Chapter IV

Reproduction of paintings Photography

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1. REPRODUCTION-ENGRAVINGS

The first reproductions of paintings were the result of engravings called reproduction-engravings, some of which may have been carried out with the agreement of and under the supervision of the painter himself!

It is known that engraving in the West was first developed in the 15th century. However, works of art from the 15th century reproduced by engraving are a rarity. The wood-cuts of the 15th century are more likely to be original works rather than reproductions of works existing in a different technique. They are to a large extent popular images, and the engraver does not concern himself with the artistic development of the period. However, compositions by Roger van der Weyden or Jan van Eyck are the sources of some engravings preserved to the present time, for example, a Virgin and Child in the diocesan Museum in Breslau and a Virgin Giving Suck in the Louvre, both dating from the middle of the 15th century and engraved after van der Weyden.

It is interesting to observe that engravings may reproduce lost works: the Large Garden of Love, an engraving on copper from the 15th century, possibly takes up the theme of a lost painting by van Eyck; an engraving by A. Wierix gives the impression of an original painting by Quentin Metsys, representing the Virgin and St. Luke, which is only partially preserved².

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From a methodological viewpoint, particularly as regards the use to which these engravings could be put, it is necessary to take into consideration the fact that the reproduction may be an exact copy or merely an interpretation inspired by the original. In other cases it is necessary to inquire whether the orderer or the publisher intervened to suppress or add details. Furthermore, one must always raise the question of the talent of the engraver in rendering the pictural tonalities of the model³.

An engraving may not only be of use in making known lost works, but it is at times highly useful in the reconstitution of damaged or faded paintings, or paintings which have undergone rather radical restoration. An example here may be found in an engraving on wood, published by the Augustinians of Liège in 1577, which appears to reflect the original state of the central panel of the *Holy Kindred* by Quentin Metsys⁴.

The Master F.V.B. who worked in the Netherlands between 1480 and 1490 produced engravings, some of which are directly inspired by works of Memling, van der Weyden or Thierry Bouts. Alaert du Hameel (1449?-1509) worked after the style of Jerôme Bosch who is thought to have provided him with the subject-matter of his engravings⁵. With the arrival of the 16th century we enter the period of glory of the engraving: whether original creations of artists who were both painters and engravers like Dürer, Lucas of Leyde, Gossaert, Vermeyen, etc., or reproductions of paintings by such well-known engravers as Adriaen Collaert and Jerôme Cock⁶. The latter occupies an exceptional position in this area: besides his own creations, he reproduced the works of the best Flemish and Italian artists, Raphaël, A. del Sarto, Vasari, Giulio Romano, Jerôme Bosch, Frans Floris, Lambert Lombard, Lucas Gassel, Martin van Heemskerk, Michel Coxie, Martin de Vos, Hans Vredeman de Vries, and not forgetting Brueghel who drew especially for engravings. Jerôme Cock sold these engravings in his shop entitled The Four Winds in Antwerp. He is the first publisher of engravings on a large scale in the Netherlands, and a follower of the example of the Italians such as Antonio Salamanca or Antonio Lafrerij, whom he had met in Rome between 1546 and 1548. He set up his shop immediately upon his return to the Netherlands in 1548 and surrounded himself with the best Flemish and foreign engravers; the Italian Giorgio Ghisi, mentioned in 1551 in the Guild of St. Luke under the name 'Joorgen Mantewaen, coperen plaetsnijder (= copper plate-cutter)' transposed into engravings the School of Athens by Raphaël; Corneille Cort and Philippe Galle worked in particular after the style of Frans Floris; Peter van der Heyden (Petrus a Merica) engraved the work of Lambert Lombard⁷, etc.

Other houses of engraver-publishers opened up in the second half of the 16th century, such as those of the Galle family, the Collaert family, and the Wierix brothers. In the 17th and 18th centuries engraving was used particularly for purposes of reproduction.

