

# GRAPHIC VERSUS PHOTOGRAPHIC IN THE NINETEENTH-CENTURY REPRODUCTION

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## I THE REPRODUCTIVE PRINT UP TO 1840

Good prints are no doubt better than bad pictures; or prints, generally speaking, are better than pictures; for we have more prints of good pictures than of bad ones; yet they are for the most part but hints, loose memorandums, outlines in little of what the painter has done. How often, in turning over a number of choice engravings, do we tantalize ourselves by thinking 'what a head *that* must be', – in wondering what colour a piece of drapery is, green or black, – in wishing, in vain, to know the exact tone of the sky in a particular corner of the picture! Throw open the folding-doors of a fine Collection and you see all you have desired realised at a blow – the bright originals starting up in their own proper shape, clad with flesh and blood, and teeming with the first conceptions of the painter's mind!

So William Hazlitt, musing on reproductions and going on to console himself with the thought that at least their inadequacy made 'the sight of a fine original picture an event so much the more memorable, and the impression so much the deeper. A visit to a genuine Collection is like going a pilgrimage.'<sup>1</sup> Yet reproductive prints were indispensable. People had to rely on them. The masterpieces of Western painting were scattered through Europe or hidden away in private galleries. Even the assiduous grand tourist saw only a fraction and that relatively briefly. A heavy responsibility was placed on their printed simulacra to represent them justly.

Two of Hazlitt's complaints about early reproductions, their lack of colour and reduction in size, were arguably not their worst failings: indeed a modern black-and-white photograph of a painting suffers from the same defects. The gravest flaw was the inherent untrustworthiness of any engraving (etching, lithograph, etc.) in the way it reported facts. The imagination could allow and to some extent compensate for the absence of colour and the scaling down of dimensions, especially if the observer happened to be familiar with original

pictures in the same style. But a handcrafted reproduction falsified in a quite unpredictable manner. As the various draughtsmen and printmakers concerned in the process copied and recopied the work in their own idioms, it underwent a sea-change, becoming less an honest crib than a thoroughgoing reinterpreted.

The high points of reproductive graphic art are well enough known, as is the major part played by prints in diffusing images and in popularizing individual artists and works of art in the pre-photographic era. By the early nineteenth century a canon of interpretative printmakers had been established that included Marcantonio Raimondi and his Renaissance imitators, the innovative seventeenth-century Flemish school, the brilliant portrait engravers of Louis XIV's court, the eighteenth-century English mezzotinters, and the classical line disciples of J.G. Wille (such as Morghen, Bervic, and Boucher-Desnoyers), with other modern masters of metal, wood, and stone. And yet, technically accomplished and resourceful though such artists were, their reliability as witnesses was bound to be suspect. Even leaving aside their sacrifice of colour and manipulation of dimensions, and the ink-and-paper basis of the new image, they profoundly deluded. Their transcript could not be literal. At any one of the possible stages of initial copying in line and wash, chalk, or watercolour; of squaring down, reversing the image, tracing, transferring, handling burin or needle, biting and stopping out, scraping and burnishing, proofing and correcting; down to the final inking of block or plate and running through the press, hand or eye or judgment might err over proportions and relationships, compositional detail, tonal gradation, or the estimated weight of hue and chiaroscuro. Only rarely was the engraver working with the original in front of him, and even if he were he still abandoned most of the picture surface – traces of handling, brush-strokes, impasto, glazes – and replaced it by an alien code of dots and hachuring, ruled lines and swelling curves, crisscross and lozenges, passages of intense black and highlights of uninked paper (plate 23). At every turn the personality and mannerisms of the engraver intruded. Wittingly or not he adjusted the image to his preconceptions and the demands of the print medium. If the finished reproduction proved memorably expressive, it was largely an expressivity of its own making.

As Estelle Jussim has clearly shown,<sup>2</sup> the print medium's syntax closely controlled the nature of the graphic transformation, both the quantity and quality of visual information retrieved from the original painting as well as the character of its reconstitution. Pure line engraving, well attuned to Neo-classical taste but by the 1830s less and less commercially viable, was highly versatile at its best, though in the general run of copying apt to become monotonous, formulaic, and over-elaborate. Creating an illusion of tone, texture, and modelling by tensing lines, flicks of the burin, parallel rules, and intensities of marking, it was better able than any other graphic process to render 'the soft, pulpy, and luminous character of flesh; the rigid, hard, and iron character of armour; the twittering, unsteady, and luxuriant foliage of trees, with the bright yet deep-toned colour of skies'.<sup>3</sup> That was John Burnet's view, but a fellow-practitioner, while admitting line's overall superiority, pointed to some of its limitations.



23. C.L. Eastlake, *Christ Blessing the Little Children*, detail of engraving by J.H. Watt (1859)

24. Wood-engraved illustration of the negative-positive photographic process, *Art-Union* (1848) p.135, 7 by 4 in.





25. 'Articles of glass', an early calotype from W.H. Fox-Talbot, *The Pencil of Nature* (1844)



26. W. Mulready, *Crossing the Ford*, photographed engraving from F.G. Stephens, *Memorials of William Mulready* (1867) following p.24, 5 by 6½ in.

It cannot produce the velvety softness, intense depth, and harmonious mingling of light and shade, which is given by mezzotint. Neither can it, even when aided by the ruling machine, produce that silvery clearness, or deep transparent tone perceived in aquatint; nor like it, reproduce the *dragging*, *scumbling*, and accidental touches of the artist's brush. In crispness and brilliancy it is far exceeded by wood engraving.<sup>4</sup>

And Burnet himself conceded that an artist like Reynolds was more suited by the often disparaged stipple or by mezzotint, even if the latter process did turn faces, draperies, and skies into 'a lighter or darker degree of smoke' and was quite incompetent to deal with vegetation.<sup>5</sup>

Given the rapidly expanding market for inexpensive prints, in particular for reproductions of contemporary art, arguments about the relative merits of pure line and tonal mezzotint were becoming academic. The deterioration of plates during long press runs favoured the use of steel over copper, which in turn encouraged experiment with mixed processes in order to speed and cheapen production. While a few purists still persevered with copperplate and line alone, most intaglio work from the 1820s onwards relied on steel and some blend of engraved line, etching, mezzotint, stipple, and the like. These gains in technical resource, together with the extra fineness of incision that steel permitted, brought even the airy nuances of a Turner watercolour within the bounds of reproducibility. Moreover, the printmakers' range had been extended in another direction by the progress of lithography, which could more easily find graphic equivalents for a painted surface than any other medium, and which was able to match wood-engraving itself in edition capacity. Unreasonably neglected by British publishers, monochrome lithography was none the less seized on in Germany, France and elsewhere as a ready means of replicating pictures and illustrating the masterpieces of European collections. In Britain on the other hand wood-engraving had returned to favour. Where it scored over other processes was in practicality and cheapness. Instead of having to be passed through a special press, the wood block, being in relief, could be locked into the printer's frame along with the type and printed simultaneously. Once electrotyping of blocks became routine there was no limit to the number of impressions that could be run off, while the surface area of the print might be enlarged at will by bolting together a mosaic of boxwood blocks – as many as sixty for the famous view of London printed in the first volume of the *Illustrated London News* in 1842 and cut by nineteen different engravers. This mass-production, atelier system (sometimes employing specialists in lines, tints, and figures) tended to impose a standardized look on every subject that only the more individualistic engravers avoided – at least until the changes brought about by the perfecting of photography on to the block around the mid-century. Even then the grainy texture of the wood and the difficulty of varying the intensity of inking on the printing surface (except by differential lowering of the block) set physical constraints on the illusionistic imitation of a painting's tones and harmonies.

## II THE PROBLEMATIC IMPACT OF PHOTOGRAPHY

The announcement of Daguerre's photographic process in January 1839, and on its heels the news of Fox-Talbot's quite different negative-positive method, posed no obvious or immediate threat to existing graphic means of simulating pictures (plate 24). In all but their failure to capture colour daguerreotypes were like mirrors, able to mimic the finest detail of a face, a fabric, or a building with absolute precision: 'every chip of stone & stain is there', Ruskin enthused over his Venetian daguerreotypes in 1845, 'and of course, there is no mistake about *proportions*'.<sup>6</sup> But each daguerreotype provided a unique image on a silvered surface and could not be replicated; and while Berres, Fizeau and others soon invented procedures for etching plates from these surfaces, the future of photographic reproduction lay with Fox-Talbot's calotype – at first capable of only blurred, 'soft focus' effects (because of the fibres in the paper negatives and prints) but infinitely improvable. Some of photography's potential with regard to the fine and applied arts was plain from the start: the recording of buildings and sculpture, the facsimile copying of line drawings and engravings, its likely assistance to artists in supplying instantaneous studies of figures and scenes (plate 25). Its power of exact paraphrase was unrivalled – up to a point, for its pretensions stopped short of the accurate translation of colour. Early chemical emulsions were far too insensitive and colourblind to cope with the sophistication of a painted canvas or a frescoed wall, and true panchromatism indeed remained out of reach until the turn of the twentieth century. What the camera so patently demonstrated, however, was the discrepancy between the leisurely, rationalizing interpretation of nature and its immediate, actual documentation; in other words, between the creative approximation and the mechanical counterfeit. After studying naturalistic photographs Delacroix was shocked by the mannerisms and betrayals of truth in Raimondi's engravings after Raphael. 'Faut-il absolument admirer éternellement comme parfaites ces images pleines d'incohérences, d'incorrections, qui ne sont pas toutes l'ouvrage du graveur?'<sup>7</sup> In spite of its technical limitations the camera seemed to set the engraver an almost unapproachable ideal of authenticity. In comparison with prints, as the *Art-Union* pointed out, photographs showed no trace of 'touch' or surface manipulation: they were essentially 'triumphs of the Dutch school'.<sup>8</sup>

The same issue of the *Art-Union* (June 1846) included a pasted-in calotype print by way of advertising Fox-Talbot's *The Pencil of Nature*, whose sixth number had reproduced a drawing by Francesco Mola. Hence 'we are furnished with indisputable proof that by this means [i.e. photography] can original sketches of the old masters be illimitably multiplied, with a nicety of execution surpassing any imitative effort of the human hand.' This ability to make photographic copies of drawings and prints was a notable advance of the 1840s and brought about the paradoxical situation of the camera boosting the engraved reproduction. In the illustrated supplement to William Stirling's *Annals of the Artists of Spain* (1847-8), well known as the first art historical work containing photographs, the calotype reproductions of paintings were in fact

after engravings. Over the next two decades this practice was often resorted to for clarity's sake, even after the direct photography of paintings had become feasible (plate 26).

If promotion, output and sales are the test, the reproductive print went from strength to strength during the 1840s and 1850s. In London and Paris printseller-publishers abounded, supplying a network of agents at home and abroad. One of their number, Ernest Gambart, imported prints to the value of £20,000 in 1845 alone, exporting some £5000's-worth in return.<sup>9</sup> In booming trade conditions the Printsellers' Association was founded in 1847 to regulate the complicated pricing structure of proof and lesser impressions and to authenticate genuine prints by stamping. An artist like Landseer now worked primarily for the print business, painting to be reproduced and amassing a fortune in the process. The principal engravers too could command high fees in addition to rewards in terms of prestige. In France the versatile Henriquel-Dupont enjoyed a virtual *succès fou* for his interpretations of Delaroche, above all for the *Hémicycle de l'École des Beaux-Arts*, a huge copperplate engraving, the product of six years' labour, published lucratively by Goupil. But success demanded the backing of the trade, as the demise of that brave venture of the Associated Artists, *Engravings from Pictures of the National Gallery*, only went to prove. Remaindered in 1845 with just twenty-nine plates completed, after nearly two decades of effort at their own expense by some of England's leading engravers (Pye, Robinson, Le Keux, Goodall, Burnet, Doo), it was also symptomatic of the decline of line engraving at home, unsupported by national commissions and artificially dependent on ventures like Finden's *Royal Gallery of British Art* and the patronage of the *Art Journal* (successor to the *Art-Union*), which could boast of publishing thirty-seven steel engravings of paintings and sculpture in its volume for 1849 (in a context, however, of more than 800 wood engravings).<sup>10</sup> Line was better encouraged abroad, with Calamatta, Mercuri, Toschi, as well as Henriquel-Dupont, among the finest exponents. Raphael was copied endlessly, but perhaps the best-regarded old master reproductions of the 1840s were those of the Correggio frescoes at Parma by Paolo Toschi and his assistants. In lithography Hanfstängl's *Dresden Gallery* still set the pace for the genre.

