
# ACQUISITION AND DISPOSAL POLICY 2005-2009

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# 1 History and overview of the collections

## 1.1 History

The Museum was founded in the mid-1960s when Manchester's traditional industries, particularly engineering and textile production, were undergoing major changes. The closure of some factories and the modernisation of others meant that much late nineteenth century and early twentieth century industrial machinery suddenly became redundant. Indeed, it was the recognition of the potential loss of this historic material that was one of the factors in the Museum's creation. Unfortunately, by this time, little remained of the material culture of the early years of Manchester's industrial and scientific development, from the late eighteenth century to the mid-nineteenth century.

In 1963, a joint committee, consisting of representatives from the University of Manchester Institute of Science and Technology (UMIST), the University of Manchester and Manchester City Council, was formed to investigate the establishment of a museum of science and industry in Manchester. In 1965, the Department of the History of Science and Technology at UMIST began to collect historic artefacts to form the basis for the new museum. Within three years, 57 acquisitions had been made, including the Chapman camera collection, the Beyer, Peacock collection of company records and a Whitworth lathe.

In April 1968, the committee secured temporary premises in the former Oddfellows Hall on Grosvenor Street, Chorlton-on-Medlock. The Museum opened in October 1969. In 1972, the Museum changed its name to the North Western Museum of Science and Industry in order to reflect the regional scope of its collections, although it did not have a formal collecting policy at this time.

For the first decade, building up the collections of objects and archives focused on:

- the production and distribution of all forms of power;
- the machine tool, printing, papermaking and textile industries;
- vehicle and transportation products and systems;
- Manchester science, scientists and scientific instruments;
- photographic equipment; computers and associated equipment.

Within these areas, material was collected to demonstrate technological development, producing good representative collections of 'hardware' and collections that can be used to interpret the functional operation of the industries identified. Collecting objects and archives, which give meaning to people's day-to-day interactions with technology, and the ways in which technology is shaped by these interactions, was relatively neglected.

The creation of Greater Manchester County Council (GMC) in 1974 and the closure of Liverpool Road Station by British Rail in 1975 jointly provided the solution to the Museum's accommodation problem. GMC became firstly a co-funder of the Museum and then, following the decision to acquire the historic station to house the Museum, the sole funder. This brought a change of emphasis in collecting. Reborn as the Greater Manchester Museum of Science and Industry in 1983, the Museum narrowed

its primary geographical focus to Greater Manchester. The site itself, the world's oldest surviving passenger railway station, is treated as part of the Museum's collections.

The increased space provided by the Liverpool Road Station site created new opportunities for the development and interpretation of the collections within the unifying theme of the world's first industrial city. An obvious step was the acquisition of locomotives and rolling stock, which had previously been unfeasible. In broader terms, the new site and mission led to the recognition of the need to collect material that represented the broader social, economic and political context of Manchester's industrial and scientific development. The collections were broadened along these lines through active collecting to support new galleries.

In 1985, the Museum embraced another new subject area when it was asked to take over the adjacent Air and Space Museum. The latter had been set up and run by Manchester City Council. As a result of the abolition of Greater Manchester Council in 1986, the Museum secured ongoing revenue funding from the then Office of Arts and Libraries (now the Department of Culture, Media and Sport). The progressive refurbishment of the Museum site and the creation of new galleries continued to open up new areas of collecting, such as the gas industry.

Meanwhile, substantial efforts had been made to address the issue of retrospective documentation. When the Museum moved to Liverpool Road Station in 1983, the documentation of its collections was far from complete owing to a combination of under-staffing and collecting opportunism. By the mid-1990s, the retrospective documentation programme revealed a number of issues that warranted a reassessment of the collections. In particular, it exposed widespread absence of provenance and considerable duplication of material in some areas. Moreover, deterioration of some items had occurred through inadequate storage. Consequently, in order to ensure the best value for the collections from available resources, the Museum decided to turn its attention from development of the collections to rationalisation. Registration guidelines on deaccessioning and disposal were applied irrespective of whether or not the material had been accessioned at the time of acquisition.

In tandem with the rationalisation programme, the implementation of a long-term storage strategy (see section 2.4) provided sufficient space to accommodate substantial new collections. Two such collections that have contributed to the breadth, depth and significance of the collections are the Ferranti Collection and the Lancashire Coal Mining Collection.