The 17th century was to perfect the techniques of etching and of engraving by refining the cut, varying the inks, mixing techniques. Several major figures dominate the century, Rembrandt, who did his own engraving, as did A. Van Dyck for certain portraits in his iconography in their first state, and Rubens. The case of Rubens is exemplary, in the sense that he saw engraving with the eyes of a painter, and attempted to translate colours by values of black and white of varying intensity. The engravers whom he selected, Lucas Vorsterman the elder, Paul Pontius, Cornelius Galle, Pieter Soutman, Hans Witdoek, the Schelte brothers and Boetius à Bolswert, all engravers, and the wood-cutter, Christopher Jegher, succeeded in carrying out transpositions with an extraordinary wealth of nuances. From the 17th century, on furthermore, collectors adopted the custom of having their collections reproduced. Thus David Teniers is the author of numerous paintings representing the Gallery of the Archiduke Leopold-Wilhelm, but also of a real edition of art which appeared in 1660 in four languages and which reproduces in engravings the Italian works in the collection of the Archiduke, the Theatrum Pictorium.



Fig. 1. Philips Galle, Death of the Virgin, engraving after Pieter Bruegel, 43,5 x 29,5 cm. Brussels, Bibliothèque royale Albert I^{ee}, Cabinet des Estampes, (Neg. Bibliothèque royale Albert I^{ee}, Cabinet des Estampes). The engraving attempts to render the paintings' values.



Fig. 2. Rubens, St. Francis of Assisi receiving the Stigmata, oil on canvas, 382 x 243 cm. Cologne, Wallraf-Richartz Museum (Neg. Rheinisches Bildarchiv 31.804).



Fig. 3. L. Vorsterman, St. Francis of Assisi receiving the Stigmata, engraving 1620.

Brussels, Bibliothèque royale Albert I^{rr}, Cabinet des Estampes (Neg. Bibliothèque royale Albert I^{rr}, Cabinet des Estampes).

The 18th century sees the birth of the Academies which organized exhibitions to spread the repute of works of art. For such occasions engravers made engravings of the works displayed, highly interesting from the point of view of documentation, as they make it possible to give an account of the state of the artistic production of a period. Engravings giving an interpretation of paintings multiplied in the 18th century in the publications of the most famous galleries, forming nothing less than books of popular art, for example, the collections of the king and of the duke of Orléans in France, published in 1729-1742 by Mariette, the imperial collection in Vienna, published in 1735 or the Electoral Gallery in Düsseldorf, published in 1778 by Nicholas of Pigage.

Alongside engravings, the existence may be pointed out of drawings aiming at reproducing existing works of art, brought together to constitute collections of genealogical, heraldic or historical information. These drawings are of great use to the historian, as they at times reproduce paintings, some of which no longer exist. Examples are the *Recueil d'Arras* by Jacques le Boucq (d. 1573)⁸, the *Memoirs of Antony of Succa* (d. 1620)⁹ and the documents of François-Roger de Gaignières (d. 1715)¹⁰.

2. TECHNIQUES OF REPRODUCTION IN THE 19th AND 20th CENTURIES

With the 19th century the range of the means of reproduction was enriched. Before the discovery of photography the techniques we are dealing with required a considerable contribution by the artists themselves in regard to the expression of the relief, the pale and dark, and the pictorial quality of the model.

The most important technique is undoubtedly that of lithography, invented by A. Sennefelder in 1797. It became widespread due to the substitution of the lithographic stone for metal. J.N. Strixner is undoubtedly one of the first artists to have applied lithography for the reproduction of paintings with a high degree of perfection. From 1810 on he published in regular issues a number of series of reproductions of paintings in the Royal collections in Munich, in the 'Kgl. Bayerischer Gemäldesaal zu München und Schleissheim', in the collection of the Sulpiz brothers and Melchior Boisserée and in that of J.B. Bertram ¹¹. These documents are of exceptionally high quality. Strixner even coloured by hand some of these reproductions in the colours of the original. In 1816, the lithographers G. Engelmann and Lasteyrie invented chromolithography which was very popular in the 19th century for the reproduction of paintings.

A strange procedure was perfected by G. Baxter in the middle of the century, namely the 'oil-paint print', a lithography in colour imitating oil-paintings in a misleading manner: the relief of the strokes of the brush and the structure of the canvas are imprinted in the lithography after printing.

