Résumé
Dans les articles de recherches publiés sur ce sujet, l’enluminure est présente comme un travail accompli, montrant une capacité esthétique et stylistique. Le verso du parchemin portant l’enluminure révèle d’autres détails, on peut voir l’effet des pigments sélectionnés sur le parchemin et le papier, ainsi que l’utilisation d’outils spécifiques et une technique particulière de travail. Un regard au recto et au verso de la page peinte nous offre des informations complémentaires plus complètes et aborde également les aspects anthropologiques du travail au Moyen Âge, qui s’appliquent à la fois aux environnements monastiques et urbains.

Keywords: illumination, reverse face, shades of colours, technical devices

Painted page and coloured shades on the reverse side
Few years ago, I had the opportunity to admire the Missal for the Augsburg rite, printed in Dillingen in 1555. It is a splendid work, and as tradition demands, the canon leaves are printed on parchment, opening with the Crucifixion (Figs. 1a, 1b) The expressive power of lines on the woodcut, made by Matthias Gerung, was intensified by layers of paint and the enhancement of some details, such as streams of blood on Christ’s body. The colourist that complemented the image of this tragedy used gold and dense layers of colours. Due to the demands of the printing process, the parchment is stiff and flat; despite its relative thickness, all painted segments left a coloured shade on the reverse side of the folio, regardless of whether they were bright or dark.

Because the colouristic character of Gerung’s Crucifixion is so impressive, I compared the composition with two other examples, also individually coloured. Identical compositions gain an essentially different character due to the choice of colours. Obviously, the pallet is influencing the expressiveness, giving more weight to the content, enhancing the religious message, and intensifying iconographic accents. Comparative Missals from the same print run and embellished with colours by other illuminators are also exceptional works, but it seems that the colourists used relatively light colours, and

1 Missale secundum ritum Augustensis ecclesie, Dillingen: Sebald Mayer 1555. Ca. 355 × 245 mm; five woodcuts of higher importance, among them the Crucifixion, were commissioned to Matthias Gerung by the Cardinal Prince Bishop Otto Truchsess von Waldburg.

2 Christie’s sale 5960; auction catalogue, 21st November 2012, lot 116; Augsburg, Staats- und Stadtbibliothek, MF Th A 498 - 1555b.
they do not exceed the necessity of covering the surface of the woodcut. Thus, only the illusion of this event was created and altogether the level of selective realism is not surpassed. One may expect that they complied with the wishes of commissioners, but they also did not take a step away from the average colour scheme to immerse themselves in the essence of the woodcut. This simple comparison illustrates well the essence of the colour, also marking the potent expression of line and of colour.

Here is the question: did illuminators or manuscript workers in a broader sense know the weight that layers of paint carry over the aesthetic quality of the subordinated, i.e., reverse side of the folio, which touches on the working process, composition, and quality of the substances used for painting?

This is related to another issue: when did the coloured shades on the reverse sides emerge? Is it possible that they were already visible during the process of illuminating? Would it be possible that they were annoying to the eyes of the illuminator, the commissioner, and the first owner at this early stage? Did the coloured shades cause unpleasant feelings, because they are blurring the page, and are influencing the legibility of the text? One could say that they are causing aesthetic damage. At least from our perspective, it seems logical – if the shades appeared instantly – to move the intended composition on the reverse side from one part of the folio to another section, especially at the instances when there was no shortage of the surface.\(^3\) Regarding the pres-

\(^3\) More attention was paid to manuscripts from Carolingian age until the end of the Romanesque; the impression that damage on the reverse side of the folio appeared only after several decades is sustained by several examples; even excellent illuminators did not choose for their compositions a non-affected place; therefore, it seems that during their work the damaging effects did not appear. Such case is the illumination of the so-called
ervation of medieval and renaissance illuminated manuscripts, a dilemma remains: did the processes slow down after a period of severe deterioration and not progress any further, or did this process ever stop at all?

As an art historian, I am familiar with many a manuscript and have long known that some of them are in poor condition and that this was caused by applying various damaging substances. Sometimes, after several controls, we ascertained the signs of deterioration and realized that some processes could not be stopped. That caused the inaccessibility for research of a number of famous manuscripts; some, like the Giant Admont Bible, were victims of unusual chemical components, like the mixture of silver and gold dust with pigments. Also severely damaged is the group of so-called “black manuscripts” for the Burgundian court of the second half of the 15th century. As is clear now, the advancing of deterioration due to using inappropriate material is revealed after several centuries. The creators of these magnificent codices could not have known that by choosing particular substances, they condemned to death their most beautiful works of art.

