

The material culture of media: museums of printing and photography

Introduction

Pictures play an important role in our society, and prints, photographs, posters, comic art, and illustrations in books, newspapers and magazines are included in a number of museums. Visual collections may encompass cinema, television and the Internet. All these formats, as well as their apparatus, for example printing presses and cameras, are part of a global effort to communicate. As the collections of many museums demonstrate, this impulse has a long and varied history, and the methods by which these images have been produced offer complex stories in themselves that cross several disciplines.

The strength of today's visual culture and the impact of mass media are built upon many developments in communications strategies and techniques over time. Our understanding of the richness of these prior efforts, and of their more subliminal influences on our cultural growth, is due in part to the role of museums in preserving and interpreting collections of images and texts along with the tools and equipment that produced them. Building on a wealth of private collections and the great nineteenth-century exposition tradition, museums of printing and photography present opportunities to understand both the technical developments of communication technologies and the place that images hold in the mind's eye. Mixing words and pictures, these institutions collectively convey the persistence and power of media.

Some museums offer objects in the context of their initial use through period settings that evoke the local role of the photography studio or printing office, while others situate apparatus amidst displays that present the larger story of technical advances. Libraries and photographic museums usually concentrate on a single format, but they can possess great depth and breadth of retrospective coverage for their chosen medium, and they may include relevant technical information in their exhibitions, even when apparatus is absent. Art museums often include some discussion of process and technique in their exhibitions of prints and photographs. Technical museums cover hand tools and machinery. More recent developments in photography and electronics have become interconnected through film and digital imaging as exhibited through presses, cameras and computers. The work of pioneers in various processes is acknowledged

at historic sites and in museum settings that include biographical and contextual exhibits. National museums focus not only on contributions made within their borders but often feature objects of international importance in certain fields, including both printing and photography. Some collections include images and apparatus, while others specialise in either one or the other. This paper will address the museum presentation of pictures through a discussion of selected collections, exhibitions and Websites, all of which offer evidence of dynamic cultural responses to these objects.

Historical context

To put printed pictures and texts into some historical context, both forms emerged in the West in the fifteenth century, several centuries after their invention in China. Wood-block designs, long used for printed textiles, began to be printed on paper for inexpensive devotional images and playing cards around 1400, followed within a few decades by prints from metal plates – engravings and etchings – that developed from paper proofs used by goldsmiths and armourers to check their decorative designs. These early prints probably were printed without the use of a press, by rubbing the paper against the block or plate.¹ Beyond devotional and decorative uses, prints reproducing drawings and paintings made artists and their works more widely known. Albums of prints began to be assembled and impressions sold, resulting in a formal print trade and, eventually, the formation of public and private collections throughout Europe.

In about 1450 the invention of movable type and the printing press, adapted from screw presses used to make wine and finish cloth, sparked a communication system based on printed words and images that spread rapidly across Europe. Early texts combined with woodcut illustrations to offer a faster and cheaper alternative to the labour of hand-copied and illuminated manuscripts that had been largely the products of monasteries. The mechanisation of book production thus also secularised both knowledge and iconography, extending the range and scope of intellectual offerings.

Creating designs, cutting wood blocks or copper plates, casting type, printing, binding and colouring had become separate, specialised trades by about 1500, and during the sixteenth century commercial publishers began to dominate book and print production. A division of labour influenced the operations of the sixteenth-century printing shop, as represented in the equipment now preserved in museums, and in their ultimate separation as text- and image-based disciplines.

A remarkable survivor conveys the ambience of a northern European workshop in this early period. The publishing house of Plantin-Moretus in Antwerp was exceptional in its combination of relief and intaglio printing as well as in the scope of its operations. The building, a museum since 1877, is itself an artefact that includes



Figure 1 The press room in the Plantin-Moretus Museum, Antwerp, Belgium. Operated as a family publishing business from 1555 to 1876, it has been a museum since 1877. (Plantin-Moretus Museum and Municipal Printroom)