Photography, invented in the years 1827-37 by Daguerre and Niepce was used for the reproduction of art from the middle of the century onwards. In 1865, for example, a collection of photographs appeared of the best paintings in the Pinakothek in Munich. Another catalogue of this collection appeared in 1897, in which the photographs are printed in colour. It should be recalled that the first colour-photographs, using the trichrome procedure, were made between 1869 and 1880 by L. Ducos du Hauron. However, black and white photography remained the most widespread form. As early as 1858-9 E. Fierlants of Brussels succeeded in making remarkably good photographs of the Early Flemish painters preserved in Bruges 12. It need hardly be mentioned that the great interest in early painting, even in the field of reproduction, whether by lithography or photography, belongs to the romantic movement and goes hand in hand with the elaboration of the neogothic style 13.

The photogravure, a process derived from etching and which does not use manual impression, but chemically engraves plates of copper through a reserve obtained photographically, was used as from 1875, when it was invented by Karl Klietsch. Being an industrial process, the photogravure was developed rapidly.

Besides these developed techniques, outline engraving was also used in the 19th century in order to make works of art widely known. It is a



Fig. 4. Raphael, Madonna and Child with the Young St. John, oil on panel (2) 71 cm. Florence, Galleria Palatina Pitti.



Fig. 5. Madonna and Child with the Young St. John, outline engraving after Raphaël, 7,5 x 7,7 cm. From REVEIL, Musée religieux ou choix des plus beaux tableaux inspirés par l'histoire sainte aux peintres les plus célèbres, Paris, 1836, p. 77 (Neg. Arke, U.C.L.).

simplistic process which only gives an idea of the iconography of the work, without attempting to render pictorial values. An interesting example is the Histoire de l'art par les monuments depuis sa décadence au IV^e siècle jusqu'à son renouvellement au XVI^e siècle by J.B.L.G. Seroux d'Agincourt, which appeared in Paris in 6 volumes in 1823.

Another technique is that of the collotype, invented by Poitevin as early as 1860, which uses the properties of bichromate gelatine, which is sensitive to light.

The 20th century has seen the major development and constant improvement of photographic processes in black and white and especially in colour, which at the present time have achieved a remarkable degree of perfection. Colour-photography on slides, in particular, has come on considerably. It makes possible the constitution of documentation which is extremely valuable.

It goes without saying that in the domain of painting there is no substitute for direct contact with the work itself, seeing its real dimensions and perceiving the materials which it is made of. Indeed photography should be used with a considerable degree of critical awareness. At times it has a subjective and even fallacious character 'since numerous items directly influence the final result: the technique of lighting, the focusing of the object photographed, the diaphragm (stop), the time of exposure, the filter chosen, the emulsion of the sensitive material, its development, the extension of the positive and other items of a more and more technical nature 14. To these may be added the choice of the visual angle and the cutting-up by the photographer.

3. Photography

3.1. Photography of the painting in its entirety

Nevertheless, photography remains invaluable. The photography of the painted work in its entirety does in fact provide a precise copy of the work of art and hence perpetuates the memory of it. For the historian of art the image makes possible the comparison of works geographically distant, a fact of capital importance at a time when there is a tendency to limit the transportation of works of art for reasons of security and perservation. The image allows to document various stages in a conservation treatment. Photography makes possible the reconstitution of dismembered works ¹⁵ and the reproduction of fac-similes of paintings ¹⁶. The greater and greater accuracy of the reproduction of colours with the aid of modern techniques is an asset of great value. One may recall here the exhibitions put on by A. Dierick of Ghent of reproductions in colour and of life-size, either on transparencies or on photographic paper, of the works of van Eyck, P. Bruegel and H. van der Goes ¹⁷. These are genuinely valuable museums of imagery, both for the information of the public and for scientific study.

There exist in the field of painting centres of photographic documentation such as the Rijksbureau voor Kunsthistorische Dokumentatie in The Hague, The Rubenianum in Antwerp, and the Centre des Primitifs flamands in Brussels, which bear witness to the importance of photographic documentation in the history of art. It becomes possible to obtain a better overall view of an artist or to examine and to compare various versions of a single work. For iconographical study photographs constitute documentation of first-rate importance ¹⁸. The publications of these centres, the Corpus Rubenianum and the Corpus des Primitifs flamands also constitute very valuable working tools. In this context the publication of collections should be mentioned, in which the complete works of a painter are included ¹⁹. Finally, the importance of photography also lies in the fact that one can come to know paintings which have in the meantime been destroyed.