There is no answer suitable for all manuscripts; every item requires individual analysis (this is in the domain of natural sciences), and there are three classes of materials that are specific and unique for every manuscript: a) a variety of parchments and substances used for their fabrication; b) a variety of pigments and their additives; c) a variety of layers, grounds, necessary for the decoration. These three components contributed to the final result and the subsequent life of the manuscript. It is not news that an average atelier had a selection of pigments at their disposal, which, at least to the naked eye, could in different combinations produce the same hue of colour, and subsequently contribute to an aesthetic whole. Only modern technology can give an answer to which pigments they used when, for example, blue was needed for various elements, but it is not unusual for us to be able to detect the differences in chemical composition from the shades on the reverse side of the painted detail easily with the naked eye.

Many manuscripts are worthy of particular interest because of the process of the ageing of the painted layers, which influenced the final aesthetic and iconographic result. As an intriguing example, I choose the so-called De Fay Gospels. This Carolingian manuscript was produced in the world-renowned scriptorium of St Martin at Tours.

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5 The analysis of the Book of Hours of Catherine of Cleves, now New York, Morgan Library & Museum, Ms M. 917 and M. 945, ca. 1445, showed that several illuminators worked by the side of Master of Catherine of Cleves. Different hands are underlined also by the use of pigments and various kinetics of the hands. F. Trujillo, ‘From the master’s hand? A study of working methods of the Master of Catherine of Cleves’, in: Care and Conservation of manuscripts. 13. Proceedings of the fifteenth Seminar held at the University of Copenhagen, 13th – 15th April 2011, Copenhagen 2016, 451–472. Similar results are also quoted by other studies because of the importance of the workshop(s), involved in the illumination of the Visconti Book of Hours, cf.: C. Rob-Santer, ‘Die Trecento-Ausstattung des Visconti-Stundenbuchs – Ein Werkstattbericht’, in: Wege zum illuminierten Buch. Herstellungsbedingungen für Buchmacher in Mittelalter und früher Neuzeit, (ed. by C. Beier and E. T. Kubina), (Wien, Köln, Weimar: Böhlau Verlag, 2014), 125–147; a technical detail, worth mentioning regarding the technique of painting, being so delicate that at some instances the underdrawing is shining through the layers of paint (p. 134), the analysis also showed that several painters used pigments of different compositions (p. 144).
6 https://gallica.bnf.fr/ark:/12148/btv1b88426037h [accessed May, 30, 2019].
(Figs. 2a, 2b). A glance through the pages of this perfectly preserved manuscript alerts us that its pages are no longer offering the same aesthetic that they had at the moment of their creation. The purple areas, the letters and rims in gold, half-palmettes in orange and red, folded green ribbon, and other features that are preserved on the front page and on its reverse side are in substantially the same level of quality as in the mid-9th century; their intensity of colour did not change over the years. The original colour character is well preserved when supported by golden ink.

In contrast, the pictorial essence of the parts where silver ink was applied has changed significantly: on the front page, the silver ink turned almost completely black, on the reverse side, there are dark grey shades. There are several opening pages for each Gospel, where silver ink has lost its brilliance and is immersed in the surrounding purple; hence, the most important introductory words became illegible. It is well known that during the Carolingian and Ottonian era many experiments regarding pigments were executed, and cheaper silver was mixed in the gold base, yet only chemical and physical analyses would yield exact answers regarding the composition and percentage of ingredients.

It is presumably the process of ageing that transformed layers of silver leaves and lines of silver ink on the dark surface and left distinctive shades: if the transformation from glittering into dark grey had been immediate, the decisions for quantities of silver accents would have been accepted with much more precaution. Many illuminated works suffered aesthetic changes because of dark silver surfaces. The quality and shine