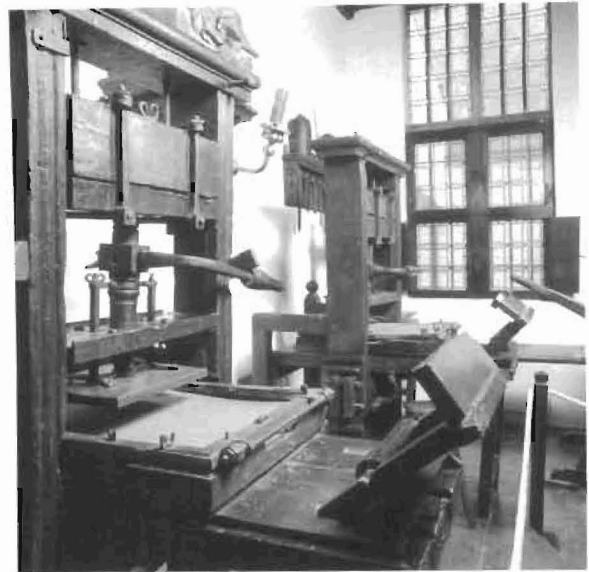


Figure 2 Two of the wooden common presses at the Plantin-Moretus Museum are considered the oldest in Europe. They date from the seventeenth century, with some earlier components. (Plantin-Moretus Museum and Municipal Printroom)

the type foundry, press rooms (Figure 1), living quarters and sales counter of the family publishing firm that operated there from 1555 to 1876. Important collections of type; type moulds, matrices and punches; printing presses; wood blocks and copper plates; and a library of the books, prints and maps they produced document the firm's output during the critical period of the Counter-Reformation and beyond. Two of the museum's wooden common presses are considered the oldest in Europe; they date from the seventeenth century, but are modified from earlier presses and believed to contain sixteenth-century parts (Figure 2). Five presses date from the seventeenth and eighteenth centuries, and there is an intaglio press of 1714.

Early prints and printed books most often are preserved in art museums and libraries respectively, although a number of university special collections are devoted to the history of printing. Sometimes these collections include examples of wood blocks or even an early common press, but such hardware is the exception rather than the rule. One important exception is a permanent installation in the British Library at St Pancras in London, the 'Workshop of Words, Sounds, and Images'. The British Library, while not holding a collection of printing equipment, nonetheless has developed an intelligent display to demonstrate the history and importance of writing, printing, imaging and sound recording, in a building housing one of the world's premier book and map collections. The exhibition

combines historic objects, protected in cases, together with practical reproductions used for hands-on learning and demonstrations of printing and bookbinding. Its main theme is communication as sharing knowledge, exhibited in various media from clay, stone, papyrus and parchment to digital forms, including sound recording. Objects in pull-out drawers are explained through videos of calligraphy, paper-making, intaglio engraving, typesetting and bookbinding. Letterpress printing is demonstrated in a purpose-built shop. Photography's use in books – first tipped in, then printed – is included as a process, but the technology is not described. The principle of offset lithography is presented through a model with interactive rollers, and colour separation and reproduction are described with a red–blue–green overlay interactive. A panel on digital processes uses photographs of equipment.² Recorded sound completes the story, with cased artefacts and a listening station for comparison of electric, acoustic and digital recording, all offering versions of the 1812 Overture.

Photography appeared in two formats, both announced to the world in 1839. W H F Talbot's process produced prints from paper negatives, and L J M Daguerre's process produced direct positives on metal. Talbot-related collections are discussed elsewhere in this volume, and daguerreotypes are found in numerous photographic collections worldwide. Photographic images, cameras and viewing apparatus are held in many museums dedicated to photography and in national and local collections as discussed below. Photomechanical developments, such as the photogravure and the screened halftone, helped transmit photographs via the printing press, beginning in the 1850s. These also are discussed elsewhere in this volume. The negative-positive process has dominated chemical photography through to the present day, with digital photography now becoming more widespread in both amateur and commercial applications.

The industrialisation of printing occurred in several stages, beginning with the replacement of wooden hand presses with metal ones, and the application of water and steam power, and eventually electric motors. Traditional letterpress (relief) printing dominated the field internationally until after the Second World War, when offset lithography gradually took over for most printing applications, although for printing pictures separately from text, direct lithography on stone or zinc and cylinder gravure printing had a significant section of the market. The decline of letterpress printing prompted the formation of many collections of type, relief blocks for illustrations and presses, from decorative nineteenth-century iron hand presses to large twentieth-century cylinder presses. Enthusiastic amateurs and retired members of the printing trades gathered what they could before the older technology disappeared, much of which has found its way into museums. Relief printing today centres on newspapers, books and packaging, and includes flexography which employs rubber or

photopolymer plates. The most modern materials and developments present collecting opportunities that have not yet been added to museums in any significant way.

