dem Silberbart zu cost und lhon gangen die 1½ wochen.
1 fl 8 gr für 4 fuder holtz.
1 fl 5 gr 11 d fur 19 lb licht.
37½ fl auf 6 perfson 5½ wochen zu lhon gangen lauts seiner zedeln vom dornstag nach trium regium biß uf den dornstag nach Esto michi [13 February – 2 March 1536].
4½ fl Steffan Maler 4v wochen, die wochen 1 fl.
5 fl 5 gr 3 d meister Caspar von Grim 3½ wochen, die wochen 1½ fl.
2 fl 5 gr 3 d dem Alexander 4½ wochen, die wochen ½ fl.
6 fl Frantz Malern für betgeldt 31 wochen.
10 fl vor die zwo tafeln in der salstuben Marie bild und Lucretia hat er zu Wittenbergk gemacht. Lat. 70 fl 10 gr 11 d.

Date: Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 144v (cf. Schuchardt 1871, 270)

(207) 1536
Farbe.
36 fl für 9 buch feingoldt, jedes vor 4 gulden.
4 fl 4 gr 3 d für 3 stein leyrm, den centner vor 7 fl
1 fl 13 gr fur leymledder vom weißgerber erkauft.
16 gr fur mennig.
22½ fl fur 15 lb das best blaw, 1 lb fur 1½ fl.
12 fl fur 12 lb blaw, 1 lb vor 1 fl.
12½ fl für 25 lb blaw, das man zum ersten hat angestrichen.
1½ fl für 1½ lb indich.
2½ fl für 10 lb bergk grün.
4 fl für 4 lb schifergrün.
2 fl für 4½ lb zinober.
6 fl für 8 lb lack.
1 fl für 10 lb pleygel.
2 fl für 14 lb bleweiß.
1½ fl für 10½ lb kesselpraun.
Lat. 110 fl 1 gr 9 d.

Date: Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 145r (cf. Schuchardt 1871, 270–271)

(208) 1536
18 gr fur 6 stein kreyden.
8 gr fur 12 lb ockergel.
12 gr fur 3 lb aderwergk.
15 gr fur die son in hertzog Heinrichs kamer.
16 gr fur den rundten bogen der außwendig über der salstuben stehn.
19 gr davon her zufüren.
2 fl 12 gr fur 36 eln ulmer leynwath, ein eln fur 1½ gr, doruff Cristus und der babst gemalet in die salstuben.
14 gr dem tischer von denselben leisten darauf die tuch gezogen sind.
1 fl 18 gr fur 26 eln leinwath, doruf die 26 wappen in der geweyhe stuben gemetalet.
26 gr dem tischer vor denselben leisten zumachen.
15 gr fur klein und grosse negel.

Date: Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 145v (cf. Schuchardt 1871, 271)

1536/1537

Summarum maler arbeyt macht 1107 fl 14 gr 3 d
Date: Torgau, 1536
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 147v (cf. Schuchardt 1871, 273)

1537

(211) 1537 January 13
3 fl 7 gr Ambrosio Silberbart für 250 blat golt zuverben mit seiner farb.
1 fl 6 gr idem von den zwen wappen an den kamer wagen auß zu treiben.
Summa lateris 6 fl 2 gr.

Date: Torgau, Sonntag nach Ehrhardi
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288a, Nr. 1u, fol. 147v (cf. Schuchardt 1871, 273)

(212) 1537 March 11
Außgab maler arbeytt 1537.
6 gr Eustachius Maler von der thur im offen gang zu mahlen.

Date: Torgau, Letare.
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288b Nr. 1x, fol. 136r (cf. Schuchardt 1851, I, 273)

(213) 1537 April 22
4 fl Hansen Cranach for ein buch feingoldt, ist komen zu den kneuffen des rondten thurm.
4 gr Ambrosio Silberbart von dem trachenkopf zuvorgulden ober dem offen gang.
2 idem von dem tuch im rundten thurm wieder gehollten anzuschlaen.
1 fl 15 gr 9 d Hansen Cranach für 1 lb 3 virtel blaw, den tischern zu den bencken.

Date: Torgau, Jubilate.

(214) 1537 September 16
10 gr Ambrosio Silberbart von dem trachenkopf zuvorgulden und die rynnen zumalen von seinem gold und farb. Summa lat. 6 fl 16 gr 9 d.

Date: Torgau, Sonntag nach Crucis.
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288b No 1x, fol. 136r (cf. Schuchardt 1851, I, 274)

(215) 1537 October 30
18 fl 1 gr meister Lucas dem maler zu Wittenberg für eine tafel der historienn von sant Johannes dem Touffer und sunste etzlicher arbeit, inhalts seiner handschrift, zahlt zu Torgau dinstags nach Simonis und Jude.

Date: Torgau, Dienstag nach Simon und Jude (Capital der churf. Einnahme [...]) Sonntags Trinitatis 1537 – Trinitatis 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4428, fol. 15r (cf. Schuchardt 1851, I, 121; Schade 1974, 437, no. 307)

(216) 1537 October 11
2 gr dem Silberbart vor den rynnen so erlengt worden wider zuverben mit seiner farb.

Date: Sonntag nach Crispini
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288b Nr. 1x, fol. 136v (cf. Schuchardt 1851, I, 274)

(217) 1537 November 11
5 gr idem von dreien sticken rynnen grun anzustreichen so erlengt worden.

Lat. 7 gr
Summa summarum farb 7 fl 2 gr 9 d.

Date: Torgau, Sonntag Martini.
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 288b Nr. 1x, 136v (cf. Schuchardt 1851, I, 274)

431
Ausgab maler arbeytt. 1538.
Misericordia domini [5 May 1538?]
25 fl Frantzen zubereiter und Hanßen Rentz maler haben von Ostern an des 36 ten jhar [16 April 1536] biß uf Burckardi [14 October 1536], macht 25 wochen, aufsm saal angefangen und am Wendelstein sonst ein und wider gearbeit, iglichen ein wochen ½ fl. 31½ fl Hansen Kranach, meister Lucas sohn, hat 21 wochen gearbeit, die wochen 1½ fl.
3 fl Steffan Maler von Wittenberg 3 wochen gearbeit.
Summa lat. 77 fl 17 gr 6 d

Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1z, fol. 151v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 275–276)

1½ fl meister Oßwalt hat auch 3 wochen gearbeit. 1½ fl für ockergel. 5 fl für 5 lb waiplaw. 2½ fl für 21½ lb bleygel.
3 fl für 12 lb kesselpraun. 14 fl 7½ gr fur 19 lb lack, 1 lb fur 3 ort. 78 fl fur 52 lb schon plaw, 1 lb fur 1½ fl. 38 fl fur 76 lb plaw, das man zum ersten anstreich.

1 fl 9 gr für zwen centner kreiden. 3 fl 10 gr für 55 lb leynoe, 1 lb für 16 d. 3½ fl für 18 lb firmus. 2½ fl für 53 lb minnige. 4 gr fur polermennig zum gold. 13 gr fur 26 kan kyn ruß. 1 fl 2 gr fur farb tigel und tofp. 1 fl 3½ gr fur borsten und fuchsschwentz, pensel daraufzumachen.
Lat. farb 156 fl 7 gr.
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 289 z, fol. 152v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 276)
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 12, fol. 153r; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 277)

(223) 1536 (Invoice of 1538)
18 gr furlon meister Lucas anher gefurt, alda m. gn. h. im angegeben, was er vor Pfingsten machen solt [4 June 1536], 3 tag bald darnach.
2 gr 8 d losung, zwo nacht uf ein pferd 8 d.
12 gr furlon, die baide kaiser Otto und Sigmunde anher gen Torgaw von Wittenburgk zufuren.
16 d losung uf 2 pferd.
12 gr furlon meister Lucas gesellen, nachdem der sal fertig, wider heim zufuren, abwesens unsers gn. h.
16 d losung 1 nacht.
12 gr furlon hat meister Bastian, der die kamer m. g. jungen freulin zu Pommern etc. gemalet mit einem knaben anher zufuren.
16 d losung 1 nacht.
18 gr furlon 3 tag, die woche nach Margarete [13 July].
2 gr 8 d losung.
Summa lateris facit 3 fl. 18 gr 4 d.

Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1 z, fol. 153v (cf. Schuchardt 1871, 277–278)

(224) 1536 (Invoice of 1538)
12 gr furlon meister Lucas son Lucas hat den stammen anher gebracht.
16 d losung.
12 gr furlon, hat meister Lucas sampt seinen gesellen wider heimgefurt, Burckardk [14 October 1536].
18 gr drey bothen lhon gen Leipzig hat gold geholet.
7½ 13 gr schlafgeldt uf ein nacht ein person, 2 d von Ostern biß uf Burckhardk inclusis meister Bastian und sein knab.
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 12, fol. 154r; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 278)

1537 (Invoice of 1538)
(225) 1537 (Invoice of 1538)
Volget, was meister Lucas gemalet hat in dem 37sten jhar.
35 fl 15 gr fur das tuch an der decke der spigelstuben, an 30 guldengroschen zu 25 gr.
5 fl fur die leynwat zu der deck.
2 fl fur 8 rham, darauf dasselb tuch gemalet.
Summa lat. facit 52 fl 8 gr 4 d.
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 12, fol. 154v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 278)

1537 (Invoice of 1538)
(226) 1537 (Invoice of 1538)
5 fl 17½ gr fur das goldt oben herumb in der spigelstuben.
4 fl ist uf Pauel Ryf, Hans Rentz und Bartel Maler, gesellen gangen drei wochen lang, nemlich zweien gesellen, idem ½ fl 1 wochen und dem knaben 7 gr.
1 fl 3 gr meister Lucas ist 4 tag ahier gewesen mit zweien pferden, furlon als er dieselbigen tucher gebracht.
5 fl 4 d losung 3 nacht.
Rondte stuben gegen der elb.
36 fl fur das brustgetefel, 18 stuck ihe ein stuck fur 2 fl, daran sind die fursten contrafet.
12 fl fur 12 tafeln, auch zum brusttelfel.
3 fl fur die aussen und inwendig.
54 fl fur 36 fursten mit ihrer oberschrift von iglichem 1½ fl.
Summa lateris 116 fl 4 gr [ auch 5 möglich, weil über 4 Bögen 5 Punkte] 10 d
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 12, fol. 154v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 278–279)

(227) 1537 (Invoice of 1538)
9½ gr der furhman vorzehrt, der das brustgetefel anher gefurt.
10 fl 15gr 9 d fur 2 stuck Ulmer goltzsch, darauf die fursten gemalet.
20 fl für dieselbigen deck zu malen, waren 24 rhamen.
4 fl 12 gr fur dieselben rhamen, dem tischer hat das holtz zu Wittenburgk darzu geben.
9 fl 13 gr [aber 41 -Punkte] 1 d 1 h fur zwey stuck leynwat zu der decken.
6 fl fur 4 buch zwißgoldt zu dem brusttelfel in die kalaunen.
1½ 15 gr fur die grossen rosen in dieselben stuben an der deck.
2 fl 18 gr fur die klein rosen zu Wittenburgk gar auß gemacht zuvorgulden.
26 fl sind uf 5 gesellen gangen, 9 wochen, Pauel, Hans, Jobst, Marx und Silberbart, einem jeden ½ fl und von dem knaben 7 gr, hat als vil gethan als ein gesel.
Summa lateris facit 81 fl 8 gr 10 d 1 h
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 12, fol. 155r; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 279)