3.2. Photography of detail

Photography of detail, at times greatly enlarged, enriches our knowledge of the work; the detail brings out the personality of the artist, the manner in which he depicts a silhouette or brings to life a country-scene, the nuances of his palette; it facilitates iconographical research and comparisons as well as giving an idea of the state of preservation of the painting. The evaluation of a painting is accomplished by this viewing of its composition fragment by fragment.

3.3. Photography with tangential light

Photography with skimming or tangential light, obtained by illuminating the painting with a pencil of rays parallel to or almost at its surface, registers a particular image of the painting. It brings out all of the irregularities of the surface of the work, whether due to the materials used, to the pictorial coating or to the varnish. Hence its role in conservation and restoration is vital. Thanks to it warping of the materials is brought out, chiefly wooden materials which can split or bend, also the manipulations which these materials have undergone, for example remounting or the transposition of wood on to canvas where the previous material, invisible to the naked eye, appears with its original texture such as the grain of the wood or the knots affecting it²⁰. The documents obtained by skimming light likewise show precisely the rising of the pictorial coating, its swellings, its tearings and all of the accidents of the varnish; tearings, scratches and superficial repaintings. They also provide an interesting view of the workmanship of the artist, of his writing, that is to say, of his manner of applying colour, the instruments used by him. In this field they can be of great utility in unmasking forgeries. This process can also bring out an incised preparatory design or incised details, applications in relief, etc.

3.4. Macrophotography

Macrophotography registers small areas of the painting with a scale of enlargement equal to or greater than one, by means of a camera with a shortdistance focusing lens. It makes it possible to isolate details which are scarcely perceptible, by enlarging them slightly, with a view to the profound

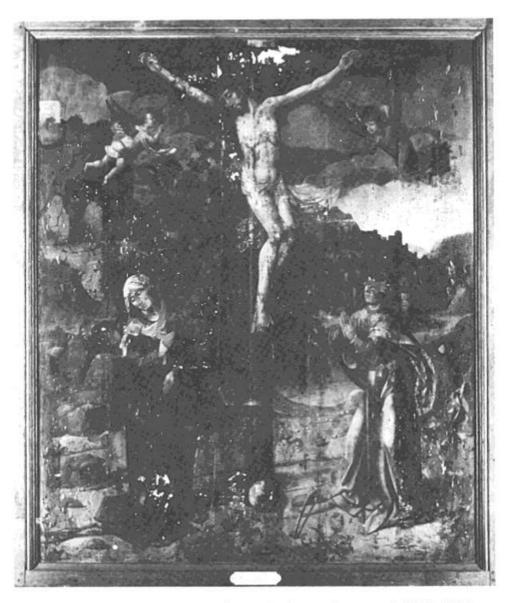
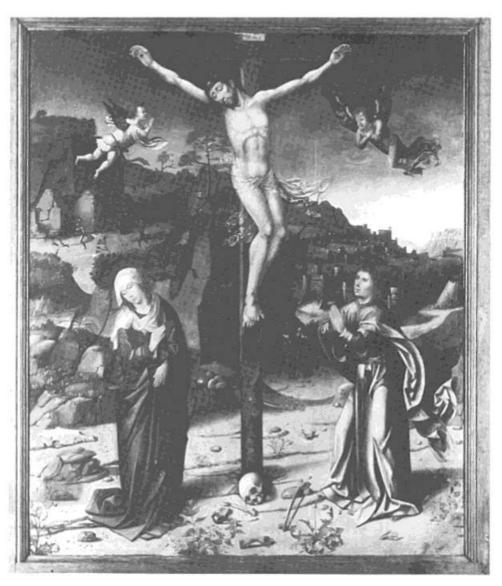


Fig. 6. Anonymous, 16th century, Christ on the Cross, oil on panel, 178,5 x 152,5 cm. Namur, Musée des Arts anciens du Namurois (Neg. A.C.L., Brussels 181.331B). Photograph before the restoration.

study of a work, of the writing of the artist. It makes possible a view of the pictorial coating and of the varnish. It brings out the network of cracks, the lacunae, possible overpaintings. The study of cracks is of particular importance in confirming or denouncing the authenticity of a work. Thus in paintings on wood the cracks are provoked by the reactions between the materials, the preparation, the pictorial coating and the varnish, of which the



Fiv 7. Anonymous, 16th century, Christ on the Cross, oil on panel, 178,5 x 152,5 cm. Namur, Musée des Arts anciens du Namurois (Neg. A.C.L., Brussels 198.777B). Photograph after the restoration.