Together with press improvements, typography advanced from fonts individually cast by hand in molten metal to mechanical metal typesetters, now preserved in a number of collections.³ More recent developments with twentieth-century film and computer typesetting are not as commonly found in museums, and, like much late twentieth-century technology, deserve more attention, especially as computer-based applications influence more and more aspects of communication. These objects, obscured within their casework, exemplify the 'black-box' phenomenon. Electronic and digital systems are less transparent for museum visitors than outwardly visible mechanical works, and they require more explanation, especially as chemical photography's role in the graphic arts has diminished, and electronic and digital processes have entered all aspects of printing from image transfer to colour correction. The Musée de l'Imprimerie in Lyon, France, has significant archival collections related to this period in typography and design.

Museums of printing and photography

Museums dedicated to printing generally focus on the history of the book or the role of the press in society, and they often include objects and information about related trades such as papermaking and bookbinding, and, sometimes, graphic processes as well.⁴

One of the most inclusive of these museums is the Danish Media Museum in Odense. An ambitious new installation is being planned to combine elements of the former Graphics Museum and Press Museum into a single exhibition. The Press Museum collections cover printing for news media from the nineteenth century to the present, including press photography and desktop computers for modern newspaper layout. The Graphics Museum focused on the production of books and illustrations rather than newspapers, and included active demonstrations of paper-making and bookbinding by retired craftsmen. Several workshop installations showed type founding with hand moulds and matrices, Linotype machine composition, and the making of duplicate plates with stereotype baths. Lithography and intaglio work were explained with hand tools, stones, plates and presses. Bookbinding and paper marbling areas were featured as well.

In the new media museum planned for Odense, the exhibition design will offer visitors parallel tracks, an electronic side mixing pictures, media and sound, and a more traditional printing side, with intersections of culture and society in the middle of the gallery. It will employ reverse chronology, beginning with digital media and working backwards to Gutenberg. Elements of the existing shop installations and the demonstration programme will be retained, and there will

be an interactive television studio. (A temporary exhibition in the summer of 2002 celebrated 50 years of Danish television in five period settings of living rooms with TV sets that played DVD recordings of programmes available in each decade from 1950 to 2000.) An interactive communication centre in the new facility will permit visitors to work on newspaper layouts and make editing choices. An education centre for the building will include the photographic collection. In its current gallery on another floor of the former factory, photography is presented in art exhibitions that do not address the history or technology of imaging.

Museum exhibitions that treat historical aspects of illustration and the graphic arts usually define the technical characteristics of each system of pictorial reproduction. One of the earliest of these didactic graphic exhibitions was produced in the French Bibliothèque nationale in 1807. The idea was expanded so that by 1855 there were some 400 prints on permanent display illustrating the history of printmaking.⁵ The BN has received deposits of prints since 1638, and photographs since 1851, well before any legal obligation was required for copyright purposes. The Prints and Photographs Department is one of the largest and most varied in the world, with 15 million items ranging from master engravings to postcards, posters and drawings, playing cards and samples of cloth and wallpaper. Contemporary prints and photographs are actively collected, and the department publishes an important journal, *Nouvelles de l'Estampe (Print News)*, that includes articles on historical and contemporary topics, exhibition notices and book reviews. A special issue in 2002 was devoted to wood engraving from 1400 to today.