(228) 1537 (Invoice of 1538)
2 fl 16½ gr schlafgeldt, die 9 wochen von jeder person 2 d.
6 fl meister Lucas sohn Lucas vier wochen zu lhon, jede woche ½ fl.
Item, was fur zeugk darauf gangen:
4½ 8 gr fur 3 stein leym, 1 stein fur 1 fl 9 gr .
15 fl 15 gr d fur 10½ lb schon blaw, 1 lb fur ½ fl.
4½ fl fur 9 lb blaw zum ersten mit anzustreichen.
(229) 1537 (Invoice of 1538)
1½ gulden für 1½ lb grünsaft.
3 fl für 9 lb bergkgrün.
5 fl für 5 lb schifergrün.
1½ fl für 2 lb lack.
1½ fl für 4 lb firnus.
8 gr für ocker gel.
1½ fl für fegschwentz, borsten zu pinseln und farbtigel topfen.
1½ fl fur 4½ lb grünsaft.
5 fl fur 9 lb bergkgrün.
2½ fl Jacob Abel 5 wochen.
2 fl 9 gr dem Silberbart geben von den rosen klein und groß bey seiner kost zuvorgulden in hertzig Georgen stuben.
Summa lateris facit 41 fl 5 gr 9 d
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 12, fol. 155v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 279–280)

(230) 1537 (Invoice of 1538)
1 fl 7 gr fur 4 lb grünsaft.
2 fl für 2 lb waitplaw.
1½ fl für 6 lb kesselbraun.
18 gr für 6 lb bleyweyß.
Summa lateris facit 41 fl 5 gr 9 d
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 12, fol. 155v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 279–280)

(231) 1537 (Invoice of 1538)
Zu Wittenberge gemacht in hertzig Georgen stuben.
20 fl für die selben tucher an die decke, sind 20 rahm gewesen.
9 fl 10 gr für zwen baln leywat Luckisch, 1 stuck für 4½ fl 5 gr in hertzig Georg stuben.
Item was den summer uf Katharine [until 25 November 1537] vorguldet, knopf, rosen klein und groß, in das klein stublein und allenthalben.
87 fl 7 gr fur 21 buch feingoldt und 250 blat.
Nemlichen:
6 fl 13 gr fur 4½ lb schon plaw.
4 fl für 8 lb blaw, das man erstlich anstreicht.
2 fl 6 gr fur 1 stein 13 lb leym.
Lat. 129 fl 15 gr.
Date: 1538

(232) 1537 (Invoice of 1538)
2 fl für 2 lb schifergrün.
1 fl für 3 lb bergkgrün.
1½ fl für 1 lb zinober.
9 gr für 14 loth indich.
7 gr für 7 lb mennich.
11 gr 2½ d für 4½ lb bleigel.
12 gr für 4 lb bleyweyß.
3 gr fl oger gel.
1½ fl für 2 kesselbraun.
7 gr für 1 lb saftragün.
2 fl 6½ d für 3 lb lack und ¼.
8 gr für ein buch gros regal papir.
1 fl 3 gr furlohn 4 tag hat meister Lucas herauf gefurt, do er die kuresser setzt und hat seine gesellen mit heym gefurt.
4 gr losung 2 pferd.
1 fl 17½ gr schlafgeld , zwen 11 wochen und zwen 5 wochen.
Summa Lat. facit 11 fl 19 gr 3 d
Date: 1538
(233) 1537 (Invoice of 1538)
49 fl 10 gr 6 d meister Oswalden zu schneiden von den zweien kurassern, 33 wochen ihe ein wochen 1fl und ½ fl. die woch in die kost.
1 fl 12 gr fur das vespertrincken, 1tag für 2 d.
11 fl 11½ gr fur das blech und macherlon vom latern macher.
15 fl davon aufzufassen.
9 fl 7 gr fur 700 plat feingoldt zum panir und schilt zuvorgulden.
1 fl 2½ gr dem cleinschmidt.
9 fl fur die zwen spieß dem tischer.
18 gr fur das vespertrincken, 1tag für 2 d.
9 fl 11½ gr fur das blech und macherlon vom latern macher.
15 fl davon auffassen.
1 fl 12 gr fur das vespertrincken, 1tag für 2 d.
11 fl 11½ gr fur das blech und macherlon vom latern macher.
15 fl davon auffassen.
9 fl fur die zwen spieß dem tischer.
18 gr fur das vespertrincken, 1tag für 2 d.
9 fl 11½ gr fur das blech und macherlon vom latern macher.
11 fl 11½ gr fur das vespertrincken, 1tag für 2 d.
10 fl fur hertzogs Moritz wappen in turnir.
Summa lat. facit 93 fl 13 gr 6 d
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1z, fol. 159v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 284–285)

(235) 1535/1538 (Invoice of 1538)
10 fl fur margraff Jorgen und sein gemahel contrafet uf tuch auff den saal zu Torgaw.
10 fl fur hertzog Ernst zu Braunschweigk und hertzog Moritz zu Sachsens.
9 fl fur die zwo grossen wappen gen Zerbst und Braunschweigk, das drit ist noch im vorrat.
3 fl für 800 wappen zudrucken, die man an die herberg schlegt.
28 fl 12 gr fur die zwo tafeln, die m. g. h. dem Kunig zu Dennemargk geschanket zu Braunsschwig, an 24 thaler.
8 fl fur 2 tucher, darauf das naw schloß zu Torgaw gemalet ist mit dem hirschgeweyhe.
16 fl 14 gr fur 28 vorgulte knopf an zwen wagen.
Summa lat. facit 91 fl 10 gr
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1z, fol. 159v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 284–285)

(237) 1535/1538 (Invoice of 1538)
3 fl 3 gr furlon zu Weynachten, da marggraf Georg hie war 11 tag mit zweien pferden.
13 gr 4 d losung 10 nacht.
18 gr furlon mit zweien pferden 3 tag nach Weinachten, hat meister Lucas 3 gesellen die leuchter ufn sal zumachen anher geschickt wart wider abgeschafft, hat er das halb wochen lohn gegeben.
1 fl 6 gr 8 d schlafgeld, aber wochen lon.
2 gr 8 d losung.
1 fl 15 gr furlon mit 2 pferden 6 tag, montag nach pauli bekerung uf her Hans von Myngkwitz hochzeit und uf den sambstag wider weg gefaren.
6 gr 8d losung.
4 gr 8 d schlafgeldt uf 6 person.
Summa lat. macht 8 fl 7 [8?] gr
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1z, fol. 160r; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 284–285)
(238) 1538
Sontag nach Mathei.
15 gr Brosio Silberbart hat dieß vorgangen wochen an der decke in der frauenzimmer gearbeit.
2½ gr idem 1 tag den sambstag vor dieser vorgangen wochen angefangen.
Sontag Michaelis.
15 gr Brosio Silberbart hat dieß vorgangen wochen an der decke gearbeit, bairdseits des frauenzimmers.
6 gr fur ½ virtel blaw.
Sontag nach Francisci.
15 gr Brosio Silberbart hat dieß vorgangen wochen an der decke gearbeit, worder und an den capellen des throns.
6 gr fur ½ virtel blaw.
Sontag nach Dionisy.
15 gr Brosio Silberbart hat dieß vorgangen wochen an der decke gearbeit.
Summa lat. facit 3 fl 5½ gr
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1z, fol. 160v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 285)

(239) 1538
Sontag nach Galli
8 gr Brosio Silberbart hat 3 tag an der columna des throns gearbeit.
4 gr fur die goltfarb.
4 gr fur blaw.
28 gr fur gold.
1½ gr fur 1 lb leynoel.
Sontags nach All heiligen
6 gr Brosio Silberbart von dem rorkasten mit blaw anzustreichen sampt dem oel fur arbeit und farb.
2 fl 3 gr idem von 15 rhamen anzustreichen umfl sal und rauenzimmer, daruf die fursten sind gekontrafet, blaw, schwarz und mit rössel an der seit en von iglichen 3 gr, befel küchenmeisters und sunder m. gn. h. durch Wenzel Stubenheisser.
Summa Lat. 4 fl 12 gr
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1z, fol. 160v; Invoice in connection with the building of Schloss Torgau (cf. Schuchardt 1871, 286)

(240) 1538
Sontag nach Martini
3 gr Brosio Silberbart für blaw farb zum captel unter dem offen gang an des haussmans thurn.
Summa lat. 3 gr
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289

(241) 1538
Summa Summarium facit 1390 fl 13 gr 1 h.
Date: 1538
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 289, Nr. 1z, fol. 161v; Invoice in connection with the building of Schloss Torgau

(242) 1538
12½ gr an ½ guldengroschen meister Lux dem maler eine form zum pfefferkuchen meine gnedigen jungen herlein bestalt
13 gr 2 d fur 2 pucher darin die historien Johann Hussen idem
Date: Torgau, Sonnabend nach Matthei
Loc.: StACo LA A Nr. 10070, fol. 153r (transcribed by Hambrecht 1987, 90)

(243) 1538
13 gr tischerarbeit von 4 ramen zu den conterfeckbilderen einzufassen gemacht Wenzel Stubenheizer empfangen
5 gr zu lon einem pothen mit des marschalgks briven nach Wittenpergk zu Lux Maler gelauffen
Date: Torgau, Sonnabend nach Matthei
Loc.: StACo LA A Nr. 10070, fol. 226r und 227r (transcribed by Hambrecht 1987, 90)

(244) 1539
11 gr 7 d nemlich von 1 lautten wyder zu machen, so die jungen herren meister Luxen verbrochen
Date: Weimar, Sonnabend nach Jubilate
Loc.: StACo LA A Nr. 10076, fol. 173r (transcribed by Hambrecht 1987, 90)

(245) 1539
209 gulden 12 gr Lucas Malhern zu Wittenberg uff muntlich ansagen Hanse von Ponikaw camerers vor eczliche arbeit so er meinem gnedigsten hern gemacht, entricht.
Nemlichen 10 gulden vor ein tuch daruf der kunig zu Dennemargk auch vor ein tuch desselben narre abconterfeiet ist.
5 gulden vor ein tuch doruff das burggrafthumb Magdeburg gemalet ist.
11 gulden 19 gr vor eine taffeln, das evangelien als man die kinder zum herren bringet.
8 gulden 6 gr vor die mummerei.
5 gulden vor den kunig aus Engeland.
10 gulden von den dreien jungen fursten abzucontrafeien.
25 gulden vor das grosse tuch daruff stehet wie man die kinder zum herren bringet.
30 gulden vor 10 grosse wappenn auf den reichstag in Frankfurt.
25 gulden vor ein gross tuch das evangelien mit den 5 prothen und zweien vischen.

Date: Eilenberg, Mittwoch nach Dionisy.
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 121–122; Schade 1974, 438, no. 318)

1540
(247) 1540
23 gulden 17 gr an 20 goldg. zu 25 gr Lucas Malhern vonn Wittenberg laut seiner hantschrift vor zwo tafeln, daruff zwo bulschaften gemalt, sint in der spiegelstub zu Thorgaw.

Date: 1540
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 124; Scheidig 1953, 171, no. 52; Schade 1974, no. 323)

1541
(248) 1541 May 11
193 gulden 3 gr 4 d Lucas Kranach Malhern auf meiner gnedigst und gnedigenn herren bevehel vor etzliche arbeit, die er uff bevehel gemacht, inclusis 25 gulden vor das tuch mit dem bergwerge des Schneebergs.
5 gulden 10 gr vor leinwant darzu.
30 gulden vor die drei churfürsten in der liberei [Bibliothek] zu Wittenberg.
6 gulden vor die taffel in die Lochische Heiden.
8 gulden vor ein grossen Christoff.
10 gulden vor 5 renndecken.
20 gulden vor die schiffjagt.
4 gulden von dem frawlein von Braunschweig abzumalhen.
18 gulden vor 6 grosse wapenn.
23 fl 9 gr vor 590 wapen auff papier unnd anders laut seiner ubergebenn czeteln, ditz gelt hat Caspar Pfreund sein diener Mitwoch nach Jubilate zu Leipzig entpfanngen.