Critical comment suggests that the idea of absolute fidelity to the originals was gradually taking hold. Not only was it no longer tolerable to reverse the image, as prints had frequently done in the past, there should be no tampering, adjusting to suit modern preferences, or prettification of any sort. The *Art-Union* of 1846 regretted that the wood engravings after A.W. Callcott's copies of Giotto in the Arena Chapel were 'recollections' rather than attempted facsimiles, and failed to convey 'the peculiarities in execution of the period of the works'.<sup>11</sup> Reviewing W. Ternite's lithographic *Waldgemälde aus Pompeii und Herculaneum* in the same year, the *Athenaeum* emphasized that what was important was not 'the beauty or captivating qualities of the pictures *per se*' but their accuracy as surrogates:

Those artists who apply themselves to the task with a consciousness that the main object should be to offer the means of making a careful judgment

on the arts of the ancients, are few, compared with those who look at the olden works through the spectacles of modern Art prejudices.<sup>12</sup>

Another straw in the wind was the formation of the Arundel Society in 1848, since among its didactic aims was the scrupulous recording of works of art under threat of damage or decay, especially Italian fresco paintings, without making any concession to public appeal. If the Society's initial publications – rather arid line versions of Fra Angelico by Ludwig Gruner – were not remarkably accurate, the insistence on literalness was in due course to become a matter of principle with some of its members.

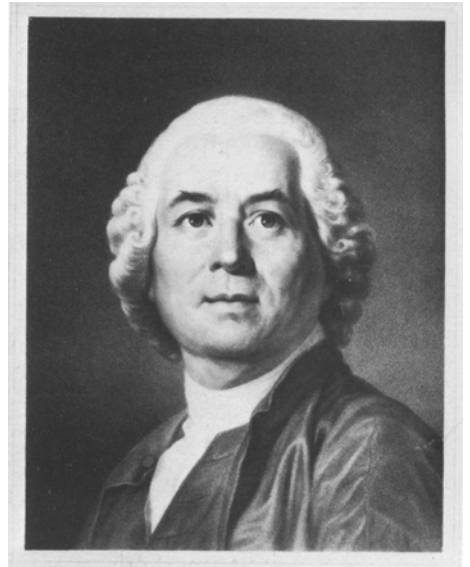
Out of the various novel reproduction methods tried out at this period only electrotype and chromolithography had lasting success: the former in creating perfect replicas of metalwork or duplicating intaglio and relief plates; the latter in rendering colour – that constant goal of nineteenth-century ingenuity.<sup>13</sup> All the colour methods were laborious and expensive: hand-stencilling, colour wood-block, Leipmann and Baxter's processes, lithotinting, and certainly chromolithography itself. But although it was far from easy to control colour balance and density in multiple overprinting, sumptuous effects could be achieved which both appealed to contemporary aesthetic taste and chimed in with Gothic Revivalism. Colour reproduction was ideally suited to polychrome ornament, decorative art, stained glass, and above all illuminated manuscripts, whose brilliant but flat pigments could be feigned by hand-colouring over etching or, better still, by chromolithography. For the first time the full attainment of mediaeval painting came to public notice through the lavish volumes of Bastard d'Estang, J.B. Silvestre, Henry Shaw, Owen Jones and Noel Humphreys, where the leaves of psalters, books of hours, and prayer-books were displayed on something like their proper scale. To possess the Jones and Humphreys *Illuminated Books of the Middle Ages*, thought the *Art Journal* in 1849, 'is almost to possess a number of original works, as far as value for reference is concerned.'<sup>14</sup> Yet to the modern eye these are by no means facsimiles, for they were not based on photographic transcription, and the many minute changes introduced by the copyists, the imperfect matching of colour and metallic gold, and the general Victorianizing flavour, all affect the credibility of the image.

Around 1850 a series of improvements transformed photographic technology – the albumen print, the use of bromide as a developing agent, and, most crucial of all, Scott Archer's wet-plate collodion process, which sharply reduced exposure and development times without loss of fine detail. Further discoveries soon set forth the principles of stereoscopy, the dry-plate process, permanent (carbon) prints, the sensitizing of metal, stone and wood printing surfaces, and – to await later application – photogravure, photolithography, and collotype. It was among photography's most technically creative periods, stimulating increased activity on many fronts, and not least in the photography of subjects like paintings which had hitherto proved intractable. Comparisons could be made at last between hand and machine as reproductive instruments. And because the camera was still insensitive to over half the spectrum, because its products tended to fog and fade, because photography was an inexact science





27. W. Etty, *The Combat*, line-engraving by G.T. Doo (1849), 19 by 16 $\frac{5}{8}$  in.



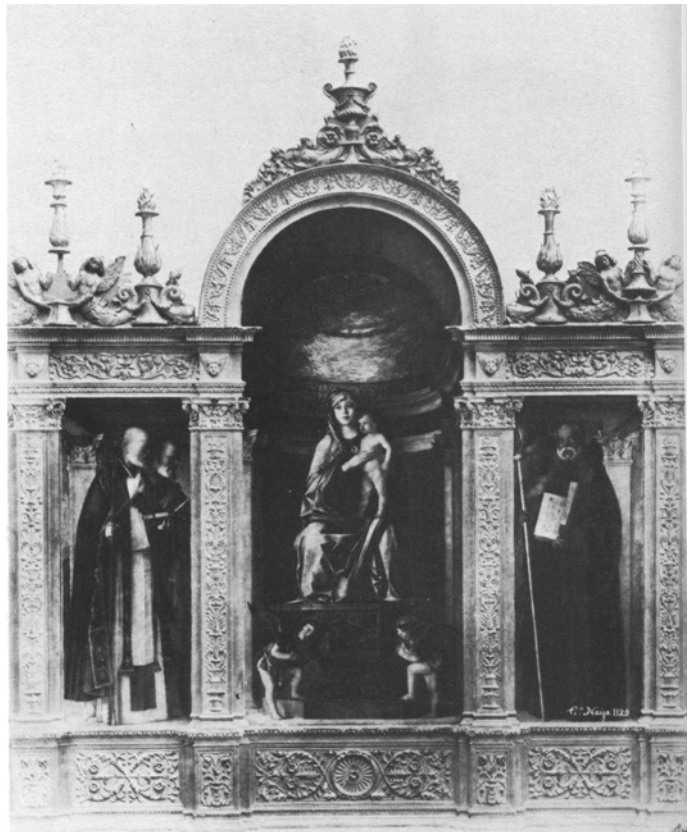
28. J. Duplessis, *C.W. von Gluck*, lithograph by P. Rohrbach (c.1850?), 9 by 12 $\frac{1}{4}$  in.

29. Encouragement of picture-copying in the early nineteenth century. T. Rowlandson, 'The British Institution', *Microcosm of London* (1808-11), vol.1 facing p. 96





30. Raphael, *Lo Sposalizio*, Woodburytype after engraving by G. Longhi from J.D. Passavant, *Raphael of Urbino . . .* (1872), 4¾ by 7 in.



31. Giovanni Bellini, *Virgin and Child with Saints*, photograph by C. Naya (late 1860s?), 10½ by 13¼ in.

anyway, the outcome was far from obvious. Even where photography appeared to have the clear advantage, in the copying of prints for example, graphic methods might still have the edge since they were better geared to the printing press: so that for a time works like Rudolf Weigel's re-engraved *Holzschnitte berühmter Meister* continued to appear.

Nevertheless the ambitions of documentary photography were soon evident. As early as 1851 Francis Wey was recommending that the Louvre should collect and exhibit photographs of works of art not represented in its collections.<sup>15</sup> A year later Prince Albert's plan of assembling a complete photographic corpus of all Raphael's works began to be implemented. In 1853 Roger Fenton became official photographer to the British Museum, starting with Assyrian cuneiform tablets and moving on in due course to sculpture and carved reliefs – which he preferred to take in broad daylight on the Museum's roof. Like other practitioners he resorted to tricks of the trade, eliminating unwanted highlights, for example, by dusting the object with powdered clay.<sup>16</sup> It was already apparent that the camera was not the innocent eye it seemed, for the operator could manipulate the image at almost every stage from initial choice of process, lens, viewing angle and distance, lighting, focus and exposure, through all the procedures of developing and perhaps retouching, down to the final printing and presentation. The different styles of the photographers and the intrusion of 'poetic' or moralizing elements can be readily discerned even in ostensibly scientific recording, as in the work of the Missions Héliographiques, set up by the Commission des Monuments Historiques to survey French mediaeval architecture.<sup>17</sup> But more traditional non-photographic forms of visual documentation equally slanted the evidence, without the accuracy, speed and convenience of photography, which, as one advocate insisted, was 'but a method of sketching by machinery, with all the advantages which the use of machinery is known to afford'.<sup>18</sup>

Beyond the various individual projects for recording national and foreign monuments (such as E. Piot's *L'Italie Monumentale* and Maxime du Camp's more successful *Egypte, Nubie, Palestine et Syrie*) there were now several commercial firms specializing in the photography of buildings and works of art, among them Robert Macpherson and his rival James Anderson in Rome, the Alinari brothers in Florence, and Caldesi & Montecchi, two more Florentines, who were based in London. Most of them were cautious about attempting paintings, however, and here the pioneers were men like William Lake Price and C. Thurston Thompson, official photographer to the South Kensington Museum and the Royal collections. A prime difficulty was the relative dimness of most interiors where paintings were housed. The Alinari succeeded with some of the Campo Santo frescoes at Pisa in 1855 because of the semi-open location and the ease of stationing the camera at a suitable distance; the resulting prints were revelations about the actuality of the frescoes 'with all accidental flaws, scratches, breaks, and proppings-up', two large metal clamps disfiguring an Orcagna, and a Gozzoli spoiled by flaws and scratches.<sup>19</sup> For his heroic attempt on the Raphael *Cartoons* in 1858 Thurston Thompson had them removed from their dark gallery at Hampton Court to a purposely built scaffolding in the courtyard; his twelve-foot long apparatus,

supporting collodion-coated glass plates three feet square, ran on a small tramway, and the whole operation needed a team of assistants to execute.<sup>20</sup> Caldesi & Montecchi used the opportunity to take their own series of photographs. The joint results were exhibited at the Photographic Society and Colnaghi's in 1859 to general plaudits. The fidelity seemed miraculous, the 'searching chemistry of light' exposing all the ravages of time.<sup>21</sup> At once these huge, 'epical', glossy brown prints made future hand copying of great works quite nugatory; now they belonged to mankind:

These photographs are all but as valuable as the originals . . . come fire or sword to the long corridor at Hampton, the Cartoons are now safe and sown all over the world for ever. Great works of Art are now, when once photographed, imperishable . . . .<sup>22</sup>