The British Museum has organised separate print exhibitions since the 1850s, and during the 1880s and 1890s its exhibition was arranged by process to illustrate the growth and development of engraving on wood and metal.⁶ This practice was adopted in South Kensington, where the Victoria & Albert Museum's technical print exhibition has been an important and readily accessible source of information about prints for decades. In the V&A's galleries devoted to prints and printmaking, changing exhibits of prints are shown adjacent to a techniques gallery, where prints are displayed by process with clear explanations of how they are made. Discussions of the basic processes combine history and technique, and compare the characteristics of line and tone for each, as well as the use of colour and photography. Both the reproductive and creative aspects of prints are described, and Japanese prints, made with individual wood blocks for the key line design and for the addition of each colour, are treated in a separate section. Photography has also been an important part of the V&A's collections and exhibitions since the 1850s.⁷

One of the few museums to combine significant collections of images and apparatus, the Smithsonian Institution has presented

didactic exhibitions of printmaking processes since the 1880s, drawn from its large collections of prints and photomechanical images. Photographs and cameras also have been collected and exhibited since the 1880s, and printing presses, typography and paper-making became part of the National Museum's graphic arts mandate early in the twentieth century. The Smithsonian's art museums also acquire prints and photographs based on aesthetic criteria.

The first collection of any kind purchased by the new Smithsonian and the first public print collection in the US was the Marsh Collection of engravings, acquired in 1849. Today the collection ranges from works by Dürer, Rembrandt and Goya to examples of relief halftone, modern silk-screen and computer-generated images. Prints were featured from the 1880s in a permanent installation in Washington and in travelling exhibitions that focused on how prints are made. Temporary exhibitions were shown at major nineteenth-century industrial expositions, and newer versions were circulated to schools, arts organisations and other public venues between about 1925 and 1945. A comprehensive exhibition of stage proofs, finished prints, plates and tools representative of the traditional and photomechanical processes was on view in the Smithsonian's National Museum of American History (formerly the Museum of History and Technology) until 2003 (Figure 3). A recent addition is an exhibition on digital printing and imaging adjacent to a functional digital studio.

The NMAH Hall of Printing and Graphic Arts has featured tools and equipment from the printing trades and period settings where type founding and printing have been demonstrated. Owing to recent changes, only the print shop and post office of about 1800 remains open, but videos offer footage of later presses and typesetting equipment in operation. Study collections include dozens of iron hand presses, both full-sized and patent models, developed for letterpress printing in the nineteenth century, and an early twentieth-century rotary offset press built by Ira Rubel. Important collections of type and matrices and typesetting equipment also are available for study. A major new communications exhibition is planned to bring together several collections, joining electronics, computers, printing and photography.

While the NMAH does not presently have a permanent photography exhibition, its Photographic History Collection is the most comprehensive among the 16 Smithsonian museums, numbering over 125,000 images and 10,000 pieces of apparatus. Like the Graphic Arts Collection, from which the Photography section was spun off in 1972, the scope is international and the collection represents commercial, industrial and scientific applications as well as the aesthetic nature of the medium. Dating from the initial developments by Talbot and Daguerre, the image collections include strong holdings in photojournalism and stereoscopy, Pictorialism and portraiture. Both technical developments and amateur and professional efforts are

Figure 3 Printmaking processes exhibition including prints, plates and tools, as installed at the Smithsonian's National Museum of American History from 1979 to 2003. (Smithsonian Institution)



featured. Apparatus includes important cameras, studio furnishings and equipment, and some early and unique motion-picture cameras and projectors. The collections are actively used for research, loans and temporary exhibitions, a number of which can be found on the museum's Website, and photography will be an important component of the new communications exhibition. Collecting and exhibition efforts embrace the widest possible view of the field, encompassing social history, technical innovation and aesthetic values.⁸

Another American institution holds important collections of photographic images and apparatus. The George Eastman House and International Museum of Photography and Film (GEH) occupy the Rochester, NY, estate of George Eastman (1854–1932), founder of the Eastman Kodak Company. Opened in 1949, the GEH includes Eastman's restored house and gardens, an archives building and research centre, exhibition galleries, theatres and an education centre. The collections represent international holdings of great strength in still photography, cinema and equipment.

The photography collections number some 400,000 items and date from the invention of photography to the present day, representing work in every known process. The collection of daguerreotypes is perhaps the most extensive gathering of French plates outside France. Early British and French photographs on paper also are well represented, as is European topographical photography, the Pictorialist movement and European Modernism. Comprehensive American holdings document the impact of photography on modern culture, including thousands of studio portraits in a variety of formats, stereographs, lantern slides, travel albums, amateur snapshot albums

and press photographs. The works of American master photographers are well represented. Of special note is the extensive selection of American combat photography from the Second World War, and thousands of aerial reconnaissance images taken over Europe during and immediately after the war.