Date: Leipzig, Mittwoch nach Jubilate
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 156–157; Scheidig 1953, 171, no. 53; Schade 1974, 439, no. 326)

1542
(249) 1542 February 18
7½ gr vor 5 gemalte breve Laux Maler m.g. herren erkaufft

Date: Torgau, Sonnabend nach Valentini
Loc.: StaCo LA A Nr. 10087, fol. 177r (transcribed by Hambrecht 1987, 91)

(250) 1542 February 18
4 gulden dem maler von 14 brauthfackeln zu malen, [...] 110 gulden Franzen Schiller dem maler zu Leipzig von 2 behengenen zu vergulden vor das fraunzimmer, ist die abrechnung mit inem durch Lauxen Maler zu Wittenpergk bescheen

Date: Torgau, Sonnabend nach Valentini
Loc.: StaCo LA A Nr. 10087, fol. 180r, 181r (transcribed by Hambrecht 1987, 91)

(251) 1542 July 16
34 gr zwein zimmergeseln Kuntzs Zimmerman undt Hans Franck haben jder ein wochen geerbt [gearbeitet], Luxs Maler ramen gemacht, daran er die fenlein ausstreicht undt in der harnisch kamern uff dem gang befestig[et], [...].

Date: Sonntags nach Margarethe
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 231b, Nr. 8a, fol. 34 Abrechnung von Arbeiten auf Schloß Weimar (cf. Schade 1974, 439, no. 332)

(252) 1542 December 14
Unnser freundtlich dinst und was wir liebs unnd guts vermugen jederzeit zuvor hochgebornern furst freuntlich lieber vetter und bruder. Wir haben e l vun unns bey gegenwertig gethanes schreiben mit uberschickung der abconterfey des hauses Wolfenbuttel unnd unnserer darvor gehabten läger : durch meister Lucassen gemacht enntpfanngen : Bedancken unns solcher zugeschickten abconterfey jegen e. l. ganntz freundtlich : unnd sindts jegen derselben : dero wir an das zu freunntlicher unnd vetterlicher wilfarung geneigt freundtlich zuuerglichen willig. Philips von gots gnaden landgrave zu Hessen, grave zu Catzenelnpogen.

Date: Fürstenberg, den 14 tag Decembris anno [15]42.
Loc.: ThHStAW; Landgrave Philipp of Hesse writing to Elector Johann Friedrich I (transcribed by Schuchardt 1871, 288)

(253) around 1542
Item ahm sonnabent nach Petri Pauli bin ich zu Wittenbergk aufgefahren unnd bin virdehalbe woche aussen gewest.
2 fl 20½ gr habe ich mit 4 personenn unnd tzwey pferde von
Wittenberg ghenn Weymar vortzert.
3 fl mus ich widder heim haben.
2 fl 10 gr hat mein knecht vortzert hat von Weymar muss
widder ghenn Wittenberg faren und eilhundert wapen holen
die mhan getrugkt hat.
10 gr 8 d hat der knecht in der herberge vortzert, ½ scheffel
haftern ein abennt drinne gessen und getrugken hat
Sigemunt harnischmeister ghenn Erfurdt gefurt.
8 fl 3 gr dem furmhan 25 tage zu löne. 18 gr dem bothen gen
Wittenbl. die wapen bestalt. Suma lateris 16 fl 20 gr 2 d.

Item was ich gemacht habe zu Weimar zum kriege.
20 thaler fur die twey grosse hehr pannier roth unnd grun alles
mit ungarschen golde vergult.
25 thaler fur 25 fennrichsvhanen, eine fur ein thaler.
7½ fl fur 15 rennfenlein, ein ½ fl
½ fl fur die rothe große renfanen.
4 fl 15 gr fur 90 eiserne renfanen auf die wagen, eins fur 1 gr
38 fl 2 gr fur achthundert ausgestrichen gedrugkte wappen.
Suma lat. 104 fl 13 gr.

4 fl 17 gr fur tzweihundert wappen nicht ausgestrichen, eins
fur 1 gr auch gehn Braunschweig hern Bernhart von Milen.
Suma lat. 109 fl 4 d.

52 fl fur eilffhundert ausgestrichen wappen gedrugkt.
3 fl fur 40 helleparthen rot anzustreichen unnd zu fi rnissen.
Suma lat. 55 fl.

Sorum 181 fl 4 gr 2 d.
Hiran habe ich 20 thaler von Jochim Moschwitz
entpfangen.
Restat mir hinterstelligk 157 fl 7 gr 2 d.

(by another hand:) Solich hinterstelligk gelt habe ich
Johann Pfeundt renthschreiber zu Gothaw an guldengl. zu
25 gr in beisein Peter von Konitz renthmeisters enthricht unnd
von Joachim Moschwitz entpfangen.

Date: Sonnabend nach Petri Pauli
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 159–160)

1543
(254) 1543 October around 4
123 gulden 10 gr 8 d Lucas Cranachen dem maler zu
Wittenberg, vor nachfolgende arbeit, so er meinem
nwendigsten hern zu Torgaw gemacht, nemlich:
14 gulden vor 7 renndecken uff die fastnacht.
3 gr vor 5 sacketücher.
2 fl 6 gr vor ein tuch so die tochter den vater neret im
gefenknus.
11 gulden 9 gr vor die jagd so hertzog Moritz geschenckt
worden.
2 gulden vor 42 menlein zur sommereidigung.
10 gulden vor meines nwendigsten hern und derselben
gemahel controfai, so Bernhartenn von Mila geschenkt.
13 gulden 15 gr vor ein nacket weyb gemalet.
3 gulden vor Wolfenbeutel abgemalet.
10 gulden vor meines nwendigsten hern unnd derselben
gemahel controfai so Cristoff von Taubenheim wortenn.
27 gulden vor 9 ausgestrichene unnd illuminierte pergamenen
Wolfenbeutel unnd anders lauts berurts malers vorzeichenus,
unnd obenberurt gelt ist ime mitwoch nach Francisci zu
Torgaw entricht worden.

Date: Torgau, Mittwoch nach Francisci
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4551, fol. 24v (transcribed by Schuchardt 1851, I, 162–164; Schade

(255) 1543 October 25
Ausgabe uff bevelh
45 fl 15 gr, ann 40 gulden g Lucas Malern zue Wittenberg
vonn den unthern thorm stubenn, darinnen mein g.h. rath
holt zu malenn, geanntwort zu Torgaw, donnerstags am tage
Luce, innhalts seiner hanntschrift.

Date: Capitalbuch, Trinitatis 1543 – Trinitati 1544
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb 4541, fol. 14r

(256) 1543 October 25
133 fl 9 gr 2 d Lucas Cranachen, dem maler zu Wittenberg,
vor nachfolgende gemacht arbeit nemlichen:
10 gulden vor zwey tucher, doruff hertzog Moritz zu Sachsen
samt seiner f.g. gemahel gros abcontrafeit seien.
5 fl vor ein tuch des kaisers contrafactur.
17 fl 3 gr ann 15 guldengroschen vor ein tuch, daruff das
evangelium gemalet, da man die kinderlein zu Christo treget.
5 fl 15 gr vor eine Lucretia, so graf Philippen von Solms
ubersant.
6 fl 18 gr vor eine taffeln, die mein gstr. herre Herman von der
Malsburg haben schenen lassen.
16 fl vor die fufff meines nwendigsten hern conterfei samt
seiner churf. g. gemahel und den drei jungen herlein.
6 fl vor ein buchlein unnd davon auszustreichen, darinnen die
ringer und fechter abgemalet seien.
4 fl vor vier wapenn an die camerwagenn.
4 fl von etzlichen gemelden in der gehartenn stubenn zu
besern.
4 fl 12 gr dem maler zu Braunschweig Peter Spitzen darumb,
das er der hertzogen von Braunschweig forme so auf ein tuch
gezeichnet gewesen dargelihen hat.
24 fl 6 gr vor 2 große tucher, doruff die belagerunge
Wolfenbeutel gemalet ist.
9 fl 4 gr vor das kleine tuch, daruff die belagerunge
Wolfenbeutel gemalet.
10 fl 14 gr 2 d furlon und zerunge berurts malers laut
allenhalben seiner zeteln.

Date: Torgau, 1543
Wir bekancken uns auch gegen ewer lieb derzugeferttigen und durch maister Lucas abgemalte jagt. Die wir jungst mit ir ganz freundlich, und eye widerump mit kunsttiglich noch vil jagten halten wollen.

Date: Torgau, Mittwoch in den Weihnachtsferien
Loc.: ThHStAW; Elector Johann Friedrich I writing to Duke Moritz of Saxony (Schuchardt 1871, 288–289)

1543/1545
(258) 1543/1545
30 gulden vonn den beiden thuren in der thorm stuben zuverleuben, unnd vonn den 5 bildenn abzuconterfeien,

Date: Torgau, Abrechnungen durch den Bauschreiber Merten Proschwitz im Zeitraum Freitag nach Elisabeth 1543 bis Sonntag Esto mihi 1545 (ein Jahr, 13 Wochen und 3 Tage)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b, Nr. 1 z. g. fol. 21v, as part of the invoice for work carried out by stonemasons and sculptors in connection with the building of Schloss Torgau (cf. Schade 1974, 440, no. 342)

1543/1545
(259) 1543/1545
21 guldenn 10 gr 6 d vor 85 bletter staniol, 10 bletter vor ein gulden
24 lb berckgrun, das lb zu 7 gr
14 lb spangrun, das lb umb 1 ort
18 lb bley gelf, 12 lb vor 1 gulden

Date: Torgau, Abrechnungen durch den Bauschreiber Merten Proschwitz im Zeitraum Freitag nach Elisabeth 1543 bis zum Sonntag Esto mihi 1545 (ein Jahr, 13 Wochen und 3 Tage)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b, Nr. 1 z. g. fol. 25r, as part of the invoice for work carried out by whitewashers in connection with the building of Schloss Torgau (cf. Schade 1974, 440, no. 342)

1543/1545
(260) 1543/1545
165 guldenn 6 gr 5 d tuncher arbeit vorn der kirchen inwendig zutunchenn, Inclusis 20 guldenn von der kirchen inwendig zutunchenn, unnd tunchen also uberhaupt verdingt
1 gulden 9 gr von meins gnedigst. herrn gewelbenn zutunchenn und weissen
50 guldenn von dem frauen zim[m]er, beide thorn stuben, unnd meins gnedigst. herrn beide cam[m]ern zutunchenn also verdingt
25 guldenn von den 3 kleinen wendelsteinen zutunchenn unnd weissen
12 guldenn 8 gr von der sacristen [Sakristei] des camers beiden gewelbenn, des camers cam[m]er, das gemach uber der sacristen, zutunchenn, unnd weissen, also verdingt, alles inhalts rechenbuchs

Date: Torgau, Abrechnungen durch den Bauschreiber Merten Proschwitz im Zeitraum Freitag nach Elisabeth 1543 bis zum Sonntag Esto mihi 1545 (ein Jahr, 13 Wochen und 3 Tage)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b, Nr. 1 z. g. fol. 25v, total bill for work carried out by whitewashers in connection with the building of Schloss Torgau (cf. Schade 1974, 440, no. 342).