The faded *Cartoons* were easier subjects than most, but even so were metamorphosed into the overall brown of the albumen print. At the very time the photographers were preoccupied at Hampton Court, the *Photographic News*<sup>23</sup> was gloomily doubting whether it would ever be possible to secure a true light-and-shade representation of a painting: silver iodide lacked sensitivity to all but violet; silver bromide to all the spectrum from green to red; the actinic violet and ultra-violet needed to be neutralized by filters, which lengthened exposures, while the yellows, oranges and reds failed to respond at all. Lady Eastlake made the same point in her defence of free, imaginative art against the factual, but essentially servile, technique of photography, adding that the camera also found reflective shiny surfaces troublesome to deal with.<sup>24</sup> The *Athenaeum* felt that Mantegna's *Triumph of Caesar* series ought to copy well precisely because 'yellow forms but a small element in their colours; blue prevails, and, being painted in tempera and of a dull surface, they would be admirably adapted to receive the light from every direction'.<sup>25</sup>

Photography's inability to handle colour, its difficulties with reflections and high-lights, the impermanence of its prints, and its continued incompatibility with the printing press, were all handicaps to full acceptance that could be turned to advantage by the rival graphic processes. That engravers were translators, interpreters, creative artists, and not just 'ingenious mechanics', had long been the central issue in their competition for equal status with painters and sculptors. It was a contention that the Royal Academy for one had always resisted, but the arrival of true mechanical copying now sharpened the argument for the more 'sympathetic' graphic alternative, and in 1855 the eminent mezzotint engraver Samuel Cousins was elected to full membership. Abroad the engraver had traditionally enjoyed more understanding and official recognition. For all his admiration for photography, Delacroix fully accepted that engraving could also translate paintings effectively, only its means of expression were all its own: 'Il a, si l'on peut parler ainsi, sa langue à lui qui marque d'un cachet particulier ses ouvrages, et qui, dans une traduction fidèle de l'ouvrage qu'il imite, laisse éclater son sentiment particulier.'<sup>26</sup> For Henri Laborde creative modification was a *sine qua non* of reproduction. The total change of medium and the reduction in scale absolutely compelled the copyist to reinterpret. Engraving had a double duty in fact – 'à la fois copier et

commenter la peinture' – a task quite beyond the camera, which copied blindly, sacrificing all the poetry of the original in a dead statement of facts.<sup>27</sup>

Perhaps fairer in his appraisal, Philippe Burty in the recently founded *Gazette des Beaux-Arts* admitted that photographs fell short in conveying the whole effect of paintings, but did at the minimum capture physiognomies, attitudes, and silhouettes in every minute detail; whereas an engraver constantly obtruded his own self, and the more personal the version, the less faithful it was.

Feuilletez au Cabinet des estampes l'oeuvre des innombrables graveurs de Raphael, vous verrez que les plus illustres ne se sont passionnés que pour une seule des faces de ce génie multiple. Les uns ont été pénétrés de sa grace; les autres frappés de sa force; tous, à leur insu et souvent avec le plus grand talent, n'ont fait que mettre au jour leur personnalité intime. La photographie est impersonnelle; elle n'interprète pas, elle copie; là est sa faiblesse comme sa force, car elle rend avec la même indifférence le détail oiseux et ce rien à peine visible, à peine sensible, qui donne l'âme et fait la ressemblance.

But photography stopped at idealization, the *Gazette* went on, and would never be able to re-create Prudhon as the Lecomtes had done, or Delaroche like Henriquel-Dupont, whose engraving of the *Hémicycle* was more complete and unified than the painting itself. In its present state of development photographic reproduction was more suited to the studious needs of artists and scholars than to mass dissemination.<sup>28</sup>

However, opportunities for the public to examine and acquire photographic reproductions were increasing all the time. Some printsellers dealt in them as a sideline, though the threat of print piracy by unscrupulous photographers was already beginning to surface and would soon provoke the first of Gambart's court actions and the various campaigns to close loopholes in copyright legislation.<sup>29</sup> P. & D. Colnaghi was a leading London agent for photographs through the 1850s, selling for both national museums and sometimes arranging special exhibitions. In 1859 the South Kensington Museum opened its own section for the sale of negatives, positive prints, electrotypes and replica casts. Besides works in its own and the British Museum collections, reproductions in the early catalogues included drawings from the Royal and other private collections and the Louvre. Prices were kept as low as practicable (5 by 7 inch or 4 by 8 inch positive prints at 5*d*; sets of the Raphael *Cartoons* from around 4*s* to £5 according to size) with popular education and the needs of decorative artists deliberately in mind.<sup>30</sup> Other foreign museums followed suit, though not yet the Louvre. In Paris it was left to individuals like the publisher Blanquart-Evrard, who had portfolios of photographs in quantity for sale, among them reproductions of Raphael, of Michelangelo's sculpture and mediaeval carving, of Egyptian monuments and Netherlandish painting (photographed by the redoubtable Fierlants), and of contemporary art.<sup>31</sup>

Photography, it was becoming evident, would democratize art. At the Manchester Art Treasures exhibition in 1857 the photographers made a

nuisance of themselves,<sup>32</sup> but their pile of negatives furnished not only the essential images for the wood-engravings and rich chromolithographs in J.B. Waring's commemorative volumes, but also a photographic series issued by Colnaghi, *Gems of the Art-Treasures Exhibition*, which sent the *Athenaeum's* critic, G.W. Thornbury, into raptures. This imperial work would 'flood our drawing-rooms with a deluge of the choicest Art' from Mabuse and Domenichino to Gainsborough, Frith and Wilkie.

The old selfish aristocratic days of hoarding are gone for ever. Rare Titians, kept in cases to be gloated over at miserly moments, will be seized and photographed . . . Great and true Art is republican, and is for all men, needing no education to appreciate it. . . .

Not that photography should be overpraised:

We know its shadows are too black and sooty, its lights too spotty. It is sometimes dim, – all kinds of fogs and exhalations and eruptions are chronic with it; but we do praise it as a miraculous and witching art, supernaturally accurate, matchless in light and shade, and softness and harmony and breadth, delicious in its gradations, unrivalled in its finish. Heaven forbid that we should compare it with the merest drivel of Raphael's brush! but contrast its young efforts with all lithography, or secondhand drudge copying can do, and thank heaven and take comfort. Compare it with the dull labours of second-hand engravers, who lose all the soul and evanescence of the picture, and preserve its hues and patterns and dross, and smirk complacently, and think themselves quite creators with their needles and metal-plates. These things bring Art nearer the reach of the poor man, – to whom it will some day become, not mere furniture and wearying luxury, but hope and comfort, and prophecy and exhortation.<sup>33</sup>

Yet it was not photographs but wood-engravings that filled the pages of the illustrated magazines; intaglio work and lithography that crammed the printshop windows (plates 27-8). Huge quantities of reproductions were circulated by the art unions to their subscribers. Foreign prints, no longer subject to restrictive import duty, poured into the country all through the 1850s, almost satiating demand. There was much criticism of meretricious art corrupting the public taste and pandering to fashion, of cheap lithography with its 'woolly shadows' and of masterpieces 'stippled down into inanity'. Engraving had been deflected from its real task because the expense 'prevents capital being risked in subjects not directly sanctioned by the fashionable bias or public weakness'.<sup>34</sup> Wealthy entrepreneurs of the print trade like Gambart in London and Goupil in Paris, with their international connections and distinct flair for publicity, had become the modern arbiters of taste. On *their* reproductions soared the reputations of a Holman Hunt or a Frith, a Delaroche or an Ary Scheffer. By 1856 Goupil had a branch even in New York and was patronizing French engravers to the tune of £100,000 a year for prints 'which extend the fame, give currency to the genius, and circulate the

teachings, of the painter'; providing English drawing-rooms, for example, with uplifting versions of Scheffer's *Christus Consolator* and *Christus Remunerator*.<sup>35</sup>

### III COPYING IN COLOUR

The great elusive prize of reproduction was still the accurate imitation of coloured paint. 'I am afraid only pretty good . . .', was the young William Morris's conditional verdict on some engravings after Fra Angelico bought in 1855; 'they represent the picture fairly I think on the whole, only the loss of colour makes of course a most enormous difference, where the colour is so utterly lovely as in the original'.<sup>36</sup> Chromolithography might be criticized for its flat opacity, its garishness, its stained-glass effect, but its gradual improvement seemed to offer the best promise of success. In Germany, where Strixner, Piloty and Hanfstängl had achieved good standards of monochrome (or tinted) lithographic reproduction, there were several firms specializing in colour work, including the Berlin establishments of Winkelmann (who along with the Viennese Imperial Printing Office had been a prize-winner at the 1851 Exhibition) and Storch & Kramer. The perfectionist Kellerhoven of Cologne,<sup>37</sup> now settled in Paris, was associated with one of the finest productions of the time, the *Grandes Heures d'Anne de Bretagne*, a state-sponsored, de luxe volume printed over two years (1859-61) by Lemercier for H.L. Curmer, who made mediaeval manuscripts something of a speciality. The general French supremacy in reproductive lithography – confirmed as much by the monochrome prints issued by Émile Bertauts (such as Mouilleron's virtuoso account of Rembrandt's *Night Watch*) as by the colour plates in Curmer's publications or Hangard-Maugé's *Les Arts Somptuaires* – was aided by the prestigious display of lithographed and engraved copies in the annual showcase of the Salon.<sup>38</sup> Lacking official support, English chromolithographic printers such as Day & Son or Vincent Brooks rarely attained this standard, nor of course did the Baxter process which around 1860 was used by William Dickes for a series of 'Great Master' reproductions. It is true that a Brooks copy of an oil painting could be hailed as a perfect facsimile: 'we believe that if it were mounted upon a piece of dirty canvas, and put into a worm-eaten frame, it would puzzle half the connoisseurs of Europe to distinguish it from an actual ancient painting in oil; faded colour, dirt, and cracks are copied to perfection'.<sup>39</sup> The Arundel Society, however, eventually lost patience with this firm for its inaccuracies and unpunctuality, turning to Storch & Kramer of Berlin instead.

The attitudes of the Arundel Society towards precision of copying and reproduction gradually tightened in the years after 1860.<sup>40</sup> Its first publications had mostly been copperplates, using various draughtsmen and engravers, but in 1852-3, as an economical and supposedly apt medium in which to reproduce Giotto's Arena Chapel frescoes, it turned to wood-engravings, cut wholly by the Dalziels. To accompany what proved to be a long-drawn-out series (completed in 1860) Ruskin wrote an explanatory account and defence.

The *drawing* of Giotto is, of course, exceedingly faulty. His knowledge of the human figure is deficient; and this, the necessary drawback in all works of the period, occasions an extreme difficulty in rendering them faithfully in an engraving. For wherever there is good and legitimate drawing, the ordinary education of a modern draughtsman enables him to copy it with tolerable accuracy; but when once the true forms of nature are departed from, it is by no means easy to express *exactly* the error, and *no more than* the error, of his original. In most cases modern copyists try to modify or hide the weaknesses of the old art, – by which procedure they very often wholly lose its spirit, and only half redeem its defects; the results being, of course, at once false as representations, and intrinsically valueless. And just as it requires great courage and skill in an interpreter to speak out honestly all the rough and rude words of the first speaker, and to translate deliberately and resolutely, in the face of attentive men, the expressions of his weakness or impatience; so it requires at once the utmost courage and skill in a copyist to trace faithfully the failures of an imperfect master, in the front of modern criticism, and against the inborn instincts of his own hand and eye. And let him do the best he can, he will still find that the grace and life of his original are continually flying off like a vapour, while all the faults he has diligently copied sit rigidly staring him in the face, – a terrible *caput mortuum* . . . . It is easy to produce an agreeable engraving by graceful infidelities; but the entire endeavour of the draughtsmen employed by this society has been to obtain accurately the character of the original: and he who never proposed to himself to rise *above* the work he is copying, must assuredly often fall beneath it. Such fall is the inherent and inevitable penalty on all absolute copyism; and wherever the copy is made with sincerity, the fall must be endured with patience. It will never be an utter or a degrading fall; that is reserved for those who, like vulgar translators, wilfully quit the hand of their master, and have no strength of their own.<sup>41</sup>

Grounded on his own often frustrating experience of copying, Ruskin's remarks on the psychological barriers to perfect transcription go deeper than most contemporary comment on the subject; but he ignores more obvious considerations, that large coloured wall paintings were being transmuted into 12-inch black-and-white engravings, that the process involved at least two recastings (fresco to drawing, drawing to engraving), and that the Dalziels had to trust the draughtsman blindly, never having seen the originals nor probably any other paintings of the sort. As it turned out, all kinds of small copying errors were inevitably made, from the accidental omission of details to the failure to catch facial expressions. To modern perceptions these seem relatively trivial when set beside the distorting-glass effect of wood-engraving; at the time of course, when black-and-white prints were still the norm and reference point, imagining the likely appearance of the original from an engraving was a normal mental process.