The motion picture collection at the GEH is international in scope, and one of the oldest film archives in the US. Beyond Hollywood productions that begin with the silent film era, the collection is rich in early British, French and American cinema (pre-1914); German Weimar cinema and feature films of the 1930s; many French and Italian films from the 1930s and 1940s; and independent documentary and avant-garde films. There is an active film preservation programme – the GEH has been a member of the *Fédération Internationale des Archives du Film* since the 1950s – and the museum has developed sophisticated restoration processes in cooperation with the Society of Motion Picture and Television Engineers. Television is represented by a collection of Kinescopes from the 1950s and 1960s, as well as a growing video collection.

In Britain the National Museum of Photography, Film & Television (NMPFT), a branch of the National Museum of Science & Industry (NMSI), opened in Bradford in 1983, holds more than 3 million items, including the world's first negative, the earliest television footage and what is regarded as the world's first example of moving pictures, Louis Le Prince's 1888 film of Leeds Bridge. The museum also has developed Europe's first gallery dedicated to digital media, together with its longest-established IMAX cinema and the only publicly-accessible Cinerama cinema in the world.

The museum's exhibitions emphasise interactivity. Visitors gain hands-on experience in various media, learning how television cameras work or trying their hand at animation among other activities. Film festivals offer both new and classic film. The museum's goal is 'to invite visitors to explore media and the worlds it presents'.

The Insight Collections & Research Centre offers access to collections in a study facility named in honour of the Gandolfi family of camera-makers. The photograph collections have their foundations in the development of the South Kensington Museum in 1857, and have grown considerably from the initial emphasis on photography as technology and process to reflect its wider currency as art, science and industry. The collection selectively traces the aesthetic and technical developments of photography, from early experiments by William Henry Fox Talbot and Sir John Herschel in the 1830 and 1840s, to examples of contemporary practice. It is particularly strong in the early history of the medium, photographic processes, the documentary and fine-art genres, advertising and amateur practices. To complement this, both printed materials and ephemera provide an important source of information, including photographically-illustrated books, packaging

and the commercial development of photography. It offers important resources for understanding the contexts in which photographs were produced and consumed, including the movements that have shaped photography, such as Pictorialism, Naturalism, Modernism, Documentary, and Postmodernism, with examples of documentary and fine-art photography added since the 1980s. As digital imaging continues to extend the possibilities for photography and lens-based media, the collection continues to grow in ways that facilitate a greater appreciation of the visual world.

The photographic technology collection encompasses over 10,000 items. It traces the evolution of photographic apparatus from the camera obscura and the pre-history of photography to the latest digital cameras. The collection is particularly strong in its coverage of photographic equipment associated with amateur photography. In 1984, Kodak presented the contents of its UK Kodak Museum to the NMPFT. The donation included examples of the hundreds of different cameras produced by Kodak from its very first, in 1888. This collection also contains thousands of items by other manufacturers, including many rare or unique pieces. Beyond cameras the equipment collection covers a wide range of apparatus, including darkroom equipment, and it is complemented by extensive holdings of related printed materials, including trade catalogues, service manuals and thousands of instruction booklets, dating back to the nineteenth century.

The cinematography collection numbers over 13,000 objects illustrating the evolution of moving images up to the convergence of motion-picture and digital technologies. Objects from the pre-history of cinema include optical toys and magic lanterns, but the majority concentrates on British film-making and consumption, with prime examples of equipment from major British studios. Indicative of cinema as an international industry, there are examples of posters for American features and for Bollywood films. There are hundreds of stills, portraits of stars, drawings and artefacts from make-up artists, and animation drawings, plus frame samples from most of the major film processes from 1895 to the present day. The collection also traces amateur movies, from the 1920s to the rise of video in the 1980s, as well as the changing use of 16-mm film, from amateur to professional.

The world's largest collection of television technology, the NMPFT's holdings include the first electronic television camera of 1934 and equipment from the earlier, low-definition, mechanical TV era that began in the mid-1920s with the work of John Logie Baird. His original apparatus, built in 1925, is one of the jewels of the collection, along with other television receivers and cameras from Britain and North America representing broadcasting and industrial and educational television. Technical handbooks and operating manuals help support an understanding of the objects in the collection, as do extensive archives of photographs from equipment manufacturers.