(261) 1543/1545
793 guldenn 6 gr 6 d maler arbeit, Inclusis 50 guldenn von der ausladung mit oelfarben anzustreichenn samt den bildern fenlein unnd knopffe zuverguld[
66 guldenn, von 2 stuben in der ausladung zumalen unnd zuverguldenn
17½ guldenn vor die sieben rosen am Kirchen gewelbe,
10 guldenn von der Kirchen thur unnd bilder anzustreichenn
23 guldenn vonn dem predigstuel zuverguldenn unnd anzustreichenn
8 guldenn fur den propheten Elias uff ein tuch in der kirchenn
70 guldenn von der orgel zumalen und zuverguldenn
10 guldenn von den gruen thuren in der kirchenn anzustreichenn
20 guldenn vor 2 deckenn in meins gnedigst. herrn beiden cam[m]ern
2 guldenn von dem einen kamyn zuverguldenn
10 guldenn vor den grossen knopff uff thorn zuverguldenn
24 guldenn fur 8 kleine knopff zuverguldenn
39 guldenn vor 78 knopffe uff das nawe haus zuverguldenn
17½ guldenn von 7 rundel auff die dachfenster anzustreichenn
6 guldenn vonn der eisern thur vor der hertzogin wendelstein grun anzustreichenn
5 guldenn vonn 12 knopffen blaw und vergült
100 guldenn vonn 600 elnn creutzbogenn in der thorm stubenn zuverguldenn
48 guldenn vonn 6 pfeilernn in der thorn stuben zumalen unnd zuverguldenn
10 guldenn vonn den wapen an der decken zuverguld[en] unnd anzustreichenn

Date: Torgau, Abrechnungen durch den Bauschreiber Merten Proschwitz im Zeitraum Freitag nach Elisabeth 1543 bis zum Sonntag Esto mihi 1545 (ein Jahr, 13 Wochen und 3 Tage)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b, Nr. 1 z. g. fol. 25v, total bill for the painting work carried out in connection with the building of Schloss Torgau (cf. Schade 1974, 440, no. 342).
12 gulden von dem kamyn in der torm stuben zumalen, und zuverguld[en]
30 gulden von den beiden thuren in der thorm stuben anzustreichen und zuverguldenn
16 gulden von der vier fenster in der thormstuben zumalen
10 gulden von dem ofen fues zuverguld[en] und anzustreichen
60 gulden von meiner gnedigst[en] frawen schreybstüblein undn von der decken in irer f.[ürstlichen] g.[naden] stuben zumalen
50 gulden von der decken in der hertzogin sa[lt] stuben
16 gulden 4 gr vonn den leisten zuverguldenn umb das wapen, und den simbs umbher an der decken, in der hertzogin sal[ht]stuben
30 gulden die vier fenster in derurter stuben zumalenn
14 gulden von dem ofen fues, und kamyn in gemelte stuben zuverguldenn und anzustreichen.

Date: Torgau, Abrechnungen durch den Bauschreiber Merten Proschwitz im Zeitraum Freitag nach Elisabeth 1543 bis zum Sonntag Esto mihi 1545 (ein Jahr, 13 Wochen und 3 Tage)
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b, Nr. I z. g, fol. 26r, total bill for the painting work carried out in connection with the building of Schloss Torgau (cf. Schade 1974, 440, no. 342)

1544

(263) 1544 August 16
6 gr hat ider [Melchior der puchsenmeister] vor 1 contrafact der stad[en] ofen ausgeben, meinen gnedigsten herren gewisen undt weither Laux Malern zugestellet

Date: Torgau, Sonnabend nach Assumptionis Marie
Loc.: STAco LA A Nr. 10096, fol. 309r (transcribed by Hambrecht 1987, 92)

(264) 1544 October 7
100 gulden Lucas Cranach Malern zu Wittenberg auf rechnunge etzlicher arbeit inhalten seines sohns bekentnus. 225 fl 17½ gr Lucas Cranachen Malern zu Wittenberg zu betzalunge seiner gethanen arbeit lauts seiner rechnungs zeteln darunter sich der her Camerer von Ponikaw unterschrieben undn es sollten 322 fl 17½ sein. So hat gedachter Lucas Maler aus negst gehaltenem ostermarkte inhalt des capitels uff bevheil 100 gulden auff rechnunge entpfangen damit ist er seiner gethaner arbeit die er zu Weimar inn den neuen gemachen undn sonst gethan laut seiner bekenntnus entlichen vorgnuget. Actum Torgaw, Dinstags nach Francisci

Date: Torgau, Dienstags nach Francisci
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 164–165; Schade 1974, 440, no. 347)

(265) 1544 November 24
3 gulden aus genaden 3 Laux Malern lohnhnaben, haben meinen gnedigsten herren umb die hoffclaidung angesucht, behel des camerers
Date: Torgau, Montag nach Elisabeth
Loc.: STAco LA A Nr. 10097, fol. 257r (transcribed by Hambrecht 1987, 93)

(266) 1544/1545
Im 44 yar bis ins 45 yar.
18 gr in der herwer vorzert, war der hof nit da.
8 gr zu Preczst, den andern tag gefuert.
24 gr dem furman auf fir tag, da der Curfurst von Speier wider gen Torgaw kam, must ich von Wittenberkg zu seiner genaden. 4 gr auslosung 3 nacht.
18 gr in der herwer vorzert, das man nit weist, was ich machen solt.
2 gr 8 d auslosung zwue nacht.
1 gr 4 d auslosung.
2 taler must ich den ein furman gen, der die auslosung selbst gab, der het ein rustwagen.
1 taler dem anderen furman mit zweien pferden vorzert sich auch selbst.

Sum[m]a 8 fl 4 gr furlon.

Date: 1545

1545

(267) 1545 January 2
3 gulden aus behel des cammerers Lucas Mahler zugestelt, sol er under seine knecht teilen, haben hiervor auch 3 fl empfangen
Date: Torgau, Freitag nach Circumsisionis Domini
Loc.: STAco LA A Nr. 10098, fol. 51r (transcribed by Hambrecht 1987, 93)
(268) 1545 April around 5

Date: Leipzig, Ostermarkt
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Rr. 937, fol. 3 (transcribed by Schuchardt 1851, I, 166–167; Schade 1974, 441, no. 354)

(269) 1545 April 24
Dem gestrengen und erentfesten hern Hans von Ponikaw und kamerer etc. meinem liben heren und grosforderer. Gnad und frid in Cristo und mein gantz wiliger dinst sey ewer gestrenghait alezeit zuvor bereit. Gestrenger liber hie schick ich euch ein Maria mit einem kindlein, ein brustpild, hat ewer maler gemacht, ich hab in gar nichts daran geholfen, er hats allein gemacht, da seht ir wol wie er sich pesert. Gestrenger liber hie schick ich euch drei quitanczen, die machen gleich 1 hundert fl und pit wolt vorschaffen, das sulchs gelt meinem guten freundt magister Lorencz Lindemann mocht werden der wil mirs gen Leipczig uberantworten, des wil ich umb ewer strenghait wider vordinen, und wist das ich mit ganczen fl eis an der tafel mach in der kirchen meines genedigsten heren etc.

Date: Wittenberg, Freitag nach S. Gorgen im 45 gar.

(270) 1545 June 9
[...] Es ist meister Lucas den montag nach Bonifatii zu Thorgaw ankomen und hat die thucher zu den döcken in e. churf. gnaden stuben gemacht und zugericht, mitbracht, und den dinstag in der gewelbten thurmstuben die rosen antzumachen, angefangen [...].

Date: Torgau, Dienstag nach Bonifatii
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b, Nr. 1 z. g. fol. 1r, 3r (Note written by the master builder: Lucas will arrive in Torgau the Sunday after Trinity), Letter from master builder Nickel Gromann to the Elector (cf. Bruck 1903, 253; Schuchardt 286f; Schade 1974, 441, no. 355)

(271) 1545 June around 9
[...] es werden auch die beden schiden wendt vor den kammern im alten thurm verfertigt, es wird auch meister Lucas den sonntag nach Trinitatis von Thorgaw kommen und mit den decken in den kamern des thurms zumachen anfahen. Desgleichen sind auch die gibel im neuen thurm verfertigt und werden die tischer zu verdeffen, die zukunftige Wochen anfachen, actu ut supr.

Date: Torgau
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b, Nr. 1 z. g. fol. 3r, Letter from master builder Nickel Gromann to the Elector

(272) 1545 after August 30
Item am suntag nach Trinitattis [7 June 1545] bin ich mit 6 knechten von Wittenbergk gen Torgaw kumen und am newen pau gearbet 12 woch bis auf den suntag nach Bartolome [30 August 1545], da haben wir an der gewelpten turmstuben angefangen und die leisten im fenstern vorgult und die sternen in fenstern eingesetzct. Dar nach haben wir am ercker ausen und inen gemacht und in stuben in den zweien kameren und kurser, die zwen fursten ausgemacht und die seulen auf dem rorkasten und im garten, auch die tafelen gebesert, der sein funfe, die man in die kirchen gemacht hat, nun wil ich anzeigen, was vor golt und farben und leim dar auf gangen sey.

36 fl auf mich Lucas Cranach gangen 12 wochen, ein wochen 3 fl, die hat mir sein curfurstlich genad selbst vorornet. 36 fl auf 6 knecht, die woch auf 1 knecht ½ fl, ist auch meines genedigsten hern begern. 4 fl 12 gr einem geselen, den hab ich gen Berlin geschriben, der haist Tomas, hab inn die woch 12 gr gewen und 36 gr die reis hin und erwider. 86 fl vor 21½ buch feingolt, ein puch vor 4 fl. 39 fl vor 48 lb feltduwn plaw und olplaw. 16 fl vor die anderen farben a[0?]le grun, gel, rot, lagg und prauan. 8½ fl vor 6 stain leim.

3 fl 4½ gr 45 lb leinöl, ein lb vor 18 d. 3½ fl vor 12 lb firrus und den guten ½ lb vor ½ fl. 3 fl vor porspensel und harbensel. 2 fl hab ich dem knecht gewen, der mir farb geriben hat. Summ[a] 237 fl 16½ gr, so vil gestes ales den sumer.

[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 13r]

5 gr vor ein groß rosen in der obersten kamer im gewelb im erker. 4 ½ flor 32 gulde rosen, 7 vor 1 fl, 8 in der turmstuben über die fenster, 8 rosen in dem neuen erker am alten haus über den xuren [centuren, Zentauer] und 12 rosen in derselben kamer im pet und gewell 4 rosen in der unteren kamer im
pet. 18 gr vor die leivet im unteren erker uber den brunen, 1 el vor 18 d.
10 gr dem dregsler, der die knobplein dret oben an die deck.
1 fl 4 gr vor 5 potlon von Torgaw gen Wittenbergk.

Item was ich nun zu Wittenbergk gemacht habe.
80 fl vor die zwo decken in den zweien newen stuben im alten
haus mit den engeln und gewulcken inclusis die leisten.
18 fl 16½ gr vor 4½ welen leiber zu den zweinen decken,
ein ros vor 6 gr [by another hand:] Soll m. gst. her so
gedingt haben.
Hundert taler vor die zwue tafelen, das abenti esen und der
profet. [by another hand:] soll m. gnedigst her so
gedingt haben.
Dreihundert fl hab ich dar auf empfangen.

263 Tlr 16½ gr.
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975,
fol. 13v]

Item was noch hinderstelige schuld ist, die zum paw gehort.
30 fl vor zehen fasirung, den tewichtmacher, der sein neun
gewest, so hat mein gnedigst her das zehent in seiner
genadenstuben auf lasen schlagen
[by another hand:] sol m. gastr. her also gewilligt haben.
10 gr von der selben ram zu vorgulden.
2 fl 4 gr 9 d koldiczeleiben zu 5 tucheren, ein tuch 7 elen.
6 fl vor 6 hirsgehuren, hab ich die ent [Geweihspitzen]
vorgult, meiner gnedigsten frawen.
20 gr vor die zwei tefellein aus zu fasen und zu vergulden,
darin das Crucifix und das fesperpild sein eingemacht,
die die seidensticker gemacht haben.
35 Tlr 13 gr 8 d
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975,
fol. 14r]

Item was noch alte schuld ist, die nit zum paw gehört.
4 fl vor die zwen auerochsen im gemach uberen sal.
16 fl vor die zwen kaiser Karrol.
5 fl vor pfalzgraf Friderich churfurst.
5 fl vor den hertzog von Gulch [Jülich].
16 fl vor die 16 rendeck, 8 tarcztucher, 8 schiltucher,
8 sacktucher.
6 fl vor das feltlager, das in Preusen kam.
24 gr vor die drey figuren gelumanirt, vom pabst wie er auf
der Hel [Hölle] siczst.
4 fl 16 gr vor hundert menlein, die sumer klaidung grün,
ein menlein vor 1 gr.
70 taler vor die tafel, die mein genedigster her dem pfale
grafen geschenckt hat. [by another hand:] sol mein gnedigst
her gedingt.
131 Tlr [Taler] 18 gr
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975,
fol. 14v]

Sum [m]a vor alles was man eister Lucas dieser rechnung nach
schuldigk pleiben tut
697 [Taler- oder Guldenbezeichnung fehlt] 12 gr 1 d
Daran hat er drej hundert R [Taler] empfangen
Restat: 397 Tlr [Taler] 12 gr 1 d
zubetzalen
daran geburt dem rendmeister ausserhalb des baws, die
arbeit, welche nicht in baw gehoret zubetzalem, des tut
131 Tlr [Taler]
Date: no date given, relates to the period 7 June – 30 August
1545 and other undated invoices
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975,
fol. 13r–15r; Building of Schloss Torgau (cf. Schuchardt 1851,
I, 168–171; Scheidig 1953, 172f., no. 56; Schade 1974, 441,
no. 356).