## 1.2 Overview of the collections

Manchester, at the centre of the Greater Manchester conurbation, was the world's first industrial city and a centre of scientific activity. The Museum adopted the concept of 'The Museum of the Industrial City' as the unifying theme for collections development and interpretation. Hence, the collecting policy focuses on reflecting the special

industrial, scientific and social character of the Manchester area, primarily from the late eighteenth century to the present day. The Museum's success in developing coherent, high-quality collections was recognised in 1997 when its collections were Designated as being of national and international pre-eminence during the first phase of the Designation Scheme, then administered by the Museums and Galleries Commission. Appendix I provides the executive summary of the Museum's Designation Application; Appendices II and III provide details of the existing collections.

Material categories and types

The Museum acquires both objects and archives, and is open to collecting any form of material culture that contributes to its collecting mission, provided that it has the necessary resources and expertise to sustain preservation. It collects a diverse range of objects, including: production machinery and equipment, manufacturing products, vehicles, office equipment, instruments, models, memorabilia, awards, architectural materials, archaeological finds and works of art. The move to Liverpool Road Station brought custodial responsibilities for built industrial heritage, which have been augmented by the extension of collecting to building fabric, street furniture and, most recently, industrial archaeological archives.

Collecting larger items of machinery often involves their disassembly and crating for transport. Therefore the Museum exercises careful discrimination in deciding whether to acquire such items. For any such acquisition, the disassembly process must be fully recorded. If items cannot be reassembled immediately, particularly for display, it is likely that they will only be collected if they are particularly rare or significant.

In its early years, the decision to collect archives was particularly beneficial in enabling the representation of industries, such as locomotive manufacture, whose products and production machinery exceeded its resource capacity. Collecting archives has also meant that the Museum could accommodate mixed collections, thus preventing objects from becoming disassociated from archives that provide depth of context and provenance. The Museum fully respects the specific practices of the archive profession as embodied in the *Code of Practice on Archives for Museums and Galleries in the United Kingdom* (2002) and was represented on the Standing Conference on Archives and Museums when the first code of practice was drafted.

Within the broad category of archives, the Museum will collect: business and personal archives; trade literature, such as catalogues, manuals, price lists and promotional material; trade directories and yearbooks; textile samples and pattern books; images, including photographs, prints, engravings, paintings, maps and plans; audiovisual and sound recordings, including oral and video histories. The only archive medium that the Museum excludes is cinematic film, because of its specialised requirements. Accordingly, the Museum does not accept film collections per se and, where film forms part of a broader archive collection, it commissions the copying of the film(s) to a more manageable medium and deposits the original film(s) with a specialist archive, such as the North West Film Archive or National Film

Archive. Ephemera and works of art on paper are managed as part of the archive collections.

The Museum also has a reference library to support the research activities of both staff and external users. However, books and journals are not treated as part of the collections unless they formed an integral part of an archive collection or were acquired on the basis of their evidential status or 'product value' (e.g. as the product of a local publisher or printer), rather than their research value.

Geographical remit

The geographical focus of the collections is Greater Manchester and the surrounding areas - as the locus of production, use and association with people and/or institutions. However, when collecting to serve specific interpretive needs, examples may be difficult to locate within the regional catchment area. In such cases, the Museum may collect examples from further afield. Moreover, the Museum adopts a wider geographical remit in certain subject areas, largely as a result of acquiring major collections that were already of regional, national or international scope, as follows.

- Papermaking – the collection of the National Paper Museum Trust has been on loan to the Museum since 1969.
- Electricity industry – the Electricity Council co-funded and provided exhibits for the Museum's National Electricity Gallery, which opened in 1986. It presented its archives to the Museum in 1990 in the course of preparing for privatisation.
- Gas industry – British Gas funded the Museum's National Gas Gallery, which opened in 1991, and presented objects from its national collection to the Museum.
- Coal mining – as discussed in section 1.1, the Lancashire Coal Mining Collection was transferred to the Museum in 2001.
- In addition, aviation is a subject area where the Museum adopts a flexible regional remit, partly because it is the only registered museum in North West England with an aviation collection and partly as a result of the gravitation of aircraft manufacturing and airports to greenfield sites.