The advertising industry's use of television is documented in the collection of over 6000 British television commercials, dating from 1955, offering insight into technical advances, cultural trends and sexual stereotypes over the last 50 years.

In the last two decades, increased attention to photography worldwide has been largely driven by dramatic changes in the art market. The growth and prominence of photo collections and exhibitions have been nothing short of phenomenal. The International Center for Photography in New York has grown from a small gallery to much larger premises that house influential exhibitions drawn from its impressive documentary collections and act as a venue for travelling shows. The Center's literature emphasises photography's 'vital and central place in contemporary culture'. This new regard for a medium introduced in 1839 has led to the development of dedicated photographic museums and promoted the use of collections in older institutions. The Fotomuseum of Munich's Stadtmuseum had a comprehensive exhibition beginning with the process of grinding lenses and following photography's growth and use in the context of the city. The exhibition is being revised and is due to open again in December 2004. The California Museum of Photography in Riverside includes photographs from 1840 to the present, cameras and other apparatus, and the huge Keystone-Mast archive of stereographs published between 1893 and the 1950s. Stereographs, pairs of photos mounted on card stock, were viewed with hand-held or table-top viewers that brought photographic realism in 3D to millions of people for more than a century. Their influence on visual culture has been under-appreciated, but new scholarship, based in part on important museum collections, is beginning to address their critical role in understanding how people have viewed the world.

Museums local and national

Many countries have museums devoted to printing – there are national printing museums in Brazil, Ireland and Portugal, for example – and local museums also feature the important role of the press in daily life.⁹ In many locations, restored 'street-of-shops' installations include the façades of printing establishments and photographic premises, their display windows laden with examples of nineteenth-century productions. These shops convey something of the ubiquity and the importance of media in many towns and cities, where newspaper offices, job printers and portrait studios abounded. They also address the changes in artefactual evidence that resulted as amateurs entered these fields through the inclusion of cameras, snapshots and photographic supplies. (If such store-front exhibitions are to be kept up to date, they should incorporate computer and software suppliers, to reflect widespread changes in printing and imaging. Many people, both amateurs and professionals in fields other than printing and

graphic arts, now have the tools of typesetting, digital imaging and printing at their fingertips.)

Understanding the role of posters, advertising and other forms of graphic art, and of the use of text as image, is an important part of coming to terms with the role of media in our culture. The total-immersion style exhibit of earlier museum installations, such as the street of shops and the period setting, conveys this presence very well. Robert Smail's Printing Works in Innerleithen, Scotland, is a working Victorian print shop, established in 1857 and shown with its complement of type and presses typical of those used into the mid-twentieth century. Preserved through the National Trust for Scotland, it offers visitors a chance to set type and proof their efforts. Moreover, the premises includes examples of the printed work that filled the eyes and minds of a typical town for generations.

National museums of technology, including those in London, Munich, Paris, Vienna and Washington DC, house comprehensive collections of printing, photographic and cinematographic equipment. Munich's Deutsches Museum and Vienna's Technisches Museum have concentrated more on the hardware than on image collections.¹⁰ Stockholm's Tekniska Museet includes exhibitions on printing and paper-making, and its associated Telemuseum covers television and other communication technologies.

The Deutsches Museum's printing exhibition offers a national focus, with references to Gutenberg and Senefelder, two German inventors of international fame. In the gallery devoted to manual processes, typesetting as well as printing from woodcuts and copper engravings are discussed, along with calligraphy and bookbinding. The importance of Gutenberg's invention is represented in the contrast between two dioramas of a medieval monastic scriptorium and a printing works of about 1800. Senefelder's discovery of lithography between 1796 and 1798 had great impact on the reproduction of pictures worldwide, and an early pole press and some tools from his workshop are on display. Other graphic advances exhibited are George Meisenbach's photomechanical screen process for relief work of 1882, and the oldest sheet-fed gravure press. Nineteenth-century mechanical advances include both typesetting and printing equipment, and the late-twentieth-century revolution in phototypesetting and digital systems is represented by a Digiset cathode-ray tube typesetter and a fully operational desktop publishing system.