An institution like the Arundel Society, self-appointed memorialist to the decaying frescoes of Italy, was naturally vulnerable to censure on grounds of inaccurate reproduction. Ever since 1856, when A.H. Layard underwrote



publication costs of an experimental chromolithograph of a Perugino wall painting, the Society had concentrated most of its attention on colour prints. It was a popular policy, bringing a surge of new members, but at the expense, as critics saw it, of a relaxation of standards. Led by the *Athenaeum* they focused on two main issues: lack of rigour in the initial watercolour copying, and faulty rendering of colour by the printers. Gradually a chorus of disapproval began to build up. By 1861 F.G. Stephens was complaining of flagrant instances of 'tampering with the original'; in 1862 of the uniformity of the reproduction and pervasive 'curry-powder' tint in Storch & Kramer's colour printing; in 1863 of the penchant of Mariannecci, the Society's Italian copyist, for tidying-up and 'improving' the originals instead of transcribing them as they were.<sup>42</sup> Following further protest at the general meeting of 1863, it was decided that there should be no 'restorations' and interpolations in future, that a reproduction ought to reveal a work in its existing condition 'without affecting to repair the ravages of time and wanton mischief'. Welcoming this change of heart, Stephens regretted the stylistic sameness imposed on the copies hitherto, making it difficult to distinguish Luini from Andrea del Sarto, Masaccio from Ghirlandaio, Gozzoli from Francia; the whole *raison d'être* of copying should be truthful documentation in which all such distinctions were minutely preserved.<sup>43</sup>

With an annual income of nearly £3500 (and still rising) the Arundel Society could afford to experiment. To supplement the usual team of Mariannecci and Storch & Kramer a new copyist was commissioned, C. Schultz, 'who pledged himself to daguerreotype the minutest crack upon plaster'.<sup>44</sup> His first attempt was in fact on a North European oil painting, Memling's *Adoration of the Magi*. Even J.B. Atkinson of the *Art Journal*, normally hostile to what he regarded as the Society's antiquarian tendencies, approved of this: not for its literalness, but because he felt the Kellerhoven style of the French chromolithographers – with dark shadows appearing through the colour – suited Memling. On the other hand it would not do for Italian frescoes, whose chalky opacity was better left to Storch & Kramer, recently responsible for a splendid version of Fra Angelico's *Coronation of the Virgin*. It was true, Atkinson admitted, that Mariannecci had been condemned for inaccuracy and prettifying when he attempted to disguise blemishes in his originals, and he had rightly been asked to avoid hypothetical restoration of the artist's hues or of missing sections of paint in future; but for all that he had 'a largeness of manner, a freedom of execution, and an eye for beauty which put him at once *en rapport* with the work'.<sup>45</sup>

The *Athenaeum* would have nothing of this. It saw his print of Raphael's *St Peter delivered from Prison* as a failure of the old type, though in fairness to the copyist he had been reproduced with painful insensitivity and dullness: 'It is bad enough to have a picture "restored", but to have it chromolithographed by Messrs. Storch & Kramer is a much worse fate'.<sup>46</sup> Even Schultz and Hangard-Maugé were not entirely successful with Van Eyck's Ghent altarpiece, the colour being too densely and sombrely laid,<sup>47</sup> but in a brilliant and crisp Fra Angelico the achievement was complete. Schultz, added the *Athenaeum*, had a sophisticated sense of colour; by contrast, to judge from their latest travesty of

Sodoma, 'Herrn Storch and Kramer have no suspicion what it is'.<sup>48</sup>

Every verdict of this nature depended of course on an awareness of what was technically possible at the time as well as on some ideal of authenticity. In the third quarter of the nineteenth century a painting could in no way be facsimiled; it could only be approximated, replaced with a token equivalent. Graphic representation deprived a picture of its materiality and its sense of facture. The camera was baffled by its pigments. Neither prints nor photographs deserved to be called copies in Ruskin's view: they were 'descriptions . . . measures and definitions . . . hints and tables of . . . pictures, rather than copies of them'.<sup>49</sup> In fact the only way of obtaining a close substitute was the oldest way of all, by painting a duplicate – in the manner of the studio replica, the *copie d'étude*, or the deliberate fake.

This period of so much experiment into methods of reproduction was also the heyday of the copy in paint (plate 29). Copying from old masters had always been at the core of an academic training in art. Its theoretical and practical usefulness was part of classical dogma, and many artists kept up the practice on and off throughout their careers. Over and over again the canonic masterpieces were repeated, by novices and practised hands, in student exercises, in versions for the engravers, souvenirs for grand tourists, creative variants, clever pastiches, deliberate forgeries, until – as the dealer Thomas Winstanley once put it – 'The word "Copy" almost makes the Collector tremble'.<sup>50</sup>

Sometimes, too, artists were dispatched on copying missions. Lawrence, intent on presenting a series of *Prophets* and *Sibyls* from the Sistine Chapel to the Royal Academy Schools, commissioned William Bewick in 1826 to execute a number of large-scale oil replicas in Rome. In correspondence between them Bewick referred to his difficulties over scaffolding and the interruptions caused by Papal ceremonies, and defended himself against Lawrence's criticisms of his treatment of the six-foot *Delphic Sibyl's* expression, the shadow on her advancing knee, and details of the eleven-foot *Jeremiah*, confessing he had been obliged to reconstruct the latter's defaced ear and upper hands.<sup>51</sup> Haydon mistrusted the whole exercise, thinking it absurd

to pull things from dark recesses, sixty feet high – things which were obliged to be painted lighter, drawn fuller, and coloured harder than nature warrants, to look like life at the distance, and to bring them down to the level of the eye in a drawing-room, and adore them as the purest examples of form, colour expression, and character. They were never meant to be seen at that distance or in that space.<sup>52</sup>

Haydon's very pertinent point here, that if the ambience is wrong then the artist is misrepresented by even a faithful copy, links in with Delacroix's observation about another sort of treason, the copyist's pious preservation of relative light and shade and colour in the Titian or Rembrandt he is imitating regardless of the changes in the surface, the blackening and encrustation, since the pictures were painted.<sup>53</sup>

Whether or not such doubts ever assailed most copyists and their customers, the copying business was now in full swing. The favourite pictures

in the Uffizi and Pitti, the *Art Journal* noted in 1866, had within living memory constantly been surrounded by easels – the resulting copies of Carlo Dolci's *Magdalen*, Raphael's *Madonna della Seggiola*, Titian's *Flora*, and so on, finding their way mainly to Britain, America, and Russia.<sup>54</sup> From the mid-nineteenth century copying was a European-wide phenomenon in public galleries. According to the *Athenaeum*, on student days the South Kensington Museum and the National Gallery seemed full of 'manufacturers' of pictures. Some works, especially Landseer's, were completely monopolized, and much of the effort was manifestly on behalf of the dealers.<sup>55</sup> And yet (the *Art Journal* again<sup>56</sup>) truly fine copies were rare anywhere. If, as suggested, the National Gallery began acquiring copies of major works not in its collection, it might have to settle for 'smaller [i.e. reduced-scale] representations, faithful in composition, forms, and colour', that would sufficiently prepare people for analysing the originals if ever they saw them in the future. Unlike the examples done for the Arundel Society through its Copying Fund,<sup>57</sup> they should not, however, be in watercolour.

Although this scheme never materialized, a more ambitious French one very briefly did, when the Musée des Copies, a long-cherished project of the minister Thiers, opened in 1872-3 at the Palais d'Industrie. The story of its creation, of the involvement of Charles Blanc and a team of commissioned artists, and of its sudden dispersal within scarcely a year, has been well told by Albert Boime, who has examined too the mixed motives of its sponsors.<sup>58</sup> Here it is mentioned as a particularly telling manifestation of the 'copy mania' endemic in the later nineteenth and early twentieth centuries (peaking in Vienna, for instance, about 1910<sup>59</sup>). At the National Gallery in London, Van Dyck, Murillo, Raphael, Titian, Wilkie, Teniers, Reynolds, Rembrandt, Greuze, and Velázquez were repeated time after time during the 1870s: as much an index of contemporary middle-class taste, surely, as statistics from the present-day sales counters would be. On the prescribed days the rooms were peopled

by a host of brothers and sisters of the brush, the majority of whom derive their annual incomes from picture-copying, while the rest are amateurs or students. . . . A dozen canvases stand on as many easels before the Infant Samuel [of Reynolds].

Any picture might be copied unless by a living artist and provided it remained *in situ*. Regulations at the Uffizi were more relaxed still: 'almost any painting will, when required, be taken down and placed on an easel, side by side with that of the copyist, either in the corridor of the building or in any other locality the artist may indicate.'<sup>60</sup> At the Pitti Palace certain pictures were hinged, allowing them to be turned towards the best light. Bookings for the most popular works needed making months in advance, and above all for Titian's *Bella Donna* and Raphael's *Madonna della Seggiola*. Some artists were indeed believed to avoid delays by painting their copies from other copies. If so, the two-step process was perfectly analogous to the normal practice of the reproductive printmaker, or for that matter of the photographers who preferred to work from engravings of pictures and specially drawn monochrome

intermediates rather than risk failure in front of the originals (plate 30).<sup>61</sup>

The single copy painted in oils on a piece of canvas, for all its convincing appearance, was no more autographic than a print. Aping the artist's very brush-strokes in fact guaranteed nothing: the closer the imitation, the greater the fake. And here lay photography's best hope – in its reputation for sincerity, for being a sworn witness to the facts. In the long run, in spite of ideological resistance from romantics and Luddites, the major obstacles to its full acceptance were technical. Somehow it had to be coupled to the printing industry, its images had to be saved from fading into oblivion, and it had to become responsive to the whole palette of colour. These were targets of the 1860s and 1870s.