Even in the case of these national and regional collections, material with local provenance is selected, where possible, to illustrate and interpret wider histories, while reflecting local cultures, interests and concerns.

Subject coverage

In 1993, when the retrospective documentation programme was substantially complete, a SWOT analysis was carried out to assess the extent to which the collections were representative of Manchester's scientific and industrial development. This revealed that there were notable areas of weakness, including trade and commerce, the workforce, working conditions and work outside large factory systems, insurance and banking, marketing and advertising, distribution and retail, recycling, waste disposal and the environmental impact of industry. Under-represented or unrepresented industries included extractive industries, construction industries and construction materials, industrial finishing processes and packaging, machinery manufacturing processes, and processing and service industries, such as food,

catering and distribution. With few exceptions, notably scientific instrument makers and photographic equipment makers, the collections did not represent the many smaller industries of the city; nor did they represent outwork and home working. Across the collections, there was a relative lack of material from the second half of the twentieth century.

In order to address these weaknesses, the Museum adopted guidelines and criteria for active collecting that are equivalent to a positive discrimination policy. These guidelines still apply and are elaborated in section 4.4. Appendix II provides a summary of the collections and Appendix III provides a summary of acquisitions since 1998.

## 2 Context for collecting 2005-2009

### 2.1 Mission and objectives

The Museum's Memorandum of Association states the following objective:
*"…to advance the education of the public by securing the preservation, restoration, improvement, enhancement and maintenance of features and objects of industrial, scientific and historical interest in the County of Greater Manchester and surrounding areas including the provision of a museum for the display of such features and objects and the organisation of meetings, exhibitions, lectures, publications and other forms of instruction relevant to the historical and industrial development of the said area by the provision of a museum."*

The Museum's Strategic Plan 2005-2010 contains the following mission statement:
*"we embrace our region's unique contribution to science and industry for the inspiration, education and enjoyment of all."*

### 2.2 Standards Framework and Guidelines

The Museum is committed to achieving standards of excellence as defined by various professional codes. This collecting policy conforms to the relevant provisions of the following codes and standards:

Department for Culture, Media and Sport. *Centres for Social Change: Museums, Galleries and Archives for All.* London, UK: DCMS, 2000.

Department for Culture, Media and Sport. *Efficiency and Effectiveness of Government-Sponsored Museums and Galleries.* London, UK: DCMS, 1999.

English Heritage. *Recording Historic Buildings: a descriptive specification*. Swindon, UK: English Heritage, 1999.

International Council on Archives. *ISAD (G): General International Standard Archival Description*. Ottawa, Canada, France: ICA, 2000.

Museums and Galleries Commission. *Care of Photographic Materials and Related Media.* London, UK: MGC, 1998.

Museums and Galleries Commission. *Larger and Working Objects: A Guide to their Preservation and Care*. London, UK: MGC, 1997.

Museums and Galleries Commission. *Standards in the Care of Costume and Textile Collections.* London, UK: MGC, 1998.

Museums Association. *Code of Ethics for Museums*. London, UK: Museums Association, 2002.

Museums, Libraries and Archives Council. *Accreditation Standard: The Accreditation Scheme for Museums in the United Kingdom.* London, UK: MLA, 2004.

Museums Documentation Association. *SPECTRUM: The UK Museum Documentation Standard*. Cambridge, UK: mda, 1997.

Resource. *Benchmarks in Collection Care for Museums, Archives and Libraries-a self-assessment checklist*. London, UK: Resource, 2002.

Resource. *Disability Directory for Museums and Galleries.* London, UK: Resource, 2001.

Resource. *Disability Portfolio.* London, UK: Resource, 2003.

Resource. *Guidelines for establishing, managing and using handling collections and hands on exhibits in museums, galleries and children's centres.* London, UK: Resource, 2002.

Royal Commission on Historical Manuscripts. *Standard for Record Repositories*. London, UK: HMC, 2001.

Standing Conference on Archives and Museums. *A Code of Practice on Archives for Museums and Galleries in the United Kingdom*. London, UK: HMC/mda, 2002.