The Gutenberg Museum, while not a national museum, was founded by the city fathers of Mainz, Germany, in 1900 as an act of homage to the founder of printing and as an expression of national pride in an invention that truly changed the world. Even though none of his equipment or type survives, not even a reliable description of it, examples of his printed work provide compelling evidence of his contributions.¹¹ These centre on the concept of movable (and hence

reusable) type, cast in metal from matrices in a mould. His system introduced the trades of punch cutter and type founder, as well as compositor and printer. The oldest surviving tools of these trades, even though they postdate Gutenberg by a century or more, represent the foundation of printing's artefactual studies.¹² The Gutenberg Museum relies on reproductions for its earliest exhibit, a speculative reconstruction of an early print shop. Other exhibits and active demonstrations cover the history of writing and printing, books and graphic work.

Conclusion

Printing pictures and text has been an important part of the history of Western culture for centuries, and the artefactual evidence is a ubiquitous component of museum collections and exhibitions. While the hardware of printing has become something of an antiquarian feature for many museums, the larger issues of the media and propaganda it generated remain vital to cultural understanding. As graphic images in many formats take on new power and presence, both in exhibitions and in the wider visual culture, it is critical to understand fully their social and technical history. Are they real or have they been manipulated? How did they appear to their original audiences, and what differences do we read in them today?

As the distribution of devices for computer-based imaging and text has democratised the production of everything from art to political commentary, to a degree unimaginable with previous technologies, the material culture of communication is more important than ever before. No longer produced as separate systems, words and pictures are recombining in innovative ways and coming back together, especially over the Internet. The visuality of type, alone or combined with pictures, invades our consciousness in subtle ways, beyond the principles and history of design. It makes sense for us to know more about these productions. As cultural commentators chart the privileging of text over image and image over text, collections of prints and photographs and the equipment that produced them take on new roles in understanding cultural expressions.¹³ The more comprehensive collections and exhibitions, those that include both images and apparatus, offer the most opportunities for re-examining these historical connections and their social construction.

Selected museums of printing and photography

Australia

Melbourne Museum of Printing, PO Box 555, Footscray,
Victoria 3011

Austria

Albertina, Albertinaplatz 1, A-1010 Vienna

Technisches Museum, Mariahilfer Strasse 212, A-1140 Vienna

Belgium

Plantin-Moretus Museum, Vrijdagmarkt 22–23, 2000 Antwerp

Canada

Canada Science and Technology Museum, PO Box 9724, Station T,
Ottawa, Ontario K1G 5A3

Denmark

Danmarks Mediemuseum, Brandts Klædefabrik, Brandts Passage 37,
III, 5000 Odense C

France

Bibliothèque nationale de France, 58, rue de Richelieu, F-75002 Paris

Institut Lumière, 25, rue du Premier-Film, BP 8051, F-69352 Lyon
Cedex 08

Musée des Arts et Métiers, 60, rue Réaumur, F-75003 Paris

Musée de l'Imprimerie, 13, rue de la Poulallerie, F-69002 Lyon

Musée du Louvre, F-75058 Paris Cedex 01

Musée Goupil, 40–50, cours du Médoc, F-33300 Bordeaux

Germany

Deutsches Museum, Museumsinsel 1, D-80538 München

Gutenberg-Museum, Liebfrauenplatz 5, D-55116 Mainz

Japan

Printing Museum, Tokyo, Toppan Koishikawa Building, 1-3-3 Suido,
Bunkyo-ku, Tokyo 112-8531

The Netherlands

Rembranthuis, Jodenbreestraat 4, 1011 NK Amsterdam

Portugal

The Portuguese association of printing museums, Associação Museu
da Imprensa, established in 1989, sponsors a virtual exhibition with
links to printing museums worldwide: [http://www.imultimedia.pt/
museuirtpress/index_i.html](http://www.imultimedia.pt/museuirtpress/index_i.html)

Sweden

Tekniska Museet, Museivägen 7, Box 27842, 115 93 Stockholm

Switzerland

Basler Papiermühle, St Alban-Tal, CH-4052 Basel

Musée Gutenberg, Musée Suisse des Arts Graphiques et de la
Communication, Place Notre-Dame 16 - case postale 394, CH-1701
Fribourg