#### IV PHOTOGRAPHIC REPRODUCTION IN THE 1860S

'The nitrate bath is the nightmare of the photographer; a kind of evil deity', Robert Cecil explained to readers of the *Quarterly Review* in 1864,<sup>62</sup> going on to describe the intricacies of collodion photography at this period. Yet every year brought improvements. Skilful operators like Thompson in London, Braun in Dornach, Fierlants in Brussels, the Alinari brothers in Florence, were learning how to manage reflections off impasto and varnish, and how to contend with the dim interiors of galleries and churches (plate 31).<sup>63</sup> New lenses, such as J.H. Dallmeyer's triplets, were coming on to the market; dry plate processes made photography easier in remote locations, requiring long exposures but no dark room. Still more important, the problem of impermanence was nearer solution, for in 1864 J.W. Swan succeeded in improving the photolithographic techniques of Poitevin and Pouncy into practical carbon printing. Two or three years later (as Woodburytypes also came into use) Swan sold his rights to Adolphe Braun, Hanfstängl of Munich, T.R. Annan in Scotland, and the Autotype Printing Company in London. This immediately boosted trade in photographic reproductions, especially of drawings. The Alsace firm of Braun, which had already begun working systematically through European print-rooms, invested £16,000 in new equipment and eventually employed over a hundred workmen, many of them on the facsimile reproduction of old master ink and chalk drawings in both permanent black and colour.<sup>64</sup>

All the time photographic aspirations were growing. Disdéri – later to be associated with the Woodburytype process – foresaw in his *L'Art de Photographie* (1862) the establishment of central photographic collections, international exchanges, the massive diffusion of cheap art reproductions, all the conditions in fact for a museum without walls.<sup>65</sup> The catalogues of Alinari, Anderson, Brogi, Braun, and the rest grew fatter with each issue. Provided the photographer showed enough trial-and-error ingenuity, Turner's paintings, Thorvaldsen reliefs, the Sistine Chapel ceiling, the *Grimani Breviary*, were all within the camera's scope. Photography's advantages over graphic methods were becoming self-evident. The *Art Journal*, still the champion of wood and steel (plate 32), admitted the success of the slides and photographs made by the London Stereoscopic Company at the International Exhibition of 1862, in

particular with regard to sculpture. Hitherto sculpture had been difficult to illustrate well by engraving, but now it had been 'photographed into . . . popularity'.<sup>66</sup> For scholarly purposes photographs were quite indispensable. At one time, a writer in the *Gazette des Beaux-Arts* suggested, no one would have taken umbrage had an engraver rearranged, added, or suppressed details as long as the finished print had a good appearance. Photography had spoiled all that:

nous ne voulons plus de *fac-simile*, nous voulons la chose même. Soyons francs: quand vous ou moi aurons à étudier le travail d'un peintre, d'un sculpteur ou d'un architecte, une médaille ou une inscription, si l'on nous offre le choix entre la plus belle estampe et l'épreuve du premier venu des photographes du coin, à quel renseignement donnerons-nous la préférence? Tout est là. C'est que l'estampe du graveur ou du lithographe est une interprétation, et que la photographie, toute sotte qu'elle soit, est un miroir, une émanation brute, mais directe, de l'oeuvre créée, et qu'elle ne pourrait nous tromper. . . . Il ne nous est plus possible, devant une estampe, de considérer l'oeuvre interprétée; nous n'y admirons que l'habileté personnelle de l'interprète.<sup>67</sup>

This of course goes too far. The photographer too was compelled to meddle with the image, and even so could not prevent 'the utter disruption of the painter's chiaroscuro'<sup>68</sup> by the superimposition of a false set of blacks, whites, and greys for the original colours. The only solution here, involving further intervention, would be a radical retouching of the negative.

In the second edition of his *Manual of Photographic Manipulation* (1868) William Lake Price gives an expert insider's view of the camera's adequacy with regard to works of art. Most three-dimensional subjects were straightforward, though long exposures sometimes over-emphasized blemishes in the originals, very reflective pieces needed judiciously restrained lighting, and coins and medals – having golds and reds much in evidence – were still best photographed from casts. Prints and chalk or ink drawings likewise presented little difficulty, given the choice of an appropriate collodion and the use of the smallest possible aperture for maximum sharpness of definition. Watercolours, however, 'are not easy to copy, the colours often interfering, as blue skies, yellow and red dresses, &c., and if executed on very coarse paper the grain shows disagreeably'. Yet oil paintings were infinitely worse.

. . . taking a really good copy from an oil picture is the *most difficult* and ungrateful of this class of manipulations, from several causes.

The effect of the colours, as seen in the picture, may probably be transposed in the photograph, and thus a light yellow drapery in the high light of the composition, and a deep blue in the dark portion will, in the photographic copy, produce startling and precisely opposite effects from those which they did in the original, and which were neither intended nor foreseen by the painter. If a highly impastoed picture, the accidental thicknesses of the colours, drag of the brush, &c., show more conspicuously as *textures* in the copy, than even the gradations of light and shade of the

painting, whilst inequalities of surface or cracks in panels, will attract more attention than the subject itself. Lastly, pictures by the old masters, or those more recent, will refuse to 'come out' with any degree of spirit and brilliancy, but remain clouded, obscure, and muddy. The varnished surface is so much exposed to receive reflexions, from any surrounding objects, that, if the greatest care be not taken to guard against them, the subject, in such parts, becomes obliterated in a sheen of light. (pp. 215-16)

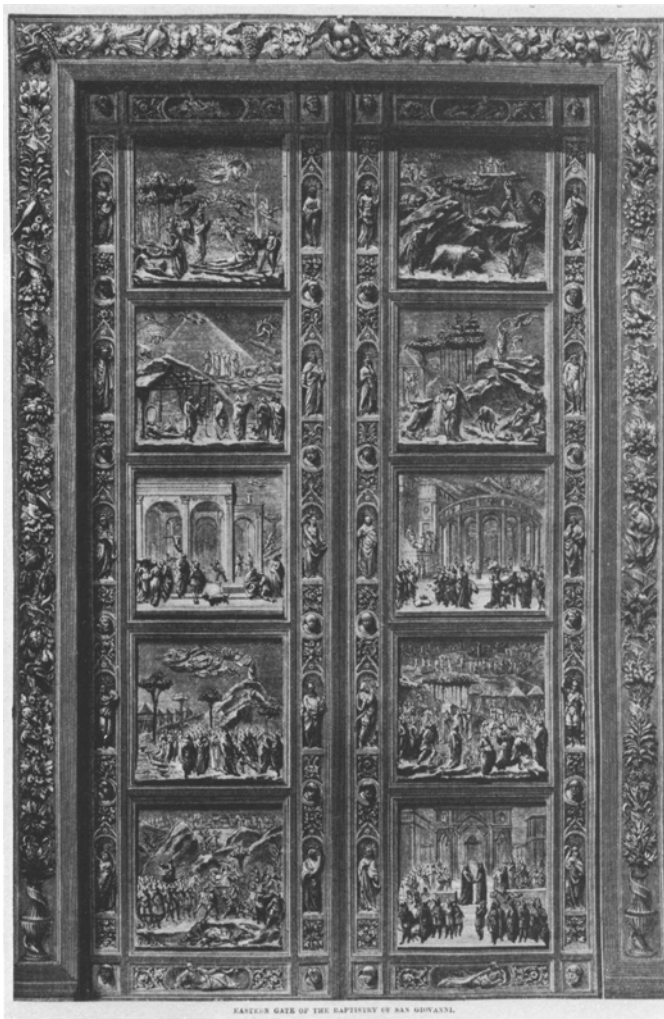
Old masters were often loaded with thick yellow varnish which showed up black on the photograph. Only very rarely was permission given for them to be moved out of dark galleries into open daylight, Lake Price continues, and in any case that was no guarantee of a good negative – as the failure of a French photographer with Raphael's *Entombment*, placed in direct sunshine for three hours, only went to prove. The results from lengthy exposures (up to a whole day) in the Vatican and other Roman galleries had tended to be equally disappointing, particularly with large pictures and with artists like Titian, Veronese, Rubens, and Guido Reni, who employed strong local colour. Photographs after Correggio, Murillo, and Rembrandt ('when the latter has not a *yellow* tone') were usually more successful (pp. 216-18). Of course highly coloured pictures made difficulties for the engraver as well, a point noted by Ruskin in *Ariadne Florentina*. Greens, reds, blues, browns and other colours 'at equal pitch' could be distinguished only by differently slanted lines, so that the plate became 'a vague and dead mass of neutral tints'. Chiaroscuro effects on the other hand came over strongly: a Bolognese painting 'which is everywhere black in the shadows, and colourless in the lights, will engrave with great ease, and appear spirited and forcible', more so than it deserved in all probability.<sup>69</sup>

At the core of the argument between photography and the graphic arts as reproductive media lay the question of the status of the reproduction itself, which hinged as much on the ease or difficulty of its creation as on its intrinsic value as a surrogate. The reputation of pure line engraving had always owed something to its sheer laboriousness, and hence its high cost. Any print resulting from years of minute effort on refractory material could not be regarded solely as a window through which to view the original painting; inevitably it assumed the status of a work of art itself, a subject of connoisseurship in its own right. If in the translation process much of the original had to be sacrificed or revamped, at least there was compensation to be had from studying the art of re-creation, the subtlety of the equivalences found by the engraver, the overall new monochrome harmony. That was what photography challenged. Relatively without effort it provided a genuine window on to the original. Other than as a record of the painting a reproductive photograph had little value.<sup>70</sup> Unlike an engraving it displayed only trivial signs of its own facture. 'There are no *touches* – no wondrous lines which show that the pencil was held by a master's hand – no traces of the artist's mind. All is just what might be expected, cold, dry *science*.' And this comment from the *Art Journal* of 1866<sup>71</sup> is self-revealing, for the 'master' and 'artist' it refers to are the engraver, not the original painter whose handling would be apparent only from a photograph.

32. J.M.W. Turner, *Snow-storm*, steel engraving by R. Brandard, *Art Journal* (1861) facing p.144, 10 by 7½ in.



33. L. Ghiberti, *East Door of Florence Baptistery*, anonymous wood-engraving based on a photograph, *Art Journal* (1869), p.207, 6¾ by 10 in.





34. J. van Eyck, *L'Homme à l'Oeillet*, engraving by F. Gaillard from *Les Beaux-Arts et les Arts Décoratifs*, ed. L. Gonse (1879), vol.1 facing p.234



35. W.P. Frith, *The Road to Ruin no.1*, etching by J.L. Flameng (1882), 17 $\frac{3}{8}$  by 21 $\frac{1}{8}$  in.



## V THE GRAPHIC ALTERNATIVE

About this time when the surface textures of pictures were a matter of experiment and aesthetic interest among contemporary artists, the possibility of reproducing a painter's actual handling by graphic means began to emerge. The main spur was probably photography, for the camera's candid eye revealed the physical state of surfaces, especially when it focused on details of a picture as it now more commonly did. But it also coincided with the unexpected revival of etching for both creative and reproductive work, and with the increasing virtuosity of the wood-engravers now aided by direct photography of images on to the wood block (plate 33). From the later 1860s until the final victory of photomechanical printing in the last decades of the century, etching and wood-engraving were the media of graphic innovation. Monochrome lithography was now of little account for reproduction purposes. Chromolithography remained expensive and had reached its limits for improvement. Line engraving was barely surviving, and that only because of the modest support of the *Art Journal* and private patrons in Britain, the commissions of the Chalcographie du Louvre and exhibitions staged by the Société des Graveurs au Burin (founded in 1868 in a last-ditch effort to save the art), and individual initiatives elsewhere. Its late harvest included George Doo's large print of Sebastiano del Piombo's *Raising of Lazarus* (1865) based on his own meticulous studies at the National Gallery, Henriquel-Dupont's *St Catherine* after Correggio (1867), the popular prints of Auguste Blanchard, and some astonishing interpretations of Van Eyck, Rembrandt, Bellini and Raphael by the enormously painstaking and versatile Ferdinand Gaillard (plate 34).