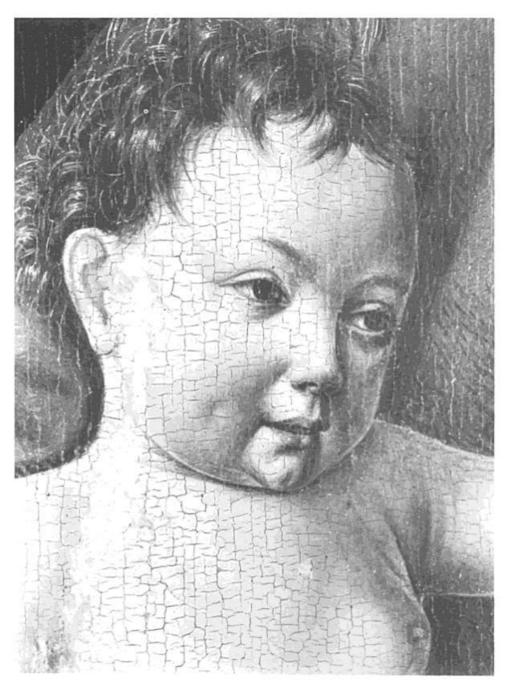


Fig. 8. Anonymous Flemish Master, 15th century, Madonna and Child with two Angels (detail), oil on panel, 86,9 x 65,5 cm. Granada, Capilla Real (Neg. A.C.L., Brussels, 161.451B).

Macrophotography 2 X showing overpaintings and the very regular network of

cracks due to age.

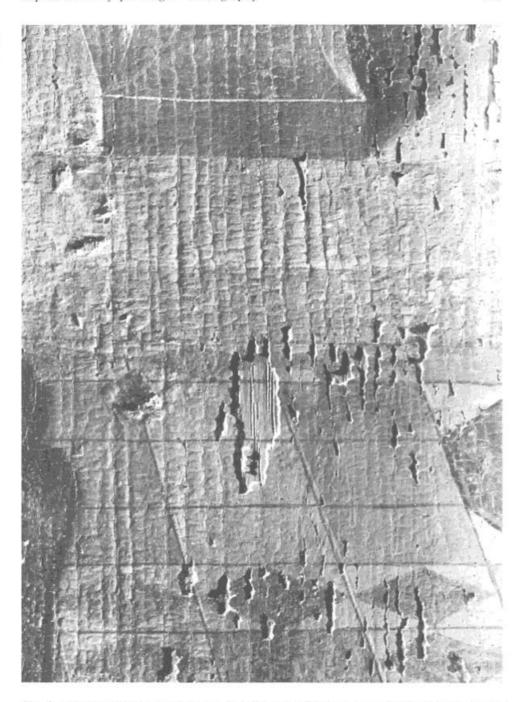


Fig. 9. Anonymous Flemish Master, 15th century, Madonna and Child with two Angels (detail), oil on pannel, 86.9 x 65,5 cm. Granada, Capilla Real (Neg. A.C.L., Brussels, 161.454B).

Macrophotography 2 X with tangential light, showing the lacunae.



Fig. 10. Group van Eyck, Madonna and Child, (detail), oil on panel, 19,5 x 26,5 cm. Melbourne, The National Gallery of Victoria (Neg. A.C.L., Brussels, BL7235). Macrophotography 20 X showing the face of the Virgin with retouching strokes.