8 Denoël (note 7) refers to the investigations of pigments, used in the Fleury abbey. She concludes that during the pre-Romanesque era, scriptoria in less wealthy monasteries used mixtures of silver and gold pigments. Her information does not include whether this statement valid for manuscripts, commissioned from the part of richer aristocracy, or for the ones intended for free market.
9 Often we read remarks, saying: “silver leaf, which has now almost completely turned black, must have originally enhanced the glittering of the illuminations.” Cf. L. Wattereau & M. Van Bael, ‘Un très beau psautier, tout est écrit de lettre d’or et d’azur: History, imaging and analyses of the Peterborough Psalter (Brussels, KBR 9961 –
of silver and gold on the front side often have a counterpart on the reverse side, with dark areas and wrinkling, but they are also dependent on the grounds used. Recent developments in 3D microscopy and 3D imaging with Photometric Stereo are providing insight into the topography of art materials. The process of Reflection Transformation Imaging can provide new insights into the study of illumination, especially in techniques, showing changes in more or less concave surfaces. It is a very useful tool for the identification of techniques applied in the creation of gilded letters, parts of initials, backgrounds and similar features, showing cracking, flaking of metal surfaces, and other forms of deterioration. We are well aware of the fact that dark spots on the reverse of the parchment may be caused by the selection of ground, either usual gesso, coloured gesso, Armenian bole, or a base containing mercury. The final decision, for example, to use raised grey gesso, or a raised vermilion layer, was the personal decision of the illuminator (Figs. 3a, 3b). His decision influenced different hues in metallic leaves. Cennino Cennini, who dedicated so many chapters of his *Il libro dell’arte* to gold backgrounds on parchment (Cap. CLVII–CLXI), does not utter a single word about possible influences to the reverse side, but one must admit that there were so many techniques of painting and so many substances that obviously a painter was necessarily a practical chemist, and the results of his work were sometimes unpredictable.
There are no art historical publications on the aspects of the reverse face of the parchment; also specialized catalogues and studies hardly ever offer a reproduction of both sides. I understand that the folio, showing ‘damages’ of colour hues are not interesting from the point of view of aesthetics and that studies are concentrated on the importance of illumination in a proper sense of the word. Publications display attention for the creative force of the painter, for artistic achievement which is a feast for the eyes, and for iconographic importance. The fact is that reproductions of the reverse side are often crucial for offering complementary information, which is based on a possibility of following the working process and material properties in a specific time and in a specific milieu. In this respect, the digital views of entire manuscripts are outstanding support for research, as we have access to the reproduction of the front and reverse faces. Indeed, nothing can be a complete substitute for viewing the original, but it provides a lead.

Mediaeval manuscript workers were aware of the importance of using quality parchment folios and pigments. Some of their decisions, which we can rarely trace, are evidence of their awareness of material limits. Frank M. Bischoff demonstrated the thought and deliberation that went into the choice of parchments by copyists and illuminators, working on the Gospels for Henry the Lion (ca. 1188). For folios for which illumination dominated, they chose calf parchment, which is thick and quite bright, while for prevalently textual pages they used sheep parchment, which is slightly thinner and yellowish. The master illuminator carefully oversaw the accurate positioning of painted surfaces on both faces of the folios and thus avoided the majority of shadowy traces. Despite the fact that calf parchment bears the applications of strong colours well, not all differences were avoidable. For iconographic reasons, there are four medallions on the corners of the composition of Ancestors of Jesus: on the other side, where the dedicatory image is painted, we can notice their shadowy shapes, but because of the compactness of the parchment they are not a disturbance.

It was a general rule that for liturgical manuscripts parchments of good quality were available; consequently, painted initials with decorative branches of leaves and blossoms were set in the proper place within the text, or on margins without disturbing the text on the reverse face. Sometimes the decision was made that floral borders on the recto and verso were to be identical, being traced through. The reason might be twofold: with this ingenious method, they saved time and possibly avoided the bleed-through of paint from the other side of the leaf.

The case of manuscripts with particularly thin parchment is another story. An example is Summa Monaldina, made in the milieu of Paris University around 1300. The thin parchment caused a particular comprehension of the ‘reverse face’ and of the role of drawings on the recto and verso sides of each leaf. There are approximately 1600 autonomous drawings on the margins, shining through the folio and thus enjoying a double life: on the upper side, in their complete and clear form, and on the reverse side, as a soft

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15 On the upper corners are medallions of Christ as Sponsor and Maria as sponsa, persons from the Song of Songs, here related to the images of Henry the Lion and his wife, Mathilde; in medallions on the bottom corners are depictions of Jeremiah and St Paul.
16 E. Kleiss, Das Evangelar Heinrichs des Löwen (Frankfurt am Main, Insel-Verlag, 1988), pl. 5 and 6.
shadow. These marginal drawings are not a jolly decoration, or a pictorial whim devoid of content, but are painted key-words and a help to the reader looking for a definition in the legal encyclopaedia. The choice of a nearly transparent parchment is above all information on praxis in a workshop.\(^{18}\)