(273) 1545 August
Im 45 jar
18 gr drei tag, am Pfingstmontag war drei tag ausen.
2 gr 8 d auslosung.
18 gr zwen tag mit dreien pferden, bin ich salsechst [zu
sechs Mann] von Wittenberg kumen am tag s. Bonifacius
[5 June 1545].
2 gr auslosung.
Summa 1 fl 19 gr und 8 d.
12 gr von der tafel mit dem abent mal von Wittenberg gen
Torgaw zu furen mit zweien pferden am dritten suntag nach
Pfingsten [14 June 1545]
1 gr 4 d auslosung
1½ taler einem furmann, von Torgaw, hat mich mit 4 knechten
her gen Wittenbergk prach mit meinem zeug am suntag nach
Bartolomey [30 August 1545]. So pliben noch zwen knecht da,
die musten das giter umb den altar ausmachen (etc.).

Zum ersten war mein genedigster Her (etc.) nit im lant, wen
ich furlon fordert, so war nimant der befelch het, da must
ichs an schreiben, sunst het ichs nit so lang lassen anstan.
Date: August 1545
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975,
fol. 6v, (cf. Schuchardt 1851, I, 172–174; Schade 1974, 441,
nos. 357, 362)
(274) 1545 September 29
Uf lebenlang Lucas Cranach Maler 50 fl Michaelis 1545
Ich Lucas Cranach Maler zu Wittenberg beken mit diser meiner hantschrift, das ich von den gestrengen erentfesten hernn Hansen von Ponickaw, curfurstlicher genaden zu Sachsen, burgkgraf zu Mardeburg (etc.) kamerer empfänget hab funfczig reinisch fl in muncz yarsolt auf ein halbs yar von Pfingsten bis auf Crucis 1545 yar, zu urkunt hab ich mein gewonlich bitschir dar unter gedrugt
L.S.
Date: Michaelis 1545
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Rr S 1–316 Nr. 937, fol. 2

(275) 1545 December 7
L.S.
Reverse: Auff bevelh 131 fl 18 gr Lucas Malern fur etlich arbeit, Elisabeth 1545 [19 November 1545]
Date: Montag nach Sankt Barbara 1545
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 8; Cranach in his own hand and with ring seal.

(276) 1545
Item was ich gen Lichtenberg gemacht hab.
14 fl vor das tuch, das zu der Loch im grunen haus gewest, das hab ich musen der lenger 8 e[llen] gar neu gemalt.
18 fl vor das andre tuch, 8 elen preit, 28 elen lanck auch mit hasen gemacht.
7 fl vor 2 stuck leibet, eins vor 3½ fl.
7 fl vor das tuch an der deck im schreibstubelein.
4 fl vor das tuch, das Ewangelia vom weingarten, da sie die profetten steinigen.
20 fl vor das tuch auf dem sal, da die fursten unter der weinlaub essen.
6 fl vor das tuch sodoma und gumura, auch im sal.
6 fl 18 gr vor die drey furstin, mein genedigiste frau und herczog Moritz gemahel und herczog Hans Ernst gemahel zu Koerberg.
1 fl vor die 11 ramen mit zinnober anzustreichen, da die Ferdinandisy mit iren tochten aufstet.
1 fl 19 gr vor 10 fannen auf die hegaaulen, eine vor 3 gr.
12 gr dem furman, der die tucher gen Lichtenberg furt.
10 gr vorzert.
1 fl 15 gr dem furman 6 tag, pracht ich das tuch gen Torgaw, da die fursten unter der weinlauben essen.
6 gr 8 d auslosung.
Date: no date given

(277) 1545
[...]
Us[e] eingelegten vortzeichnis werdenn befundenn [...] maister Lucas dem maler vor etzliche seine arbait zu betzalen schuldig sein, weil darum solchs alles sechhundert sieben und neunzig gulden zwolf groschen und ainen pfennig thut machen. Daran er von den bawgelde dreihundert gulden empfangen. So stehen ine doran noch dreihundert und neunzig gulden zwolf groschen ain pfennig zubetzalen. Nachdem aber gedachten maister Lucas uns darunter andere mehr arbeit verfertiget, so in den bau noch gegeben (?) welches einhundert ainunddreissig gulden thunt machenn [...].
Date: Sonnabend nach Barbara 1545
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. S. fol. 290b Nr. 1 z gr, 7f; Letter from Elector Johann Friedrich I to Hans von Ponickau

1546
(278) 1546 January 21
Date: Königsberg, Januar 21
Loc.: Formerly Staatsarchiv Königsberg, Flt. 30, p. 535, Duke Albrecht of Prussia writing to Cranach (transcribed by Voigt 1820, 250–251; Schuchardt 1851, I, 152; Ehrenberg 1899, 171, no. 246; Schade 1974, 441, no. 364)

(279) 1546 March 12
Date: Torgau, Freitags nach Estomihi 1546 (Capitalbuch Sonntags Trinitatis 1545 – Trinitatis 1546)
Item was noch zum paw gehört im schlos [Torgau].
16 fl vor die zwey tucher in der oberen kamer über dem rorkasten ein turnir und ein hirspsaltz.
6 fl vor zwey tucher auch in derselben kamer, ist ein Venus und ein Lucrecia.
30 fl vor dem turnir in der oberen stuben an der kirchen.
1 fl 11 gr vor die leibet zu demselben tuch, 24 elen, ein elen vor 16 d.
18 gr dem furman mit zweien perden, der mich herprach am mitwoch nach Paulus bekerung [27 January 1546].
2 gr 8 d auslosung zwu nacht.
18 gr dem furman der die rendegk herfurt und einen malergeselen, der die tafel vorgult hat, die zu Freibergk.
2 gr 8 d auslosung zwue nacht.
10 fl vor mein arbeit, pin siben wochen hie gewest und die fursten ins puch gemacht, 21 fursten und freillein und visirung gemacht und riter Enderlein sein rustung um prantherczen, was den zu tun gewist ist.
2 fl 2 gr hab ich einem furman musen gewen am sunabent nach der fasnacht [13 March 1546] mit dreien pferden, haist Hans Hump.
Date: no date given (origin between 13 March 1546 and 25 April 1546), pages 9 and 11 form a double page. Page 10 with details of the transfer of money (Easter 25 April 1546) and Cranach’s receipt (19 May 1546) have been pasted in as evidence of payment.

Date: 1546, Sonnabends nach Margarethe
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4631 (transcribed by Junius 1926, 228)
lasse, und wann er damit fertig uns die bei zweyen poten, doch das die nicht mit einander gehen zufertigen. Daran thut ir unsere meynung.

Date: Augsburg, Freitag nach Trium Regum 1547
Loc.: ThHStAW; Elector Johann Friedrich I writing to the commanders and councillors in Wittenberg (Schuchardt 1871, 289–290)

(286) 1547 January 8
Die salvagarden haben mir bei Lucas Malern alsbald uffzulegen bestald und wann die fertiget, wollen wir es mit der überschungung e. f. g. bericht nach halten.

Date: Wittenberg, den 8. Januar
Loc.: ThHStAW; Letter of reply to Elector Johann Friedrich I (Schuchardt 1871, 290)

(287) 1547 August
So begeren wir, du wellest dich furderlich zu uns anher gegen Augsburg verfugen unnd die tafel, die wir dir zumachen beholven, mit dir bringen. Daran thustu unsere gefellige meynunge.

Date: Augsburg, den anderen Tag des Monats August 1547
Loc.: Archiv des Germanischen Nationalmuseums (transcribed by Heerwagen 1903, 425)

(288) 1547 August 14
[...so habe [ich des] datum sonntag nach Laurenti ein [schreiben] von e.f.g. entpfangen, dar[innen] e.f.g. begeren verstanden, das ich [zu] e.f.g. gegen Auspurg kommen, we[s ich] gernen thun wolt und schuldig bin. Darauf ich e. f. g. untherthenig nicht verhalten wil, das ich mit sch[wachheit] meines leibs noch zur zeit nicht raisen kan, dan ich denn schwindel im heubt habe und off in fi rzehn thagen nicht aussm hause komen kan, aber so mir [besser ist] und es mit dem schwindel nachlasen wird, ich mich nicht seumen und zu e. f. g. kommen, bin auch sonsten im willen gewesen, e. f. g. in der anliegenden nott zu bes[uchen] und e. f. g. die arbet gebracht haben, welche ich verfertigt habe. Aber so ich wider frisch wurde, wil ich e. f. g. die arbet mitbringen. Ihm fal aber, das es mit mir nicht besser wurde, wil ich mit mein diner e. f. g. die gemachte arbet zuschicken und auch etzlichen spannigem, denen ich gearb habe, zuschicken. Darneben sonsten etzlich gemelde und solches e. f. g. zuforen besichtigen lassen, ob e. f. g. derselben haben woldt und e. f. g. darvon nemen mocht, was e. g. gefellig sein mocht. So hette ich e. f. g. fel zu klagen und mit e. f. g. zureden, wollen sich nicht wol schreiben lassen. Wollen got den allmechtigen fur e. f. g. threulich bitten, das sie nie verloren werden mochten, so begeren wir feuntlich, e. l. wollen beschaffen lassen, das sie von im gefordert und gegen Weymar bracht und aufgehoben werden. In sonderheit aber ist eine tafel vorhanden, daruff die zehntausent ritter gemahlet, dieselb wollen e. l. fordern und dem renthmeister befehlen lassen, das er sie in itzigem Leipzizischen mark[t] mit vleis einmache, domit sie nicht schaden nehme, und sie der Schetzen oder Herbrots factor zustelle, domitt sie mit den gutern gegen Franckfurt und dannen nach Antorff gebracht und uns überschickt, dan wir seindt willens, dieselb zu verschenken [...].

Date: Wittenberg, Sonntag nach Laurenti 1547

(289) 1548 January 5
137 gulden 4 gr 8 d auf schriftlichen befehel meines gnedigsten herrn Lucas Malern zu Wittenberg, welche summe durch des bemelten Lucas Malers diener zu Augsburg aus etzlichen gemalten taffeln erkauft und also von wegen der unsicherheit dieses 137 fl 4 gr 8 d meinem gn. hern zu Augsburg unterthenigst vorgesetzt dergestalt, das inne die alhier wider erlegt werden solten, welchs also wie berurrt beschene.

Date: Weimar Sonnabend nach Innocentum Puerorum
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. J, fol. 84; Letter to Johann Friedrich I drawn up in Cranach’s name but written by Cranach the Younger (transcribed by Junius 1926, 230–231; Schade 1974, 442, no. 372)

(290) 1548 June 25
Freuntliche liebe sone, nachdem Lucas Maler noch allerlei gemelde, so uns zustendig, bei sich hat, auch das tuch, so wir zu Lichtenberg uffn sahl haben mahlen lassen wider abgenommen und zu sich genommen, und wir besorgen, do es die lang anstehend blieb, das sie nicht gefordert, das sie hinweg komen und verloren werden mochten, so begeren wir feuntlich, e. l. wollen beschaffen lassen, das sie von im gefordert und gegen Weymar bracht und aufgehoben werden. In sonderheit aber ist eine tafel vorhanden, darauf die zehntausent ritter gemalde, dieselb wollen e. l. fordern und dem renthmeister befehlen lassen, das er sie in itzigem Leipzizischen mark[t] mit vleis einmache, domit sie nicht schaden nehme, und sie der Schetzen oder Herbrots factor zustelle, domitt sie mit den gutern gegen Franckfurt und dannen nach Antorff gebracht und uns überschickt, dan wir seindt willens, dieselb zu verschenken [...].