United Kingdom

The British Library, 96 Euston Road, London NW1 2DB

The British Museum, Great Russell Street, London WC1B 3DG

Fox Talbot Museum, Lacock, Chippenham, Wiltshire SN15 2LG

National Museum of Photography, Film & Television, Bradford, West
Yorkshire BD1 1NQ

Robert Smail's Printing Works, 7/9 High Street, Innerleithen
EH44 6HA

Science Museum, Exhibition Road, London SW7 2DD

Victoria & Albert Museum, Cromwell Road, London SW7 2RL

United States

California Museum of Photography, University of California,
Riverside, Riverside, CA 92521

George Eastman House, International Museum of Photography and
Film, 900 East Avenue, Rochester, NY 14607

International Center for Photography, 1133 Avenue of the Americas,
New York, NY 10036

International Printing Museum, PO Box 6449, Buena Park, CA 90622

Museum of Printing, 800 Massachusetts Avenue, North Andover, MA
01845

National Museum of American History, PO Box 37012, Smithsonian
Institution, Washington DC 20013-7012

Notes and references

- 1 On the history of prints and printmaking, see Hults, L C, *The Print in the Western World: An Introductory History* (Madison, WI: University of Wisconsin Press, 1996) and Landau, D and Parshall, P, *The Renaissance Print, 1470-1550* (New Haven, CT: Yale University Press, 1994).
- 2 This panel may have been missing its objects when I visited the exhibition in August 2000.

- 3 One recent development is the rescue of the Monotype archives in the UK, with assistance from the Science Museum and the Heritage Lotteries Fund. Other important typographic collections and archives are found at the Rochester (NY) Institute of Technology, the National Museum of American History and the Museum of Printing in North Andover, MA. See contact listing.
- 4 Several institutions have now jointly formed the Association of European Printing Museums.
- 5 Robison, A, 'The museum curator and fine prints, past, present & future', in *Books and Prints, Past and Future* (New York: Grolier Club, 1984), p91
- 6 Griffiths, A and Williams, R, *The Department of Prints and Drawings in the British Museum: User's Guide* (London: British Museum Publications, 1987), pp1–3. A brief history of print exhibitions and a listing of exhibition titles is given on pp14–24.
- 7 See Haworth-Booth, M and McCauley, A, *The Museum & The Photograph: Collecting Photography at the Victoria and Albert Museum, 1853--1900*, (Williamstown, MA: Clark Art Institute, 1998).
- 8 Publications that provide more detail on aspects of the NMAH collections include: Harris, E M, *Printing Presses in the Graphic Arts Collection* (Washington DC: NMAH, 1996); Wright, H E, *Prints at the Smithsonian: The Origins of a National Collection* (Washington DC: NMAH, 1996); *History of Photography*, 24/1 (Spring 2000), an issue largely devoted to the NMAH's Photographic History Collection.
- 9 A valuable Internet listing of many museums related to printing can be found at <http://members.aol.com/aapa96/museums.html>, sponsored by the American Amateur Press Association.
- 10 CNAM's installation is reviewed by Steven Joseph elsewhere in this volume, see pp157–65.
- 11 New investigations analysing Gutenberg's printed works are even now being undertaken by Paul Needham and Blaise Aguera y Arcas at Princeton University in the US. See their contribution included in Jensen, K, *Incunabula and Their Readers: Printing, Selling and Using Books in the Fifteenth Century*, (London: British Library, 2003).
- 12 The earliest presses are found at the Plantin-Moretus Museum in Antwerp, discussed above. The earliest surviving type moulds are part of the collection at Joh. Enschede en Zonen, Haarlem, the Netherlands, a printing firm established in 1703. James Mosley of the St Bride Printing Library in London prepared a list, 'The materials of typefounding: a list of locations', in 1988 that identifies collections of hand and mechanical equipment.
- 13 'Visual Knowledge', a conference held at the University of Edinburgh in September 2003, investigated 'the role of visual technologies in informing, shaping, and creating knowledge', with particular attention to the notion that we are undergoing a cultural shift in which visual media are (re)gaining dominance over text.