Painted page and traces of technical devices on the reverse side

The presence of the painter’s line and his creative intention also offer a view from another angle – underdrawings and sketches rarely leave evidence on the reverse face, but the presence of technical devices can also be discovered through their traces. Illuminators made use of them when a drawing of a form or of a whole composition was needed at short notice and in an acceptable quality. It was often just a repetition of more or less common forms, already used and now reused in a new scenery or iconographic context. The use of technical devices is evidenced by mechanical traces: it is not unusual that in a manuscript workshop the evidence of stencils, cartoons, pouncing, ways of transferring the model, and similar were “softened” or erased after the work was finished. Still, many traces remained, and it seems that back then, in the Middle Ages, their presence from an aesthetic point of view was not questionable. Many of these devices (patterns, stencils, templates, etc.) originated most probably from various projects of the past, and this reuse might explain the peculiarities in the dimensions of forms. The choices illuminators made were also prescribed by the physical factors of materials, the decisions of the scribes regarding the remaining space left to the illuminator before he could set to work, and other factors.

Early stages in the research of these working methods have been documented in the catalogues of manuscript illumination from the 19th century, when techniques of illumination displayed by unfinished manuscripts were set under the magnifying glass; also mentioned were underdrawings, autonomous drawings, sketches, forms, outlined with pouncing, impressed outlines, shades of pressed forms, etc. Numerous notes and also speculations on the nature of these technical devices received a fine and thorough overview in the monographs of J.J.G. Alexander on the working methods of medieval illuminators and Robert W. Scheller’s monograph on model-book drawings. They signified the essence of this field and turned attention to the importance of preserved documents of pictorial praxis in the Middle Ages and Renaissance.\(^9\) It is worth emphasizing that the insight in the medieval workshop practice elucidated on one side the role of commissioner, the creator of an iconographic programme, the illuminator with several helping hands, and on the other the importance and availability of models, in particular, examples for isolated forms or complete compositions. At some instances, attentive research documented the transfer of compositions into various techniques.\(^{20}\) To properly set up mediaeval techniques of copying and multiplying in the real rhythm of the past, the data reveals their understanding of authorship. In these societies, the open appropriation of forms and ideas, of copying, and similar was often just a social practice but also occurred due to


\(^9\) Alexander (note 17); R. W. Scheller, Exemplum. Model-Book Drawings and the Practice of Artistic Transmission in the Middle Ages (ca. 900 – ca. 1470), (Amsterdam: Amsterdam University Press, 1995).

\(^{20}\) B. Carbone, ‘Rogier van der Weyden and the Master of Amiens 200 concerning the Relationship between panel painting and book illustration’, in: Dessin sous-jacent dans la peinture. Colloque VIII, 8–10 septembre 1989, ed. by H. Verougstraete-Marçq and R. Van Schoute, Louvain-la-Neuve 1991, 43–53. On p. 43, he explicitly presents the point of research, namely the impact of South Netherlands (panel) painters on manuscript illumination. But the nature of dependence between techniques of painting requests accurate analysis and generalization is not appropriate position, though the author admits that numerous works of art have disappeared.
necessity, when several artists were in a situation to form a collaborative group in order to accept a larger commission. Circumstances in vibrant towns created the atmosphere in which ideas and stylistic differences in works of individual authors contributed to art, acceptable for all. They attained varietà, an artisanal excellency, and were praised for it, but in reality, only fantasy, novelty was appreciated, namely ingenuity.21

Medieval vocabulary regarding the technical aids and processes of their use is quite differentiated, reaching from poetical and philosophical evaluations of the creative process to very practical descriptions.22 Skilled labour, concentrated on repetitive patterns, remained appreciated in the following centuries;23 it was prevalently limited to decorative frames on paintings of larger dimensions, no more for compositions in illuminated manuscripts and books. On a wall painting or on panel painting, one can see a line of dots, connected with a line only on one surface, while on parchment folio the prickings are also visible on reverse sides. I trust the statement that there are no written texts from the Middle Ages23 with preserved and detailed instructions remaining, and all information is derived from the inspection of manuscripts, meaning that particular gestures or specific details repeated and in a manuscript are evidence of the use of technical devices, which the master illuminator and his helpers had available. Moreover, they are not rare.25

The character of prickings with regard to their traces cannot escape an attentive eye; prickings reveal when a certain image was created in respect to the manuscript. In Graduale, possibly from ca. 1400,26 the composition of the initial was inked over the pattern of pricking on the front side and so the “blind perforated image” received a formal and iconographic character. Pricks are also visible on the reverse side and, by their nature, we can claim that the needle perforated the parchment only after the musical notation and texts were already written on the reverse face of the folio.