Date: Augsburg oder Brüssel, Montag nach Johannis Baptiste 1548
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L. fol. 191 B. 7. Nr. 5; Johann Friedrich I writing to his sons (transcribed by Junius 1926, 233–234)

(291) 1548 December 26
Lieber getreuer. Wir geben euch zu erkennen, das uns der hochgeborne fürst, her Johans Friedrich der elter, herzog zu Sachsen etc., unser gnedigster liber herr und vatter itzo von Brüssel aus geschrieben und uns euch anzuzeigen beholven, nachdem ir allerley gemelde, auch das tuch, so zu Lichtenberg auf dem sahl gestanden, bei euch hettet, welchs alles iren gnaden gehorig, das ir dasselbe alles mit vleis einmachen, im itzigem neuenjarßmarkt gegen Leipzig schicken und den
APPENDIX II

unsern in Marcus Buchners haus uberanthworten sollet. Und dieweil ir auch daruber eine schone taffel, darauff dy zehentausen[t] ritter gemahlt, in eurer verwurung hetten, so sollet ir dieselbe taffel in sonderheit un mit allem vleiß alain auch einmachen, dasselbe mit einem gorßen A auswendig zeichnen und den unsern, wie berurt, zu Leipzig in Buchners haus neben dem andern auch uberantworten lassen.

demnach begeren wir, ir wollet euch desselben auff unsere kosten also halten und in sonderheit abgenelte taffel, darauf die zehentausent ritter gemahlt sonder und alein dermaßen einmachen, do sie gleich einen weitem wege dan das andere gemael gefurt werden solte, das sie davon deßgleichen von regen und unwetter keinen schaden nehme [...].

date: Weimar, am Tag Steffani, 1548
loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L. fol. 231–239 C. 1, fol. 9–10 Johann Friedrich der Mittlere und Johann Wilhelm writing to Lucas Cranach (transcribed by Junius 1926, 234; Schade 1974, 442, no. 376)

1549
so verstehen wir auch das meister Lucas daerneben noch zwei gemalte tucher uberschickt. So wollen e. i. mit dem ainen, darauff die hasenjacht zu Wolfersdorff, wan der baumeister die verfugung thun, daß mit dem bewilligten zu Wolffersdorff in gleichnus aufschlagen lassen, und mit nit konte aufgeschlagen werden, platzes halben, dasselbige stuben, dorin e. l. nun furtan mit unser gemahel essen sollen, angeschlagen werde, und wan das andere tuch in unser stet, deren wir auch darumb sonderlich erkund. und e. g. davon weitern wissen, wir wollen daran vorhindert hat, das können wir nit wissen, wir wollen dan dij unsseren pis zu ende des marks dorthin aus pis anher und nach hat des ungestumben und unbestendigen wetters halben, dergleichen nit vielh leute gedenken, doran nachschus des baugeldes der bau doselbs[t] zu Wolffersdorff gegen dem fruling angefangen werden solle, dan pi anher und nach hat des ungustumben und unbestendigen wetters halben, dermaßen alle die zu Fugger haus geschickt, wij dan dij unsseren pis anher gesant, das fi nden e. g. auf eingelegter zedel zu Leipzik geschickt, wij dan dij unsseren pis anher gesant, das fi nden e. g. auf eingelegter zedel zu Leipzik geschickt, wir haben aber durch Jeronimus Widemahn gerne ehr nach Anthorff geschickt, haben aber keine fuhr darzu erlangen konnen, wir haben aber durch Jeronimus Widemahn berurte taffel heuth montags nach Dorothea von hir aus gegen Anthorff geschickt, daselbst in der Fugger haus werden euer gnaden dieselben tucher und tafeln anher gesant, das finden e. g. auf eingelegter zedel zu vornehmen wollen und uns mit den paiden tuchern, die gegen Wolfersdorff sollen gesandt werden, e. g. bevehls halten.

vorzeichnis der tafeln und gemalter tucher, welche Lucas Mahler von Wittenberk anher geschickt.

1) Ein taffel, darauff die zehentausend ritter gemahlt, das kunststücke genant.
2) Ein groß gemahlt tuch dorauff mein genedister elter her und etzliche seiner gnaden rethe conterfedt sein, welchs zu Lichtenberk gewest.
3) Ein tuch, da dij hasenn die jeger fahen und brathen.
4) Ein tuch, sodoma und gomorra.
5) Ein tuch, da Christus jungern aus dem weingarten jegagt werden.

wir haben auch auff e. g. behel Lucas Mahlern als paldt geschrieben, das er alles e. g. gemehl mith vleis einmachen, und das tefl ich. mit denn 10 taußent rittern alain sonderlich nehmen und darzu beilegen.

do wir auch auff e. g. behel Lucas Mahlern als paldt geschrieben, das er alles e. g. gemehl mith vleis einmachen, und das tefl ich. mit denn 10 taußent rittern alain sonderlich nehmen und darzu beilegen.

wir haben auch auff e. g. behel Lucas Mahlern als paldt geschrieben, das er alles e. g. gemehl mith vleis einmachen, und das tefl ich. mit denn 10 taußent rittern alain sonderlich nehmen und darzu beilegen.
(294) 1549 February 28
[...] Es hat aber Lucas Maler noch viel mehr Tafeln und Gemälde, die unser sind, und zu Wittenberg in der Kirche gewesen. Damit nun wir nach seinem Tode, und diese Tafeln und Gemälde, die zu Wittenberg in der Kirche gewesen, damit nun wir nach seinem Tode, und diese Tafeln und Gemälde, die unser sind, nicht kommen, so wollen wir von ihnen ein Inventar und Verzeichnis fordern und die Belege nachtragen lasse.

Date: Brüssel, 28. Februar 1549
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L. fol. 231–239 C. 1, fol. 74v, 75; Johann Friedrich I writing to his sons (transcribed by Junius 1926, 240; Schade 1974, 442, no. 278)

(295) 1549 November 21
Es haben mir e. g. etliche Thuer zugeschickt; mit diesen soll es e. g. bevel nach gehalten werden. Das Tuch darauf die Stat Mecheln[gen] gemalte und ist gantz schrecklich und ist ein Anzeige des Zorns Gottes wider die Sünde [...].

Date: Weimar, 21. November 1549
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L. fol. 287–296, C 7, fol. 26; Johann Friedrich der Mittlere writing to his father Johann Friedrich I (transcribed by Junius 1926, 244)

(296) 1549 December 7
Was die gemalten Tucher belanget, zweifeln wir nit, d. l. werde darob sein, das damit unserm befehl nachgegangen. Wir begeren aber freundlich wan Doctor Bruck der alte zu Weymar sein werdenet, d. l. wollen ihm das gemeld und contrafeit, wie die Stadt Mecheln durch das wetter vom pulver bescheidet, sehen lassen und an ihm horen wie es ime gefalle [...]. Die zwen kasten darinnen die kunststuck und anders vorwarlich eingelegt worden, ist es an dem, das wir von dem renthmeister bericht worden sei, das d. l. dieselben kasten in verwahrung haben sollen, weil dem aber nicht also, so haben wir unserm secretario Johan Rudolf befollen sich weiter derwegen zu erkundigen, und do sie wie wir uns versehen wollen, zur hand gebracht, so wollen sich d. l. voriges unserm gethanen befehlichs darmit halten [...].

Date: 1549, Dezember 7
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L. fol. 287–296, Faszikel C Nr. 7 p. 30; Johann Friedrich I writing from Brussels to Johann Friedrich den Mittleren (transcribed by Junius 1926, 245)

1550
(297) 1550 February 17
Euer f. gn., desgleichen Tuchern und Herren Vaters abcontrafeit in dem churcleid stehen alhier in e.f.g. neuen badstuben im alten frauenzimmer. In gleichunus auch doctoris Marthini gotseligser und Philipp Melanchtonis. Wannen das gerethe gein Wartburg gefurt wollen werden, dunket mich, were solche und dergleichen Tucher uf Wartburg am sichersten.

Date: Weimar, Montag nach Estomihi
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L. fol. 775 cedul(r)?; Hans Rudolff, secretary, writing to Johann Friedrich I (transcribed by Junius 1926, 246)

(298) 1550 February 28
Das auch die contrafacturen unser hare vater und unser noch vorhanden und jegen Weymar bracht sein horen wir gern. Es seindt aber nicht tucher, sondern Tafeln, welche mit oel angestrichen und nicht auf Tucher gemahlet. Ob man sie nun in vorruckung des hoflagers mit jegen Wartburg wolle fuhren lassen, das wirdet man zu bedenken wissen. Wir halten aber dari, wan sie in der kirchengewelb gelassen werden, das sie alda wol bleiben und nicht leicht hinweg genommen werden sollen.

Date: Brüssel, 28. Februar 1550
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L.; Johann Friedrich I writing to his secretary Hans Rudolff (transcribed by Junius 1926, 246)

(299) 1550 March 22
[...] Wir haben die überschikte vorzeichnus der kasten und laden, so zu Weimar im schlos befinden, gesehen. Nachdem aber die gemalten tucher und bilder also uber einander liggen zu lassen nit grossen frommen bringen wirdet, ist uns nicht entjegen, das sie herausgenommen und was in den gemachen zu Weymar nicht kan aufgehengt und aufgemacht werden kan, das solchs jegen Weyda und uff das neu haus zu Wolfersdorf geschickt und aufgemacht werde, doch was an iden ort geschickt ein ordentlich inventarium darüber gemacht und verzeichent werden [...].

Date: 1550, 22. März
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L. fol. 768–786 M. Nr. 1, fol. 776, 5; Johann Friedrich I writing from Brussels to his secretary Hans Rudolff (transcribed by Junius 1926, 248)

(300) 1550 June 22
[...] Und seintemal ir euch gegen uns eures lieben herrn contrafect halben, ob wir die vielleicht auf ein tuch oder sonst haben wollten, erbieten thut, so begeren wir gnediglich, wo ir solche contrafect in gestalt eines brustbildes auf ein tafel zu weg bringen und verfertigen lassen konntet, ir wollet dasselbe zu bestellen unbeschwert sein [...].

Date: 1550 June 22
dem Herrn Philippo Melanchton befragen, welche historien aber unterdess solche daffeln lassen zurichten und mich bey biss ungeferlich mein vatter widder anheim khomme, will ich do es anders sein mag, noch weiter genedige gedult tragen schleunig mögen verfertigt werden und wölle derwegen e f g darumb dann nun solche taffeln, nach e f g gelangen nicht so gefangen fursten von hinnen gen Augspurgk ist abgefordert, das mein vater vor ezlichen wochen durch unnsern alten haben bestellet, will ich e f g unterthenigst pergen, haben gelangen lassen umb zehen taffeln, die e f g zumalhen Gnederig herr nach dem e f g an meinen vatern schriftlichen unterthenige, willige stets bereite dinst bevor an bereit. Durchlauchter hochgeborner furst e f g. seint mein (301) 1550 August 16

Durchlauchter hochgeborner forst e f g. sein mehn der vater reichlicher würdig, kein anderer in seinem geschehen allerzeit bestanden, und es war ein großer und schwerer forst. Die vater waren sehr erfreut darüber, dass er die gemalten tuchern in die stuben, dorinnen verschaffen und den baumeister Nikeln Groman mit dohin gehendem boten ainem zugefertigt, gein Wolffersdorf alsbald zuschicken, Wolten wir d. l. [lieben] widderumb wissen. Also begeren wir freundlich d. l. [lieben] wolle jungster Son, werden sich denselbig[en] haben abconterfeihen und wir es darfur haltten, d. l. [lieben] und unser gewarde uf uns in unser itziger custodi voerordent und berurte tafel, doruf wir sampt dem capitaneo, so mit der gewarde uf uns in unser itziger custodi voerordent und bescheiden, abconterfeit sein, in gleichnus die andern gemalte tucher und glezer zu den andern glezer, die wir d. l. bei unser gehendem boten einem zugefertigt, gein Wolfersdorf alsbald verschafft und den baumeister Nikeln Groman mit dohin fertigen, das er die gemalten tucher in die stuben, dorf innerh bishere d. l. malzeit gehalten, ufschlahe, aber die tafel mit unserm conterfeit in die camer, die neulich vor uns zugericht.