## 2.3 Overview of corporate objectives 2005-2009

The Strategic Plan 2005-10 focuses on the goals and strategies that shape the Museum's development. It provides the overall context for the Acquisition and Disposal Policy. In the Strategic Plan 2005-10, the strategy related to acquisition and disposal appears in the Caring For and Developing Our Collections section and is as follows.

- Pro-active collecting to support exhibition developments.

## 2.4 Resources and constraints

The Museum recognises that it has finite resources of staff (see section 3.5), space and money for developing and managing its collections. It is committed to achieving professional standards for all objects and archives in its care. This, inevitably, means that some items may not be acquired at all because they are too large, complex, expensive or environmentally sensitive to be accommodated within available resources. The Museum also refrains from collecting material for which it cannot provide specialist care or necessary special conditions, such as firearms.

In 1996, the Museum Trust approved the recommendations in a report on long-term storage needs and access to collections. The first step was to secure improved off-site storage, which was effected in 1997 when the Museum took a 15-year lease on a recently built industrial unit (1,200 square metres by 6.5 metres high). The second step was to incorporate the creation of an on-site Collections Centre into the Museum's Final *Phase* project, which was the subject of a successful Heritage Lottery Fund application. The Collections Centre, which provides about 2,750 square metres of 'visible storage' and study facilities, opened in October 2001. In October 2002, the Museum negotiated the long-term lease of the nearby Upper Campfield Market Hall from Manchester City Council. It now has sufficient growth space to achieve the collecting priorities outlined in section 4 and detailed in Appendix IV.

## 2.5 Collecting for whom?

The Museum collects for the public benefit. Its public comprises not only existing visitors and remote users of its services but also potential visitors and users, both short-term and long-term. Predictably, the vast majority of current visitors come from the North West of England, with over half drawn from the immediate locality of Greater Manchester. In order to make collections relevant and accessible to a broad audience, staff will give special consideration to, and consult with, groups omitted or under-represented in traditional histories of science and industry. Collecting will reflect the demography of the Manchester region, including its multicultural nature.

Staff will encourage audience groups to participate in evaluation, events and exhibitions to develop constructive feedback, and to inform future collecting. The Museum will collect items (with their provenance) which assist people in overcoming their physical limitations, including those items that assist people with disabilities to lead a full life. To celebrate the diversity of local people and their collecting activities, which may complement the collections of the Museum, staff will develop and maintain links with local collectors and societies.

The Museum recognises that its audiences have differing interests and experiences, and aims to provide a range of interpretation and services to meet these needs. Museum staff interpret the collections and communicate with visitors and remote users through galleries and exhibitions, demonstrations, education, events, outreach and web site facilities. The Museum is committed to providing access to its reserve collections, which may be used as research and study materials by both local and

remote users. Its on-site Collections Centre provides a range of study facilities and serves as a vehicle for encouraging the development of collections-based primary research skills through tailored activities. In order to serve specialist researchers more effectively, the Museum will develop and maintain links with relevant university departments, professional institutes and national societies.

The Museum also acknowledges the interest of commercial users, such as television production companies and publishers, in its collections. Unless it compromises preservation, commercial use of the collections will be encouraged as a means of raising and increasing public awareness of the Museum's collections. Any commercial income directly arising from use of the collections will be applied for the benefit of the collections.

## 3 Process of collecting

### 3.1 Ethical prerequisites

The Museum will exercise due diligence and make every effort not to acquire, whether by purchase, gift, bequest or exchange, any object or specimen unless the governing body or responsible officer is satisfied that the Museum can acquire a valid title to the item in question. In particular, the Museum will not acquire any object or specimen unless it is satisfied that the object or specimen has not been acquired in, or exported from its country of origin (or any intermediate country in which it may have been legally owned) in violation of that country's laws. (For the purposes of this paragraph 'country of origin' includes the United Kingdom.)

In accordance with the UNESCO 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, which the UK ratified with effect from 1 November 2002, and the Dealing in Cultural Objects (Offences) Act 2003, the Museum will reject any items that have been illicitly traded.

So far as biological and geological material is concerned, the Museum will not acquire by direct or indirect means any specimen that has been collected, sold or otherwise transferred in contravention of any national or international wildlife protection or natural history conservation law or treaty of the United Kingdom or any other country (for example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora), except with the express consent of an appropriate authority.