Etching had a freedom of expression that even Gaillard could hardly match, though its superlative effects demanded special skills in the printing. Among the first masters of its revival was Jules Jacquemart whose illustrations of objects of decorative art soon became legendary. The reproduction of metalwork, jewellery, glassware, ceramics and the like, as in the catalogues and commemorative volumes of the international exhibitions, had until then been pedestrian at best. Jacquemart's versions were a revelation, brilliantly imitating texture, grain, highlights, sheen, transparency, local colour, and scarcely indicating the form as such. Reviewing his *Gemmes et Joyaux de la Couronne* (the folios so much coveted by Edmond de Goncourt), Burty found him quite unrivalled in giving inanimate objects 'une vie latente en les baignant dans la lumière', and speculated whether etching – which permitted images 'plus colorées et plus nerveuses que celles que donne le burin' – was not eminently suited to copying subjects with high colour and strong relief. In his view it was far superior to line in catching details, in rendering angles and facets, in lighting up facial expression and enlivening gesture.<sup>72</sup> The reproductive etchers of the 1870s, Jacquemart included, concentrated particularly on Dutch, Flemish and German paintings which traditional engraving had tended to neglect. Wilhelm Unger for example etched some of the chief works in the Brunswick and Kassel galleries before publishing his masterly

series after Frans Hals. Leopold Flameng, in many respects leader of what amounted to a French school of etchers (championed throughout by the *Gazette des Beaux-Arts*), earned a public reputation for his interpretations of Rembrandt, the *Night Watch* of 1874 provoking a press sensation. The year before Flameng had facsimiled Rembrandt's own etching, *Christ Preaching* (the *Hundred Guilder Print*), as a test of virtuosity. Other etchers set themselves almost equal tasks: Bracquemond tackled Delacroix, Gaucherel and Rajon took on late Turner (aided by drypoint and aquatint). Waltner attacked any old master portrait that offered enough challenge in the texture of fabrics and the shine of metals. Particular store was set by the accurate representation of an artist's personal style:

and as the liberty of the etching point is exceedingly favourable to the imitation of brush-work, they have often been able to give a very clear idea of a painter's handling. Anyone who understood art, yet had never seen a picture by Frans Hals, might get a very accurate idea of his manner from the etchings of Unger. Besides handling, the etching process is extremely favourable to the imitation of textures.<sup>73</sup>

The coarser medium of wood-engraving might have seemed far less sympathetic to close copying, and here its foremost British exponent in the period, W.J. Linton, would have agreed. Linton drew a clear distinction between the line or wash drawing, when the engraver must follow the design exactly, and the painting, when he should interpret more freely rather than seek to correlate every line, tone and brushmark.<sup>74</sup> He was also critical of the practice of cutting images photographed straight on to the boxwood block, for the same reason as the *Art Journal* had once given: a photograph lacked 'that peculiar manipulation absolutely indispensable to the engraver' and, while it *could* be cut, the result would be alien to the medium.<sup>75</sup> However, Linton in practice worked to a rather monotonous formula (as in their different ways did the Dalziels, Birket Foster, or Doré's engravers), and once settled in the United States he met the disapproval of the new American school of wood-engravers who eschewed 'interpretation' as a matter of principle, relied on photographs, and followed the original as minutely as possible. A symposium of their somewhat various opinions (not adding up to a single manifesto) appeared in *Harper's Magazine*,<sup>76</sup> which, with *Scribner's* and *Century* magazines, was a principal showcase for their virtuosity. Timothy Cole emphasized freshness of response, the lively use of line, the avoidance of mechanical tricks like stippling and cross-lining, but would not himself go so far as to imitate brushstrokes ('Is it right to make a surface look as if it were patched?'). J.P. Davis too was against interpretation and conventional recipes:

the more the original artist's work appears in the engraving, unobscured by the personality of the engraver – the more 'brush marks' there are and the fewer tool marks – the better is the effect produced. This is the purpose of the conscientious engraver.

For Frederick Juengling the ideal was perfect objectivity, to engrave what was there without alteration or idealization, to reproduce and not to translate. The

old way had been to adapt the original to the means; the new way reversed this concept, having nothing to do with set methods but inventing anew for each job, as an etcher like Unger always did (in a medium closer to painting). Wood-engraving had in turn conquered gouache, watercolour wash, crayon, charcoal, and finally brushmarks in oil. With certain paintings wood-engraving surpassed all other media but photogravure itself, the prince of processes in Juengling's eyes. The other engravers represented in this unique symposium more or less concurred, while drawing attention to the value of having the original picture to refer to as a corrective to the colour-garbled photograph. One of them concluded that brushmarks should not be imitated, since they remained below the threshold of vision when a painting was seen at a proper distance in full light; but he admitted that the nature of the original medium must somehow be conveyed and that the personality of the engraver ought never to intrude. This anonymity was a hallmark of the American school, and quite the opposite to what obtained in English engraving which, according to the symposium's editor, was self-indulgent, mannerist, and insufficiently humble towards the artist being copied. English engravers translated pictures instead of perpetuating them.

## VI THE PRE-EMINENCE OF PHOTOGRAPHY

Arguments about the self-effacement of the printmaker or the need to record brushstrokes were beginning to sound rather old-fashioned as photographic techniques relentlessly improved and became properly harnessed to the printing press. By the 1870s the Parisian photographer Bingham, using slow emulsions and a sophisticated system of light control, could reproduce not merely the traces of an artist's brush but the threads of his canvas.<sup>77</sup> Now the camera could play detective, revealing any physical changes to a work of art subsequent to its being photographed. Charles Heath Wilson became convinced about this during a visit to Florence in 1874 when he examined a set of large photographic prints of Italian paintings.

In a certain number of these Photographs the figures are on a sufficiently large scale to show details very clearly. Certain Stiplings – Hatchings – Exaggerated lights and brush marks – Streaks of Varnish – and evidence of rubbing or scouring, it will at once be seen, are not the effects of any tampering with the negatives, but the renderings of the truth telling process of Photography of the results of the misdeeds of Cleaners & 'Restorers'. Their delinquencies are much manifest . . . . It appears to me that by the process of Photography a most important advance is made towards ascertaining beyond question the state of pictures and towards a remedy of existing evils of great magnitude.<sup>78</sup>

The photographs seen by Wilson were most likely taken by the Alinari. Yet as late as their 1873 catalogue 365 of the paintings listed were reproduced from engravings because of the old problem of colour distortion.<sup>79</sup> This was about the date H.W. Vogel began improving the sensitivity of collodion emulsions to

greens and yellows, though not until the 1880s did azaline and erythrosine dyes, still fairly insensitive to red, make orthochromatic photography practicable and so permit the Alinari and other firms to give the Venetian painters their due at last.<sup>80</sup>

Reproductive photographs were now thoroughly accepted. In November 1873 Van Gogh reported from Goupil's London branch where he was employed that photographic prints were selling well, especially the profitable large hand-coloured ones; of the Goupil photographs alone they averaged a hundred sales a day.<sup>81</sup> Photographers now undertook quite difficult commissions – the *Bayeux Tapestry* in situ for instance. Unable to be removed from its long glass cases and poorly lit from side windows, this required the construction of special apparatus before it could be attempted.<sup>82</sup> By this time it was already obvious that photography was an invaluable aid to connoisseurship and art studies generally: Morelli, Crowe and Cavalcaselle, and Herman Grimm, to mention no others, were all employing photographs long before Berenson, whose dependence on their assistance is well known.<sup>83</sup> Various archives were in existence, and indeed most European countries had signed an international convention on art reproductions which envisaged national collections of photographs, casts and electrotypes as well as the international exchange of duplicates.<sup>84</sup> This matter was considered at Vienna in 1873 during the first International Congress of Art History, when Anton Springer made the proposal that led to the founding of a *Kunsthistorische Gesellschaft für Photographische Publikationen*.

Almost every year came announcements of new advances in reproduction methods. All the carbon-intaglio processes, such as autotype, Woodburytype, and heliogravure were able to copy prints and drawings to near perfection. The reproductions in Durand's *Eaux-fortes et Gravures des Maîtres Anciens* were so deceptive, Georges Duplessis noted in 1872, that collectors of originals were becoming nervous about fraud and expected each print to be stamped on the back to prove it was not genuine.<sup>85</sup> Perhaps better still at simulating tone were Goupilgravure and the planographic processes like collotype and its derivative, heliotype. Henry Blackburn's zincographic illustrations to the catalogue of the Exposition Universelle in 1878 stimulated the first illustrated catalogues to the Paris Salons – which reproduced drawings and etchings made by the artists themselves after their own works.<sup>86</sup> By the later 1880s, with the perfection of the cross-line screen, both rotary photogravure and half-tones were coming rapidly into use, bringing down the costs of illustration, speeding up the process enormously, and virtually signalling the end of the hand-mounted photograph except for special purposes.<sup>87</sup>

Unwelcome though such developments were to diehard supporters of graphic reproduction, some continued to express confidence in the future of traditional methods (plate 35). In 1880 Duplessis was still arguing that:

La machine la plus perfectionnée ne saurait remplacer la main dirigée par l'intelligence et guidée par l'étude. La gravure a résisté à la lithographie, qui, pendant un instant, a semblé devoir lui causer un préjudice sérieux; elle triomphera plus facilement encore de la photographie, qui traduit traîtreusement les peintures qu'elle croit mathématiquement reproduire.<sup>88</sup>

Some years later a German commentator, I. Langl, lamenting the failure of patronage for the most noble means of reproducing works of art, in other words pure line engraving, likened it – in relation to photogravure – as working in marble compared with manufacturing a plaster cast: an echo here of Ruskin's remark in *The Cestus of Aglaia* that 'photography can do against line engraving just what Madame Tussaud's wax-work can do against sculpture. That, and no more.'<sup>89</sup>

Commercial engravers and etchers alike were nevertheless succumbing rapidly to the competition from photo-process printing, which was so much cheaper, faster and more convenient. By the turn of the century the reproductive side of the graphic arts, once dominant, was close to extinction. It was around this time that latent worries about photographic reproduction itself began to surface: less with regard to its technical capacity than about the ways it seemed sometimes to be misused, or encouraged people to study art at one remove. A frequent matter for complaint was the prevalence of retouching. Wölfflin and Hans Tietze, for example, both protested at the practice of deleting backgrounds from the negative in order to silhouette three-dimensional works like sculpture (but at the expense of falsifying contours and losing context). More significant were the growing doubts about the camera's possible effect on aesthetic discrimination, about its tendency to overemphasize the physical nature of art objects, and about the dangers of accepting the all-too-plausible photograph as if it were the real thing and not a highly reductionist copy. As Henri Focillon put it, the photographic plate and the human retina experience visual phenomena in quite different ways, the former being 'infiniment plus sommaire et plus brutale'. Yet the evidence of photography was regarded as gospel: 'La minutie puérile avec laquelle elle reproduit le faire et les accidents de la facture, l'aspect compact et bouché des images photographiques paraissent au plus grand nombre une image satisfaisante de ce qu'ils dénomment vérité.'<sup>90</sup> Justi, Kristeller, and Tietze all feared that ersatz versions of works of art might bring about a coarsening of visual response ('eine Verrohung des Sehens') and warned against allowing them to usurp the place of the originals. Never must the distinction between the archetype and its replicas be forgotten; in no circumstances should a photograph be considered an adequate substitute.<sup>91</sup>

The debate on the legitimacy of reproductions, their symbiotic relationship with creative art, and their wider social relevance, was of course to be carried further by Walter Benjamin, André Malraux, and many more.<sup>92</sup> But almost all twentieth-century commentators have tacitly conceded the essentially documentary character of the modern reproductive image, even while analysing the unavoidable ways in which it is conditioned by its medium, manipulated for effect, and coded with meanings through its presentation and context. The pre-photographic reproduction, on the other hand, could not be authentic in that sense. It supplied the iconography, composition, shapes and outlines, attitudes of figures, and the general play of light and shade; it simplified and hence made more absorbable and imitable; it fed the imagination. Its crucial flaw lay in its subjectivity. Every feature of the original had to be filtered through the translator's mind and refashioned comprehensively. A graphic reproduction,

unable to deliver the work complete, offered a compromise on its own terms, a hybrid creation in which the artist and his struggle became recessive factors and the printmaker's personality and technique the dominant. As W.M. Ivins so often stressed, the print ignored 'the very things which constitute the work of art and which are visible to everyone who looks at it with care and an educated eye',<sup>93</sup> namely the traces of its making. It forfeited almost all sense of the original as an artefact, scarcely hinting at the material and rewriting the holograph in a quite different hand. Whether the work it purported to represent was genuine, copy, or fake, the print gave no clue.