Date: 1550, Sonnabend nach Assumptionis Mariae Loc.: Formerly Staatsarchiv Königsberg. Flt. 31. p. 81. Duke Albrecht of Prussia asks Veit Dietrich’s widow for a painted portrait of her late husband. (transcribed by Ehrenberg 1899, 184, no. 352; Scheidig 1953, 175, no. 61)

(302) 1550 September


Date: 1550, Sonnabend nach Assumptionis Mariae Loc.: Formerly Staatsarchiv Königsberg. Flt. 31. p. 81. Duke Albrecht of Prussia asks Veit Dietrich’s widow for a painted portrait of her late husband. (transcribed by Ehrenberg 1899, 184, no. 352; Scheidig 1953, 175, no. 61)

(303) 1550 December 8


Date: 1550, Sonnabend nach Assumptionis Mariae Loc.: Formerly Staatsarchiv Königsberg. Flt. 31. p. 81. Duke Albrecht of Prussia asks Veit Dietrich’s widow for a painted portrait of her late husband. (transcribed by Ehrenberg 1899, 184, no. 352; Scheidig 1953, 175, no. 61)

(304) 1550 December 15


Date: 1550, Sonnabend nach Assumptionis Mariae Loc.: Formerly Staatsarchiv Königsberg. Flt. 31. p. 81. Duke Albrecht of Prussia asks Veit Dietrich’s widow for a painted portrait of her late husband. (transcribed by Ehrenberg 1899, 184, no. 352; Scheidig 1953, 175, no. 61)

(305) 1550 December 15


Date: 1550, Sonnabend nach Assumptionis Mariae Loc.: Formerly Staatsarchiv Königsberg. Flt. 31. p. 81. Duke Albrecht of Prussia asks Veit Dietrich’s widow for a painted portrait of her late husband. (transcribed by Ehrenberg 1899, 184, no. 352; Scheidig 1953, 175, no. 61)
auf einem tuch unser contrefect ganz freundlicher meinung übersenden [...].

Date: Augsburg
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L, fol. 807, N. Nr. 1a, fol. 124; Johann Friedrich I writing to his wife Sibyll of Cleves. (transcribed by Scheidig 1953, 176, no. 67; Schade 1974, 443, no. 389)

1551
(306) 1551 January 10
 [...] es hatte e. l. danksagung, so sie uns von die überschickten granatatpfel, pommeranzen, quittensaft und unser contrafectur gethan, garnit bedurft [...]. Und dieweil wir vermerken, das e. l. die sieben tugenden der bilder, inmassen die in den quittensaft gedruckt ganz wohlgefallen, so seind wir freundlich geneiget, e. l. dieselben doch meister Lucas Maler abmalen zu lassen, schirst nu er domit fertig, wollen wir sie e. l. übersenden.

Date: Augsburg, 1551, Januar 10
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L fol 807 N, Nr. 1b, fol. 3; Johann Friedrich I writing to his wife Sibyll of Cleves. (transcribed by Junius 1926, 251–252; Scheidig 1953, 176, no. 68; Schade 1974, 443, no. 391)

(307) 1551 February 27
Lieber getreuer! Wir sind bedacht, unserer freuntlichen lieben gemahel uf irer liebden freuntlichs anlangen und bitten die sieben tugenden mahlen zu lassen, derwegen dan etzliche reim en, so darbei zu schreiben, gemacht sind worden, darvon wir dir inligende abschrift zu ubersenden. Weil wir die aber auch gern uf ein ander und besser art und bei iedem bildnuß zwei lateinisch und deutsche carmina haben wolten, so begeren wir, du wollest diese reim magister Johan Stigeln zeigen und von unsertwegen begeren, das er seinem bedenken nach uff ide bildtnus zwen deutsche reimen und eben dieselb gemeint in zwei lateinische carmina vorfertigen und machen wolle und uns dieselben furderlich übersenden.

Date: Augsburg, den 27. Februar 1551

(309) 1551 April 22
 [...] Wir haben dir auf d. l. begehren die siben tugenden, die wir d. l. forderm in gegossen quittensaft überschickt haben, ganz huchs, lustig und kunstlichen uff die tucher mahlen lassen. Die wollen wir dir, so es dieser bot sagen kan, hiemit überschicken, wo aber nicht, so wollen wir dirs bei einem andern hinnach schicken und haben dieselbigen dermaßen abmessen lassen, das sie in d. l. stuben zu Wolfersdorff uff dem jagthause im erker werden gerecht sein, und ist unser freuntlich gegen, du wollest sie von uns freuntlich anennen und, wan du ir genug gesehen hast, gegen Wolfersdorff schicken und den baumeister alda in d. l. stube im erker aufmachen lassen und wolle d. l. mein dabei gedenken.

Date: Augsburg, April 22
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L, fol. 786–800 M 2, Johann Friedrich I writing to his wife Sibyll of Cleves (transcribed by Junius 1926, 254; Schuchardt 1851, I, 205)

(310) 1551 April 24
Es hat der baumeister die tucher zu Wolffersdorf in erkern e. f. g. stuben angeschlagen. Er berichtet aber, das sie drei quferfinger brater sein, dan die maß, so er e. f. g. uberschickt, darumb hat er sie mussen etwas einschlagen und hat mir inligend maß der rechten breite zugestellt, damit die andern tucher darnach auch gemacht werden.

Date: 1551, April 24
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. L, fol. 786–800 M 2 Nr. 4; Hans Rudolf, secretary, writing to Johann Friedrich I (transcribed by Junius 1926, 254)

(311) 1551 May 1
Nachvolgende tucher und conterfectung seint meister Lucas Maler, den 1 mai allie zu Augspurgk uff bevhelch meins gnedigsten hernn bezalt worden nach lautt seiner bekentdnus, 19 fl – gr – d. vor sieben tugenden, seint uff thucher gemacht. 15 fl vor drey wildt palzte, so mein gn. herr nach Wolffersdorf geschickt.
15 fl vor einen wiltpalz sambt einem zaun umbfangen, hengt noch in meins gn. herrn stuben, idem.
15 fl vor ein thuch, damit mein gn. herr den Duce Dealven vorehrt.
5 fl vor eine contrafectung, dormit mein gn. herr in gleichem
APPENDIX

den Duce Dealuen vor erbit idem.
5 fl vor eine contrafectung, so m. gn. herr seiner frustlichen 
ndenstlichen gemal geschickt.
5 fl vor ein contrafectung, so m. gn. herr docter Achillis geben, 
nden.
5 fl vor eine contrafectung, welche m. gn. herr noch in irer 
stuben hal hengenn.
3 fl vor eine contrafectung, so m. gn. herr seiner wirtin Ulrich 
[Welser] zu Augspurg geben, idem.
2 fl für eine contrafectum, welche m. gn. herr dem 
gulischenn [jülichschen] hoffmeister geben.

Date: Augsburg, 1. Mai
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Bb. 4711, 
fol. 26 (transcribed by Schuchardt 1871, 287; Junius 1926, 255 
with variations; Scheidig 1953, 176–177, no. 71; Schade 1974, 
443, no. 396)

(312) 1551 May 6
[...]

(313) 1551 May 22
[...] bald auch bedanke ich mich auch e. gn. der sieben 
tugenden halb, dann sie schön sind und mir wohl gefallen 
und ich sie von mir nicht lassen will, dieweil man wieder zu 
Wolfofndor bauen wird, sie mochten sonst verloren werden, 

das wir den knaben, darinnen er lieb izund ist, kein tafelwerk, 
das sich dieselben tucher wol reimen und nicht zu gros 
sein werden.

Date: Augsburg, 6. Mai 1551
Loc.: ThHStAW (transcribed by Junius 1926, 256)

(314) 1551 October 8

Zu wissen, das mein gnedigster herr uff meister Lucaßen 
Cranachs Malers ansuchen seiner besoldung halbenn, ime 
mündlich difen bescheid durch mich Hansen Rudolf hatt 
lassen geben, erstlichen belanngende die halbe jahrssbesoldung 
so ime von Michaelis anno 46 bis uff Osternn des 47den jhars 
außstehen solle, darumb wollte man sich in registern der 
renterei ersehenn, unnd do die betzalung nicht geschehen, 
sol ime solch halbe jahrssold als funfzig gulden entrichtet 
werden. Aber von Osternn des 47den jhars anztufabenn bis 
uff den mitwoch nach Maria Magdalene das ist den 23. des 
monats July des vorschinen funfzigsten jhars, weil meister 
Lucas Kranach hochgedachtmen meinem gnedigsten herren 
nicht gedinett, sondern zu Wittenberg geweßen, sol ime nichts 
gegeben werden. Wie es dan auch meister Lucas zufritten 
ist, und di forderung fallen zu lassen gewilliget. Und dieweil 
gedachtener meister Lucas den 23. July im funfzigsten jhar das 
isten den mitwoch nach Marie Magdalene uff hochgemeltes 
meins gnedigsten herren begerenn zu sein kfl. gn gein 
Augsburgk kommen, unnd widderrumb bei s. f. g. sich zu diinst 
estingestellt. So sol von solch zeit antzurechen inne alle jhar 
und die zeit seines lebens ein hundertt gulden mutnz folgen 
und gereicht werden [...].

Dargetegen aber und das mein gnedigsterr herr gewilliget, ime 
herlich und uff sein lebenlang sein besoldung volgen zulassen 
as 100 gulden herlich, hatt sich meister Lucas verpflichtet 
und bewilliget be s. f. g. in irer herhaftung so lang es s. f. g. 
gefellig, auch wuihn sein fl. gn. zyehen, zubleiben, so dan auch 
sein fl. gn durch gotliche verleihung der gefengnus entledigett, 
wolle er unter sein fl. gn und derselbigen sunen meinen 
gnedigen jungen herren, sich wesendlich nieder thun unnd 
die zeit seines lebens iren fl. gn. dienstwertig sein und bleiben. 
Dat: Augsburg, den achten Tag des Monats Oktober, 1551
Loc.: ThHStAW (transcribed by Schuchardt 1851, I, 195–198)

1552

(315) 1552 January 24
1552. Wir wollen euch in gnaden mit pergern, daß weylundt 
unser oberster tromether musicus uns lieber getreuer, 
Veith Königiswyeser, nach seinem abschiedt von diesem 
jamertshalzliche knaben, die wir in unsere gnedige 
verschung genommen, hinter sich verlassen, unter wechen 
gegenwertiger zeigwer sonderlichen erspüret, daß er von natur 
zur löblichen kunst des conterfeyens, und waß deme 
anhengig, geneigt, dann waß ehr von sich selbst und ohne 
einigis kunstners bericht mit reyßen und stechen gelernt, daß 
er wolten in irer gnedigen smarze geben, und bevorab weyl ehr 
deselben, als gedacht, von keynem kunstner underwyesen, 
icht zu verachten. Weil wir dann solchs vermergkt, wolten 
we es den knaben in seiner jugent nit gerne verseumet, sonder 
vorseh genhomen, hinter sich verlassen, unter wehen 
…
nehmen und inen im conterfeyen und reyßen, auch mit zurichtunge der farben und was dann zu dieser kunst nöthig, gutwillig unnderrichten. Dagegen wollen wir uns mit gnediger erstadtung gegen euch also erzeigen, damit eur angewanther veß nit vergeblich uff inen gelegt, und euch sonstigen gnedigen willen zu erzeigen, seint wir geneigt. Dat. Königsberg ut sup.