Fig. 11. Jeronimus Bosch, The Ship of Fools (detail), oil on panel, 57,8 x 32,8 cm.
Paris, Louvre (Neg. A.C.L., Brussels, 164.2021B)

Macrophotography 2 X showing luminescent accents and the writing of the artist.

coefficients of expansion differ: they determine small islands of fragmented matter and develop parallel to the grain of the wood, with a secondary network perpendicular to the chief network. One finds oneself with a pattern of squares. The appearance of these cracks due to age is usual in the life of a painting. A second network frequently develops on the level of the varnish. These cracks due to age have contours which stand out clearly, unlike cracks brought about by a siccative or possibly by burning, which must not be confused with premature cracks which have appeared very early in the life of a painting due to e.g. a poor mixture of pigment and medium. There also exist other kinds of false cracks which can be brought out by macrophotography, cracks incised into the pictorial coating or cracks painted onto it. Besides differentiating these various types of cracks, macrophotography makes it possible to bring out overpaintings which conceal the network of the age-cracks or the repaintings which interrupt it. It also yields an excellent view of the writing of the artist, of his brushwork, of the way in which he places the impastos and the emphasis of light. The comparative study of macrophotographs of various works of a painter is very interesting for a better understanding of the latter.

3.5. Microphotography

Microphotography registers small areas of a painting on a scale of enlargement always greater than one, by means of the microscope to which the camera is attached. The microphotography of a painting is generally performed with the binocular microscope with a small degree of enlargement (6 × 50). This instrument has the advantage of giving a view in relief of the apparently flat surface of the painting. It improves the possibilities of the examination of cracks, and the documents which have been obtained thanks to its use are striking. It yields a profound knowledge of the pictorial coating: it reveals the grinding of the pigments, their density, their calibre, all of which are important for dating purposes. It displays the tiniest lacunae, the overpaintings, the repaintings. It makes possible the observation of the preparation, for example on the edge of a lacuna, and of the superposition of pictorial coatings. The latter element is important for the knowledge of the technique and chronology of the pictorial work. In the case of a signed work the microscope makes it possible to see whether the signature is or is not integrated into the pictorial coating, whether it is crossed by the same network of cracks, i.e. whether it is of the same date as the work, which, it may be noted en passant, is not an adequate criterion for the attribution of the work with certainty.

The various photographic techniques mentioned here render objective the observations made in the visible spectrum. Photography also obviously has its place in the registration of images observed outside the visible spectrum under the effect of ultra-violet fluorescence and of infra-red radiation, which are dealt with in other chapters of this book.