Photography changed all this. 'Le réalisme naît et éclate alors que le daguerreotype et la photographie démontrent combien l'art diffère du vrai.'<sup>94</sup> Jules de Goncourt may have underrated the positivist currents that were already propelling literature and art towards naturalism, but his comment applied neatly in the case of reproductions. For the camera at last permitted something like direct access to the absent original, and in doing so demonstrated just how much the engraving, etching and lithograph idealized and transformed. Only the technical shortcomings of photography granted another fifty years of fruitful existence to reproductive graphics (which in any case grew increasingly reliant on the camera to furnish reliable, condensed copies to work from). Some critics never became reconciled to the soulless candour of the photograph. Others changed their view as the process improved, as emulsions became more sensitive and permanency of prints could be guaranteed. By the end of the nineteenth century it had become recognized that the history and connoisseurship of the visual arts would henceforth depend heavily, perhaps dangerously, on photographs, slides, and photo-process-illustrated books, catalogues and journals.<sup>95</sup> At the heart of Kunstgeschichte lay the comparison of reliable images. Art history in future would be the history of the photographically reproducible.

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## NOTES

I am indebted to Pam Roberts at the Royal Photographic Society, Bath, for access to the library, and to Robin Lucas and Michael Brandon-Jones for their ready assistance over illustrations.

- 1 William Hazlitt, *Complete Works*, ed. P.P. Howe, 21 vols (London, 1930-4), vol. 10, p. 8, from 'Sketches of the Principal Picture-Galleries in England.
- 2 Estelle Jussim, *Visual Communication and the Graphic Arts: Photographic Technologies in the Nineteenth Century* (New York, 1974), passim. In addition to standard histories of printmaking, other relevant publications include W.M. Ivins, *Prints and Visual Communication* (Cambridge, Mass., 1953); C.H. Lloyd, *Art and its Images* (catalogue of an exhibition at the Bodleian Library, Oxford, 1975); D. Alexander and R.T. Godfrey, *Painters and Engraving: the Reproductive Print from Hogarth to Wilkie* (catalogue of an exhibition at the Yale Center for British Art, New Haven, Conn., 1980).
- 3 John Burnet, *Practical Essays on Various Branches of the Fine Arts* (London, 1848), p. 133, but first printed in the *Art-Union* 1839.
- 4 T.H. Fielding, *The Art of Engraving* (London, 1841), p. 29.
- 5 Burnet, op. cit., pp. 139, 143-5.
- 6 John Unrau, *Ruskin and St Mark's* (London, 1984), p. 20.
- 7 Eugène Delacroix, *Journal*, ed. A. Joubin, 3 vols (Paris, 1932), vol. 2, entry for 19 Nov. 1853 and cf. entries for 21 May and 24 Nov. Photographs

- of a Rubens painting, Delacroix noted, showed up his imperfections all the more since they were no longer masked by the bravura of colour and handling.
- 8 *Art-Union* (1846), pp. 143-4.
  - 9 Anthony Dyson, 'Images interpreted: Landseer and the engraving trade', *Print Quarterly*, vol. 1 no. 1 (1984), pp. 29-43. For Gambart's print dealing generally see Jeremy Maas, *Gambart, Prince of the Victorian Art World* (London, 1975).
  - 10 *Art Journal* (1849), p. 357. The magazine's circulation had by then reached c.15,000 and within two more years had climbed to 25,000.
  - 11 *Art-Union* (1846), p. 280.
  - 12 *Athenaeum* (1846), p. 126. The comment is presumably G.W. Thornbury's.
  - 13 See Ruari McLean, *Victorian Book Design and Colour Printing* (London, 1963); Carl Nordenfalk, *Color of the Middle Ages* (catalogue of an exhibition at the University of Pittsburg, 1976).
  - 14 *Art Journal* (1849), p. 31.
  - 15 Heinz Buddemeier, *Panorama, Diorama, Photographie* (Munich, 1970), pp. 332-3.
  - 16 John Hannavy, *Roger Fenton of Crimble Hall* (London, 1975), pp. 34-5.
  - 17 A. Jammes and E.P. Janis, *The Art of French Calotype* (Princeton, N.J., 1983), pp. 48, 52-66. The subjectivity of the camera was far less perceptible to contemporaries. Thus the *Athenaeum* in 1853 (p. 1017), reviewing Maxime du Camp's photographs of Near Eastern monuments, speaks of 'the actual, unadorned facts of the thing they represented', whereas the most careful artist could not prevent 'something of the severity of truth' yielding to 'the necessities or the seductions of composition'.
  - 18 F.A.S. Marshall, *Photography: the Importance of its Application in Preserving Pictorial Records of the National Monuments of History and Art* (London, 1855), pp. 15-16.
  - 19 *Athenaeum* (1855), p. 1245. In this instance the earlier engravings by Lasinio and W.Y. Ottley constituted a valuable record of the frescoes in a less damaged state.
  - 20 William Lake Price, *A Manual of Photographic Manipulation*, 2nd edn (London, 1868), pp. 223-4.
  - 21 *Art Journal* (1859), pp. 45-6.
  - 22 *Athenaeum* (1859), pt 1 pp. 86-7, 751; pt 2 p. 247.
  - 23 *Photographic News*, vol. 1 (1858), pp. 61-2.
  - 24 'Photography' [by Lady Eastlake], *Quarterly Review*, vol. 101 (1857), p. 458.
  - 25 *Athenaeum* (1858), p. 370, which criticized the woodcut, Audenaerde's copperplate, and recent lithographic versions of the series for their slovenly copying and omissions.
  - 26 Delacroix, op. cit., vol. 3, pp. 30-1.
  - 27 Buddemeier, op. cit., reprinting Delaborde's article of 1856 from the *Revue des Deux Mondes*.
  - 28 *Gazette des Beaux-Arts* (1859), pp. 210-11. With regard to prints and photography, as Burty pointed out, the costs of initial creation and the subsequent multiplication of copies were reversed.
  - 29 *Athenaeum* (1859), pt 2 p. 54 reported that photographers were already pirating some of Gambart's prints. In Britain the first revision of copyright legislation to take account of the new threat came in 1862, but proved too weak in practice.
  - 30 *Art Journal* (1859), p. 349.
  - 31 Jammes and Janis, op. cit., pp. 91ff.
  - 32 *Art Journal* (1860), p. 276.
  - 33 *Athenaeum* (1857), pp. 856-7.
  - 34 *Ibid.* (1854), pp. 154-5.
  - 35 *Art Journal* (1856), pp. 7-8.
  - 36 J.W. Mackail, *The Life of William Morris*, new edn, 2 vols (London, 1901), vol. 1, p. 71.
  - 37 Paul Chéron, 'La chromolithographie', *Gazette des Beaux-Arts* (1861), pp. 216-25. Kellerhoven had already published reproductions of Perugino and Fra Angelico at his own expense so that he might have as many printings from the stone as he pleased.
  - 38 On French lithography of the period see D. Druick and P. Zegers, *La Pierre Parle* (catalogue of an exhibition at the National Gallery of Canada, Ottawa, 1981); also the references in note 17 above.
  - 39 *Art Journal* (1853), p. 267. Day & Son's chromolithograph of Turner's *Vessel Showing Blue Lights at Sea* also won high praise: Robert Hunt in *Art Journal* (1854), pp. 1-3 thought it lacked only a semi-transparent glaze to bring out the atmosphere completely.
  - 40 F.W. Maynard, *Descriptive Notice of the Drawings and Publications of the Arundel Society* (London, 1869); Robyn Cooper, 'The popularization of Renaissance art in Victorian England: the Arundel Society', *Art History*, vol. 1 (1978), pp. 263-92.
  - 41 Cited here from John Ruskin, *Giotto and his Works in Padua*, new edn (substituting photo-process illustrations for the first edition's wood-engravings, London, 1900), pp. 44-6.
  - 42 *Athenaeum* (1861), pt 1 pp. 533-4 and pt 2, p. 184; Cooper, op. cit., p. 285. F.G. Stephens took over from Thornbury as the *Athenaeum's* art critic in 1860/1.
  - 43 *Ibid.* (1864), pt 2, pp. 56, 120-1.
  - 44 *Art Journal* (1865), pp. 303-4.
  - 45 *Ibid.*
  - 46 *Athenaeum* (1866), pt 1, p. 23.
  - 47 *Ibid.* (1868), pt 1, pp. 898-9; (1869), pt 1, p. 675. The Van Eyck chromolithographs were issued on white mounts, several to a mount and with margins round, which the *Athenaeum* believed exaggerated their defects.
  - 48 *Ibid.* (1872), pt 2, pp. 872-3.
  - 49 John Ruskin, *The Works of John Ruskin*, ed. E.T. Cook and A. Wedderburn, library edn, 39 vols (London, 1903-12), vol. 13, pp. 549-50. For a summary of Ruskin's ambivalent attitudes to photography see Michael Harvey, 'Ruskin and