Date: Königsberg, 24. Januar
Loc.: Formerly Staatsarchiv Königsberg Flt. 31, p. 272; Duke Albrecht of Prussia writing to Lucas Maler in Wittenberg (transcribed by Voigt 1820, 256; Schuchardt 1851, I, 152–153; Ehrenberg 1899, 187, no. 373; Schade 1974, 443, no. 401)

(316) 1552
Item was ich sider [seit] der negsten rechenschaf gemacht hab zu Augspurg.
20 fl vor den paris auf tuch von olfarben.
5 fl vor die Judit Doctor Achilus.
5 fl ein Mariabild der Pfisterin.
5 fl vor Thucia [Titian’s] cunterfet, des malers von venendig.
15 fl vor das tuch, das Christus pey dem weib peym brune stat.
5 fl vor meins heren cunterfet Hans Welsers weib.
1½ fl vor ein clains cunterfet graf wolf gleichen.
5 fl ein tuch mit ein Caritas Dukalwum arcz [?].
3 fl vor ein barnherczigkait.
4 fl vor ein Mariabild des Kaisers zwerkg.
5 fl vor mein cunterfet mit einem weib.
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 18r]

5 fl vor mein jungen heren Johans Friedrich.
5 fl vor den kunig von Ihrsalem.
5 fl vor meins heren cunterfet, Moricz Welser ist geschenckt gesangt.
3 fl vor den teuczen spanijer und vor meins heren wapen.
3 ort den tischler wider auf ein neus aufzuzihen und zu machen.
7 gr vor das gros futer, das man die tucher inen gefurt hat.
2 gr vor das futer, das man den junge furser gefurt.
3 gr vor das futer, darinen man den kunig von Jerusalem hat gen Weimer gefurt.
1⅓ gr vors golt auf die leisten zu vorgulden, auf die leisten Duktials [?], sein die jungfrauen gemalt.
15 gr dem tischler vor die leisten und zu beschaen ales zu samen.
4 gr vor die leisten, das ich mein genedigst hern auf hab cunterfet zu vorgulden.
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 18v.]

Die tucher sein noch zu vor rechen.
Die Anna [Diana], die den ge ger [Jäger, Actaeon] begrust, das ein hirs [Hirsch] aus im wurd.
Ein mer wunder furt ein hern sein weib hinwegk.
Von Herculou, das er spint.
Adam und Efa.
Ein Caritas.
Ein Venus.
Ein olpergk [Christus am Ölberg].
Ein aufersteung.
Ein himelfart.
Das man die kinlein zum heren pringt.
Ein weinach [Weihnacht, Anbetung?].
Die abnemung [Kreuzabnahme] ein fesperbild.
Und die afen [Affen] zu cunterfeten.
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 19r]

Item die zen dannel oder paces.
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 19v]

20 taler hab ich empfangen vom v [Platz ausgespart; Name im Moment der Niederschrift warscheinlich vergessen] gotsman auf arweit.
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 20r]

Lucas Maler, 100 fl uf rechnunge
[Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 21v]

Date: no date given
Loc.: ThHStAW, Ernestinisches Gesamtarchiv, Reg. Aa 2975, fol. 18–21 (cf. Schuchardt 1851, I, 206–207; Scheidig 1953, 177, no. 72; Schade 1974, 444, no. 408)

(317) 1552 November 2
Vonn gotts gnadenn, wir Johanns Fridrich der Elter, hertzog zu Sachssenn, unnd geborn herfurst etc. landgraff inn Durenn und marggraff zu Meyssenn, thun kundt unnd bekennen vor unns unnd die hochgebome fursten, unnere freundtliche liebe sone, gegen menniglichen, nachdem weylannd, die acuh hochgeborne furstenn, herr Fridrich, unn herr Johans, geburde, hertogenn zu Sachssenn, und des Heiligen Romischen Reichs ertzmarschahl, unn churfurst, unnere freundtliche liebe vetter, und gnediger herr vater, selige gedechnus, unsernn lieben getrewen, Lucas
Cranach, als irer lieb und gnade, bestaltnen diener, unnd mahler, jhertlic ein hundert gulddenn dinstgelt undn die winter, unnd sommer hoffkleydung, uff sein leib, reichenn lassen, ihmn auch solche besoldung, die zeit seins lebens, jرتlichen zugeben, gewiitligen, welche wir gedachtem meister Lucassen, nach feiner lieb, unnd gnad, absterbbenn, jhertlich zu entrichtteng, inngleichnus, ginftigewilligt, unnd bey unsser regierung, bis uff Michaelis, des sechs unnd zwanzigsten jarn, volgenn habenn lassen, welcher besoldung er auch alle jar vorher, unnd betzalet wordenn ist. Bis uff ein einzige halbe jarbesoldung, die ime vonn wegenn, unners verloffenenn kriegs, seinem berurten nacht, von obberurtem zeit, Michaelis im sechs undn zwanzigsten, bis Ostern des siebben unnd zwanzigsten jarn, nicht entrichtit worden sein sollet. Derwegen wir aber, unnd uns auch gnediglich erzeigenn wollen, wie dann solchs alles weiter, in einer besondern sollet, der abrede, bis zwey jar uff diese vorschreibung sich vertagt, gehaltenn soll. Solchs bringet obgemelt verzeichnus, der abrede, wie dann solchs alles weiter, in einer besondern sollet, der abrede, bis zwey jar uff diese vorschreibung sich vertagt, gehaltenn soll.

1553

Gnedigster Herr! E. f. g. haben ungefährn für einem jharr ein schreiben an mein leben vatter thun lassen, und darneben ein knaben mittgeschickt. So aber zu derselbige zeitt vatter nicht zu Wittenberg gewesen und der brieff in seinem abwesen an mich gesant, habe ich solchen unterthenig angemenn neben dem knaben. Darann e.f.g. genediges begeren verstanden, das e.f.g. gerne einen moler aus ihne haben wollen. So habe ichs e.f.g. aus unherrneman wissen auff ein versuche fürgenommen, und befinde so fiel, das ehr wol tüchtig, auch etwas für andern zu lernen geneigt ist, und ich solte solchs e.f.g. vorlengst unterthenig vermelden haben; aber es ist mittler zeit ein sterben zu Wittenberg eingefallen, das ich mich mit weib und kindern allhin gen Weimar begeben und meine morderjungen mit mir anher genommen. Nun habe ich den Heinrichen angennomen auf drei jharr lang, die ehr als miterander bey mir sein sollt. Daran wil ich kein fleis sparen, ihn zu underweisen nach meinem friemügen. Verhoffe, e.f.g. werden des genedig gefallen haben; hette auch gerne gesehen, das ehr etwas gemolet hette und solchs e.f.g. zugeschickt, aber ißst hadt sichs dismal nicht schicken wollen, bin aber mit gottes hilff willens, auff künftig fasnacht mich wider gegen Wittenberg zu begeben, und aldo sol ehr etwas machen; solchs sol e.f.g. förderlich zugeschickt werden, wie ehr auch e.f.g. selbs zu versten geben wirdt. Solchs habe ich e.f.g. unterthenig nicht vorhalten wollen. Damit seint e.f.g. dem genedigen schutz des almechttigen bevollen, und wiensche clerlich mit. Derselbigenn nach, wollen wir unns, wann er des geldes notruftigk sein wirtet, zuerzeigenn wissen. Welches alles meister Lucas, mit untertheniger danksagung angennomen, gelobt, unnd zugesagt, auch daruber sein reuersbrief, gebenn haben, hat, dem allein was ihne betreffen, undn diese bestellung gegen unns, unnd unnsrern sohnenn, verbindingn thut, nachzukommen, unnd sich sonstenn zuhallten, wie einem getrewienn diener, gegen seinen herrn, zuthun geburet, unnd wol annstehet, unnd bevehlenn demnach hierauff unsren rehnthmeister, renthschreibern, und hoffgewandaufsteilern, gedachtem meister Lucassen, angezeigte ein hundert gulddenn munzt, undn die sommer und winter hoffkleydung, zuereiben, unnd zugebben, das soll ein jeder inn rechnung entnlohnen werden, Unnd geschiet darann unsern meinung, zu urkundt mit unssern zurück aufgedrucktem secret besiegelt, unnd geben zu weymar, Mitwoch nach Omnium Sanctorum, Anno Domini 1552

Date: Weimar, Mittwoch Omnium Sanctorum, 1552

APPENDIX II
e.f.g. ein glückseliges newes jhar. e.f.g. untherteniger williger
diener Lucas Cranach der Mittler Moler.
Date: Weimar, Freitag nach Erhardi
Loc.: Formerly Staatsarchiv Königsberg Schbl. 62, Nr. 21;
Cranachs the Younger writing to Duke Albrecht of Prussia
(transcribed by Voigt, 1820, 257–258; Schuchardt 1851, I,
153–154; Ehrenberg 1899, 188, no. 382; Schade 1974, 444,
no. 409)

(319) 1553 April 11
[...]. Nu gnedigster her, wil mir gebüren, ewren gnaden was
sehen zu lassen, was ich die zeit gelernt het bei meister
Luxen; schicke damit ewren gnaden ein geringes tuchlin,
welches zwar nicht werdt ist, vor e. f. g. zu komen, bit aber
gantz untermienen, e. g. wolden solch tuchlin gnedglich
annemen, als von einem der es besser zu lernen begert;
will aber ewren gnaden einmall etwas fleissigers (wen ichs
besser gelernt) sehen lassen. Och gnedigster her und fürst,
es wirdt mir schwer zu behelfen, den ich keinen lon oder
kleidung von meinem meister hab, on was sich e. g. meiner
annemen und helfen; hab verhalben auff solch mein notdufft
Jheronimus angesucht und gebetten, er wolde mir zehen
gulden geben, welchs er dan gethan hat. Hoffe aber und bithe
ever gnaden, werden solch zehen gulden dem Jheronimus
wider erlegen lassen, den ich solch geldt zu meiner notturfft
und an kunst legen wol, auff das ich desdo fleissiger lernen
könnte, und wil auch solch unkostung, die ewer gnaden aff
mich wenden, einmal alle vorden, Damit wil ich e. f. g.
got dem allmechtigen befolen haben, der spar ewer gnaden
ihn frischer, langwiriger gesundheit und glückseligem
regiment, amen!

Date: Wittenberg, Dienstag nach Quasimodogeniti 1553
Loc.: Formerly Staatsarchiv Königsberg, Schbl. 72, Nr. 21;
Heinrich Königswieser writing to Duke Albrecht of Prussia
(transcribed by Voigt 1820, 259; Ehrenberg 1899, 189, no. 388)

Notes
Appendix II : Selected primary documents on materials,
techniques and workshop organisation
1 A scholarly edition of all written source materials on the
Cranach family still remains highly desirable. During recent
years, Rainer Hambrecht as well as Monika and Dieter Lücke
have undertaken important groundwork in this area. I am
indebted to them for the new or first-time transcription of
numerous documents reproduced here.
2 Jahrbuch der Historischen Forschung in der Bundesrepublik
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Note: Page numbers in italic denote an illustration. Works of art are listed under the artist’s name. Portraits are given alphabetically by the sitter’s name.

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This study provides the first exhaustive description of the materials, techniques and studio practices of the German painter Lucas Cranach the Elder (c. 1472-1553). Gunnar Heydenreich draws on detailed technical examinations of Cranach’s paintings, as well as an analysis of documentary sources, to explain the characteristic elements of more than three hundred of Cranach’s paintings. In the process, Heydenreich provides unprecedented insight into the material and technical history of Renaissance painting in Germany.

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Lucas Cranach the Elder, Two Bohemian Waxwings, c. 1530. Watercolour on paper, 34.6 x 20.3 cm. Dresden, Staatliche Kunstsammlungen, Kupferstich-Kabinett