4. Notes

- Cf. in general: Bilder nach Bildern. Druckgrafik und die Vermittlung von Kunst (cat. exhibition), Münster, 1976.
- 2. H. PAUWELS, Naar aanleiding van een gravure naar Quinten Metsys, in Bijdragen tot de geschiedenis van de grafische kunst opgedragen aan Prof. Dr. Louis Lebeer ter gelegenheid van zijn tachtigste verjaardag, Antwerp, 1975, p. 248-261.
- 3. For the typological aspects cf. W. Le Loup, Iconografische sprokkelingen in het Prentenkabinet te Brugge. Een onderzoek naar de relaties tussen ontwerpen en kopieën op papier, refererend naar schilderijen, tekeningen en voorwerpen uit de verzamelingen van de Brugse Stedelijke Musea, in Bijdragen tot de geschiedenis van de kunst der Nederlanden opgedragen aan prof. Em. Dr. J.K. Steppe, Leuven, 1981, p. 396 ff; idem, Het auteurschap in de grafische kunsten, in Le dessin sous-jacent dans la peinture. Colloque IV, 29-31 octobre 1981 (Université catholique de Louvain. Institut supérieur d'archéologie et d'histoire de l'art. Document de travail, 13), Louvain-la-Neuve, 1982, p. 49 ss.
- 4. Cf. A. DE BOSQUE, Quentin Metsys, Brussels, 1975, p. 89.
- 5. Cf. in general E. ROUIR, La gravure des origines au XVF siècle, Paris, 1976.
- 6. Jérôme Cock, Éditeur d'estampes et graveur, 1507?-1570 (cat. exhibition), Brussels, 1970.
- 7. For the engravers of Lombard's works, cf. Lambert Lombard et son temps (cat. exhibition), Liège, 1966, p. XLI ff. and p. 73 ff.
- 8. Cf. L. QUARRÉ-REYBOURBON, Trois recueils de portraits aux crayons ou à la plume représentant des souverains et des personnages de la France et des Pays-Bas, in Bulletin de la Commission historique du Département du Nord, 23, 1900, p. 1-127.
- 9. Cf. M. COMBLEN-SONKES and C. VAN DEN BERGEN-PANTENS, Memorien van Anthonio de Succa (cat. exhibition), Brussels, 1977.
- Documents preserved in e.g. the Bibliothèque Nationale de Paris, Cabinet des manuscrits et Cabinet des estampes.
- 11. As early as 1804 Strixner published in copper engraving drawings by C. von Männlich, director general of the Gemäldegalerien und Kunstinstitute Bayerns after the style of Raphaël: Zeichnungsbuch für Zöglinge der Kunst und für Liebhaber, aus Raffaels Werken gezogen, Munich, 1804. For the lithographies of. M. Engels, Die Lithographien von Johann Nepomuk Strixner nach Gemälden aus der Sammlung Boisserée, in Gemälde der Sammlung Sulpiz und Melchior Boisserée und Johann B. Bertram, lithographiert von Johann Nepomuk Strixner (cat. expos.), Neuss-Heidelberg, 1980-1981, p. 21-23.
- Cf. J.-P. Sosson, Les Primitifs flamands de Bruges, apport des archives contemporaines (1815-1907), Brussels, 1966.
- Cf. S. Sulzberger, La réhabilitation des Primitifs flamands, 1802-1867 (Académie royale de Belgique, Classe des Beaux-Arts, diss. en 8°, 13, 3), Brussels, 1961.
- R.-H. MARIJNISSEN, Dégradation, conservation et restauration de l'œuvre d'art, 1, Brussels, 1967, p. 261.
- Cf. e.g. Inventaire illustré d'œuvres démembrées célèbres dans la peinture européenne, Paris, 1974.
- 16. One example is the exhibition L'œuvre de Rogier de le Pasture-van der Weyden, Tournai, 1964.
- Imaginair museum Hugo Van der Goes (cat. exhibition), Audergem-Ghent-Louvain-Sint-Truiden, 1982-83.
- 18. An example is provided by the *Decimal index of the art in the Low Countries*, an undertaking by the *Rijksbureau voor Kunsthistorische Dokumentatie* in The Hague and elaborated in collaboration with the department of the History of Art in the University of Leiden.
- 19. An example: the series L'opera completa dei... (Classici dell'arte), Milan, since 1966.
- 20. One of the first works on the examination of paintings is that of M. Hours, À la découverte de la peinture par les méthodes physiques, Paris, 1957.

5. RÉSUMÉ

Les plus anciennes reproductions de peintures se manifestent sous la forme de gravures, parfois exécutées avec l'approbation ou sous la surveillance de l'artiste. Cette forme de reproduction se pratique dès les premiers développements de la gravure au XV^c s., mais surtout au XVI^e s. avec la constitution de maisons d'éditeurs-graveurs.

Au XVIIIe s. on édite en gravures d'importantes collections de peintures. On eut également recours au dessin pour représenter des œuvres d'art, ainsi par exemple les dessins de Jacques le Boucq, Antoine de Succa, François-Roger de Gaignières. Le XIXe s. vit le développement de nouvelles techniques de reproduction, notamment la lithographie, l'héliogravure ou photogravure, etc., techniques améliorant la représentation du modelé, des ombres et lumières, des qualités picturales de l'œuvre. D'importance capitale fut l'usage de la photographie dès le milieu du XIXe s. En 1865 on publie un recueil de photographies représentant des peintures de la pinacothèque de Munich. Entre 1869 et 1880 se développent certaines techniques de photographie en couleurs. Celle-ci fut l'objet de constants perfectionnements au cours du XXe s.

Malgré l'importance de la photographie en tant que moyen de reproduction, il importe d'exercer à son égard un esprit critique tant par suite de son caractère subjectif que par le fait que l'œuvre peut se voir déformée par divers facteurs techniques propres à la photographie. La photographie est importante pour l'étude iconographique et stylistique. Elle permet des comparaisons.

Les centres de documentation sont d'une grande utilité à cet égard. D'intérêt spécifique pour l'étude des tableaux sont les photographies en lumière rasante, la macrophotographie et la microphotographie. Elles permettent des observations en rapport avec la genèse de l'œuvre d'art qu'on ne peut faire à l'œil nu, par exemple concernant la couche de préparation, l'état de la couche picturale et les surpeints, la technique et l'exécution picturale, l'écriture de f'artiste.