- photography', *Oxford Art Journal*, vol. 7 (1985), pp. 25-33.
- 50 Thomas Winstanley, *Observations on the Arts* (Liverpool, 1828), p. 23.
- 51 William Bewick, *Life and Letters of William Bewick*, Artist, ed. T. Landseer, 2 vols. in 1 (1871, repr. East Ardsley, 1978), vol. 1, pp. 273, 293; vol. 2, pp. 28, 84-5, 110-14, 120-1.
- 52 *Ibid.*, vol. 2, p. 114.
- 53 Delacroix, op. cit., vol. 2, entry for 29 July 1854.
- 54 *Art Journal* (1866), p. 362.
- 55 *Athenaeum* (1860), pt 2, p. 756. As a safeguard one correspondent suggested that each canvas should be stamped 'COPY' plus the gallery's name before it was removed from the building, or at least that obligatorily it must be painted on a different scale: *ibid.* (1860), pt 2, pp. 796, 834-5.
- 56 *Art Journal* (1867), p. 256. The *Athenaeum* had once proposed something similar: *Athenaeum* (1860), pt 2, p. 424.
- 57 The Copying Fund was instituted in 1859. By 1869 the copies included works by Cimabue, Piero della Francesca, Filippo Lippi, Botticelli, Michelangelo, Dürer and Holbein: Maynard, op. cit., pp. 8ff.
- 58 Albert Boime, 'Le Musée des Copies', *Gazette des Beaux-Arts* (1964), pp. 237-47. See also Philippe de Chennevières, *Souvenirs d'un Directeur des Beaux-Arts* (*L'Artiste*, 1883-9, repr. Paris, 1979), pt 1, pp. 96-7; pt 4, p. 139; pt 5, pp. 29-30.
- 59 Friederike Klauner, 'Kopie und Geschmack', *Original, Kopie, Replik, Paraphrase*, ed. H. Hutter for the Akademie der Bildenden Künste (Vienna, 1980), pp. 6-17.
- 60 'Picture Copyists', *All the Year Round*, new series, vol. 23 (1879), pp. 55-9. Compare too Ruskin's remark in the early 1870s about the 'common painter-copyists who encumber our European galleries with their easels and pots, persons too stupid to be painters, and too lazy to be engravers': Ruskin, *Works*, edn cit., vol. 22, p. 388. At other times he felt that good draughtsman-copyists ought to be encouraged and that even the best engravers might be better employed making coloured copies or drawings straight from the original, 'full of subtle veracities which no steel line could approach': *ibid.*, pp. 465, 476. And of course he trained William Ward and others to duplicate Turner watercolours with deceptive accuracy.
- 61 To give a single instance of a practice still widespread in the 1860s, Morelli's photographs after paintings in the National Gallery, published in 1866, were taken from his own monochrome crayon copies: *Fine Arts Quarterly Review*, new series, vol. 2 (1867), pp. 391-7.
- 62 'Photography' [by Robert Cecil], *Quarterly Review*, vol. 116 (1864), pp. 482-519.
- 63 'La photographie en 1861' [by Philippe Burty], *Gazette des Beaux-Arts* (1861), pp. 241-9. Bingham too should be added to the list for the photography of contemporary paintings in his superbly equipped Paris studio.
- 64 The standard account is Naomi Rosenblum, 'Adolphe Braun: a 19th-century career in photography', *History of Photography*, vol. 3 (1979), pp. 357-72, though see also Gisèle Freund, *Photographie et Société* (Paris, 1974), pp. 92-3. Braun's facsimiles were available at two London dealers by 1868. By then he was experimenting as well with the photography of paintings, though the first six months' work by his assistants on the Sistine Chapel turned out to be wasted because of wrong focusing. Eventually Braun photographed twenty-two collections of drawings, ten of paintings, four of sculpture, and four series of frescoes. According to J.M. Eder's *History of Photography* (New York, 1945), pp. 466-7, he was the first to use the orthochromatic process on paintings, reproducing pictures from the Madrid and St Petersburg galleries by this method in 1878, the first time that yellow and blue values had been correctly given.
- 65 Cited in Buddemeier, op. cit., pp. 321-6.
- 66 *Art Journal* (1863), p. 68.
- 67 *Gazette des Beaux-Arts* (1865), pp. 316-17, article signed by M. de Saint-Santin.
- 68 *Art Journal* (1868), p. 56. Photographs intended as the basis for engraved reproductions were commonly retouched first by a skilled copyist and for modern works sometimes by the artist.
- 69 Ruskin, *Works*, edn cit., vol. 22, p. 464. While Ruskin had been impressed by the ability of Le Keux and Armytage to hint at local colour when they engraved some of his watercolours, he seems in general to have adhered to his former belief that any attempt to simulate pigments was 'heraldry out of its place' and simply damaged the rendering of chiaroscuro: *ibid.*, vol. 3, pp. 299-300. Others claimed that colour *could* be expressed to some degree in black and white, e.g. Sir Thomas Lawrence's insistence that an engraver could 'so meander his shadows as to convey (to the painter's eye at least) the idea of blue, and (I believe) one or two other colours' – quoted in Lloyd, op. cit. in note 2 above, p. 8. Confusion over this matter was aggravated by printmakers' use of the word 'colour' to mean tone. Clearly any colour sensations derived from a monochrome print must have arisen through expectations and associations, even if guided by the tonal gradients and harmonies achieved by the engraver. In Charles Blanc's words, 'faisant abstraction des teintes, il [i.e. the engraver] n'en donne que la valeur': *Grammaire des Arts du Dessin* (Paris, 1867), p. 661.
- 70 It is true that reproductive photographs of both old and modern pictures were often framed and hung up like prints. Even Gambart dabbled in photographs a little, at least in the case of Rosa Bonheur's *The Shetland Ponies* with scant success: *Photographic News*, vol. 7 (1863), pp. 386-7. Bingham's photographs, plain and



- hand-coloured, after contemporaries like Meissonnier, had a ready sale in France and Britain: *ibid.*, vol. 8 (1864), pp. 421-2. None of this, nor their common employment in education and pattern design, led to the collecting or appreciation of photographic reproductions for their own aesthetic sake.
- 71 Lewis Wright in *Art Journal* (1866), pp. 87-8.
- 72 *Gazette des Beaux-Arts* (1865), pp. 80-95; (1866), pp. 184-94, 534-45.
- 73 P.G. Hamerton, *The Graphic Arts* (London, 1882), p. 338. Hamerton patronized many of these etchers in the pages of the *Portfolio*. See, besides, his *Etching and Etchers* (Boston, 1878), pp. 150-4, 183-4, 363-404. Also Henri Focillon, 'L'eau-forte de reproduction en France au XIXe siècle', *La Revue de l'Art*, vol. 28 (1910), pp. 335-50, 437-46.
- 74 W.J. Linton, *Wood Engraving* (London, 1884), pp. 77-8.
- 75 *Art Journal* (1861), pp. 95-6. Cf. Linton's article published in *Atlantic*, July 1867, attacking the new American wood-engravers. See also David Woodward, 'The decline of commercial wood-engraving in nineteenth-century America', *Journal of the Printing History Society*, no. 10 (1974-5), pp. 56-83.
- 76 *Harper's Magazine*, vol. 60 (1879-80), pp. 442-53.
- 77 Jussim, *op. cit.* in note 2 above, pp. 252-3.
- 78 Charles Heath Wilson, 'MS. list of photographs shewn to me by the Director of Museums and Galleries of Florence as not yet published in London - Remarks, etc.' [1874], Victoria & Albert Museum Library MS.86. CC.40.
- 79 W. Settimelli and F. Zevi, *Gli Alinari, Fotografi a Firenze, 1852-1920* (catalogue of an exhibition at the Forte di Belvedere, Florence, 1977), pp. 149 and 160, where it is also recalled that Berenson published his book on Venetian painters in 1894. Berenson's long letter to the *Nation* in 1893, printed under the heading 'Isochromatic photography and Venetian pictures', is referred to in Ernest Samuels, *Bernard Berenson* (Cambridge, Mass., 1979), p. 173. Well known for their fine art reproductions, in the late nineteenth century the Alinari paid even more attention to the applied arts; after c.1875 they also provided more shots of details, which by 1887 amounted to 12 per cent of the catalogue: Settimelli and Zevi, *op. cit.*, pp. 124-8.
- 80 H. and A. Gernsheim, *The History of Photography*, rev. edn (London, 1969), pp. 332-4. The first truly panchromatic plates were marketed in 1906.
- 81 Arts Council, *English Influences on Van Gogh* (catalogue of an exhibition at the University of Nottingham, 1974-5), p. 8.
- 82 *Athenaeum* (1873), pt 1, p. 318. Originally sold as large prints, Cundall's photographs of the *Bayeux Tapestry* were published in reduced format by the Arundel Society in 1875.
- 83 The methods of Crowe and Cavalcaselle are sometimes contrasted with Morelli's, but see Donata Levi, 'L'officina di Crowe e Cavalcaselle', *Prospettiva*, 26 (1981), pp. 74-87. Grimm wrote as early as 1865 about the need for photographic collections, and in the 1870s saw to the establishment of one at Berlin University: Heinrich Dilly, *Kunstgeschichte als Institution* (Frankfurt a.M., 1979), pp. 151-3. Berenson was not shy about his dependence on photographs; see, for example, his *Aesthetics and History in the Visual Arts* (New York, 1948), pp. 203-4.
- 84 The origins of the convention can be traced back to Sir Henry Cole's memorandum of 1864 on international exchanges, the text of which is printed in his *Fifty Years of Public Work*, 2 vols (London, 1884), vol. 1, pp. 346-7.
- 85 Georges Duplessis, 'Héliogravure Armand Durand', *Gazette des Beaux-Arts* (1872), pp. 28-32.
- 86 See the series launched by F.G. Dumas in 1879 (of which it was stated that the illustrations 'n'ont passé par aucun procédé de reproduction pour être plus ou moins dénaturés par des interprètes' and that they appeared therefore 'dans la fleur primesautière de la création de l'artiste' - *Catalogue Illustré du Salon 1880*) and the rival series using photo-process published by Louis Enault from 1881.
- 87 Cf. the comment in *Art Journal* (1891), pp. 55-6 on the new accuracy, cheapness and speed of production brought by half-tones over the previous five years.
- 88 Georges Duplessis, *Histoire de la Gravure* (Paris, 1880), p. 460.
- 89 Langl's opinion of 1887 ('der reine Liniestich wird sich zur Photogravüre stets wie Marmor zur Gips verhalten') is given in H.L. Nickel, *Fotografie im Dienste der Kunst* (Halle, 1959), p. 16. For Ruskin's see *Works*, edn cit., vol. 19, p. 89.
- 90 Focillon, *op. cit.*, p. 445.
- 91 'Es wäre ohne Zweifel ein grosser Vorteil für unsere Studien, wenn der Abstand der Nachbildungen von den Originalen in jeder Hinsicht konstant wäre': Paul Kristeller, 'Über Reproduktionen von Kunstwerken', *Repertorium für Kunstwissenschaft*, vol. 31 (1908), p. 540. 'Das Kunstwerk kann unter keinen Umständen durch eine Reproduktion ersetzt werden': Hans Tietze, *Die Methode der Kunstgeschichte* (Leipzig, 1913), p. 252.
- 92 Contributors to the debate around 1930 included Offner, Panofsky, M.J. Friedländer - and Walter Benjamin, who argued that photographic reproduction not only made the original work easier to grasp by miniaturizing it, but also robbed it of its aura of uniqueness, intensity, and (in Lawrence Alloway's phrase) 'autographic solidity'. These claims have been contested most recently by Andras Sandor in *Atti del XXIV Congresso CIHA, 1979* (Bologna, 1982), vol. 10, pp. 133-43. Besides Malraux postwar commentators have included Ivins, Gilson, Wind, Barthes, Berger, and by implication McLuhan.

## GRAPHIC VERSUS PHOTOGRAPHIC IN THE NINETEENTH-CENTURY REPRODUCTION

- See also Mark Sagoff, 'On restoring and reproducing art', *Journal of Philosophy*, vol. 75 (1978), pp. 453-70; M. Babst Battin, 'Exact replication in the visual arts', *Journal of Aesthetics and Art Criticism*, vol. 38 (1979-80), pp. 153-8; and the symposium *Echtheit/fetischismus? zur Wahrhaftigkeit des Originalen*, ed. S. Waetzoldt and A.A. Schmidt (München-Nymphenburg, 1979). To these must be added the wealth of technical criticism on modern reproduction methods (colour printing, slides, microforms, films, television, xerography, computer-based systems, etc.).
- 93 W.M. Ivins, 'A note on engraved reproductions of works of art', *Studies in Art and Literature for Belle da Costa Greene*, ed. D. Miner (Princeton, N.J., 1954), pp. 193-6.
- 94 Edmond and Jules de Goncourt, *Journal*, ed. R. Ricatte, 4 vols (Paris, 1956), vol. 1, entry for 30 Oct. 1856.
- 95 The desideratum of 'a great collection of reproductions of all the art of all the world, organically arranged' was stated by Sir Martin Conway in *The Domain of Art* (London, 1901), esp. pp. 131-6. Italian painting from Cimabue to Tiepolo, he suggested, might be covered in 20,000 photographs, but it should not be imagined that just ordering the entire relevant series from the chief publishers would suffice. That would result in a 'mere chaos of prints; many of them wrongly named, attributed to the wrong artists; copies put forward as originals; no distinction between school pictures and the master's own work; drawings with no indication of the pictures for which they were studies; no dates; no sequence. There would be great and important gaps in the series.' The conditions under which some of these photographs may have been taken is amusingly but revealingly described in R. Schlatter, 'Gemäldeproduktion', *Das Atelier des Photographen*, vol. 5 (1898), pp. 167-71.