For initials and other compositions, pouncing must have been executed free-hand and not with a pouncing wheel.27 However, traces of this procedure would not be preserved in two major cases: if the pouncing were performed before the text was also written on the reverse side, pricks would interfere with the line of writing but they would not be preserved in case there was an intention to finish the pounced image; the pricks would be evened out to prevent the leaking of the paint through to the other side.

In some particular manuscripts, not all of the initials were designed by the same method of pricking around the model, as several initials show the underdrawings in brown ink. However, it is not unusual to see various techniques in just one codex (Figs. 4a, 4b). Such is the manuscript containing Ulrich von Pottenstein’s Das Buch der natürlichen Weisheit,28 once kept in the library of

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22 Italian artistic literature assembled words like carta lucida (transparent paper), stradfero (perforated templates), spolvero (outlined form, obtained by pricking), calco (tracing the cartoon onto surface with stylus) etc. Cf. Löhr und Weppelmann (note 21), 55 and footnote 165.


24 S.a., Vorwort, in: Wege zum illuminierten Buch (note 5), 7–9, spec. 8.


26 The manuscript in question is Graduale, Novo mesto, Franciscan monastery, Aa-1.

27 This is evidenced by diverse intervals between pricks; when using the pouncing wheel, the intervals are always equal. Cf. also J. A. Dane, ‘On the shadowy existence of the Medieval Pricking Wheel’, in: Scrittorium, L, 1966/1, 13–21.

28 Now: New Haven, Yale University, Beinecke Rare Book and Manuscript Library, Ms 653, after the mid-15th century; L. Fagan Davis, ‘An Austrian Bibliophile of the Seventeenth Century: Wolfgang Engelbert von
Prince Wolfgang Engelbert von Auersperg in his Ljubljana palace.

Sixty images display a wide range of technical devices; some objects were prepared for the colourist as simple repetitions of outlined stencils and forms with pricked outlines (trees, sun, moon, mountain, fox, wolf, spider, ox (which is sometimes also horse, depending on the shape of the tail), lion (with a humanized head), rooster, etc.). In this workshop, graphic sheets were also available, and it is witnessed by a sitting bear, or an ape with crossed legs, also found in other contemporary books with illumination or woodcut decoration. There are many images of animals, but they do not fit in the same standard of sizes. Several animals are often repeated but in constant dimensions: there is always a hedgehog of the same size, a fox that is not bigger than a hedgehog, always a rather big peacock, and so on. All this indicates that in this particular workshop, models, templates, and stencils were extensively used. Also, a crow is not always a crow but also an eagle, outlined with the halo of a model and painted black. Roe and roe-buck were formed with the help of two different devices: the outline of the roe-buck was made either by the method of tracing over transparent vellum or paper, but it is possible that this particular shape was cut from a harder material (like stiff parchment), and was outlined with a stylus, or quill, or silverpoint. These traces are hardly visible on the front side; the lines are blurred by repeated outlines and watercolours, yet we feel them under the fingers on the reverse face and, with the help of light and shadow, we see them as a relief. The outline of a roe was instead made with perforations along the contours of the model. Here again, the traces are visible on the reverse side. This workshop extensively used one model for peacocks, sometimes turned to the left and sometimes to the right. Not all steps in illumination

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29 Manuscript is digitized: https://brbl-dl.library.yale.edu/vufind/Record/3566746
30 Scheller, note 19, 76 on importance of graphic sheets and drawn model books.
can be explained: on 227v is a peacock in his usual form, and the relief on 227v is enhanced with red ink. Yet always, regardless of the entirety of the composition, the peacock is of identical dimensions.

These illustrations are not of impressive quality, and it seems to be the logical conclusion that they were produced in a workshop where a swift tempo was demanded. The manuscript was not particularly expensive and was intended for a clientele hungry for text and capable of adding proper images to the texts from their own fantasy. The workshop and such results would not require attention to quality, unless this manuscript shows that both sides of illustrations form complementary information. In this particular case, the reverse side of the paper is an important transmitter of insights into the working process. Like sculptures, ivory plaques, paintings, and similar, the hidden side is hiding surprising evidence, and traces of working processes are telling a story of its own in the story of the work of art.31

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