The Museum will not acquire archaeological antiquities (including excavated ceramics) in any case where the governing body or responsible officer has any suspicion that the circumstances of their recovery involved a failure to follow the correct legal procedures, such as reporting finds to the landowner or occupier of the land and to the proper authorities in the case of possible treasure as defined by the Treasure Act 1996 (in the case of England, Northern Ireland and Wales) or reporting finds through the Treasure Trove procedures (in Scotland).

Any exceptions to the above paragraphs will only be because the Museum is either:

- acting as externally approved repository of last resort for material of local (UK) origin; or
- acquiring an item of minor importance that lacks secure ownership history but in the best judgement of experts in the field concerned has not been illicitly traded; or
- acting with the permission of authorities with the requisite jurisdiction in the country of origin; or
- in possession of reliable documentary evidence that the item was exported from its country of origin before 1970.

In these cases the Museum will be open and transparent in the way it makes decisions and will act only with the express consent of an appropriate outside authority.

The Museum will use the statement of principles *Spoliation of Works of Art during the Nazi, Holocaust and World War II period*, issued for non-national museums in 1999 by the Museums and Galleries Commission.

With regard to material recovered from listed buildings, such as architectural fragments, mechanical infrastructure and original fittings, the Museum will ensure that the relevant permissions have been secured in accordance with Listed Building Consent legislation.

### 3.2 Methods of collecting

The Museum acquires material through donation (including bequest), purchase and fixed-term loan. Over the years, the majority of material has been acquired through passive collecting, whereby the Museum responds to unsolicited offers. Museum staff have developed active collecting strategies where gaps have become evident and to meet the needs of gallery developments. Staff will build on this by developing stronger links with local business, academic and cultural communities.

Short-term loans are arranged to meet immediate programme requirements or where preservation of material might otherwise be endangered. The majority of loans are fixed-term, ideally for a maximum of three years, with an option to renew; exceptions exist where open-ended or 'permanent' loans were negotiated during the 1960s to 1970s and the lenders cannot be located. The Museum will retain custody of these 'unclaimed' loans, which are not numerous enough to pose an accommodation or resource problem, until such time as they are claimed or the lender can safely be assumed to be dead. Museum staff seek indemnity cover through the Government Indemnity Scheme for all eligible loans.

The Museum recognises that, as a leading museum with a specialised remit within the region, it may be seen as a refuge or last resort in the event of the disposal of relevant collections of another museum or repository. At least initially, such collections may be offered as loans and, subject to space and other resources,

accepted on that basis. There is a general presumption against taking material on long-term loan and, in line with Accreditation guidelines, the Museum will periodically review any long-term loans and, where feasible, will seek transfer of title to the Museum.

Potential acquisitions are subject to the Museum's acquisition proposal procedure, which provides a consistent framework for evaluating and monitoring the benefits and the resource implications of acquiring new material. The curator/archivist responsible for initiating an acquisition must demonstrate that the proposed acquisition meets the current criteria as laid down in this Policy. Acquisition proposals are submitted to the Museum's Acquisition Panel, which consists of the Head of Interpretation and Learning, the Collections Manager, the Access and Learning Manager and the Collections Care Officer. There is a presumption against acquiring material for the permanent collections where specific conditions or restrictions apply. Acquisitions that fall outside the current policy will only be considered in very exceptional circumstances, having regard to the interests of other museums, and must be referred to the Museum Trust for authorisation. The Museum's Trustees are informed of new acquisitions at their quarterly meetings and a complete list of the year's acquisitions is published in the Annual Report.

### 3.3 Consulting with other collecting bodies

The Museum respects the collecting interests/catchment areas of other museums and record offices. Museum staff consult with these bodies where there are overlapping interests, and refer material to more appropriate institutions where applicable (see Appendix V). The Museum is committed to building stronger relationships with relevant museums to avoid collecting conflicts, identify gaps in collecting policies and develop research contacts. It is also keen to collaborate with other museums and collecting bodies in order to improve the delivery of public collections information services by using networked electronic media to link collections.

The Museum works in partnership with institutions locally, regionally and nationally on a wide range of projects that include acquisition, loan, display and interpretation of collections. These collaborations include the following.

- The Museum was a founder member of the Northern Textiles Industry Curators Group (NTICG) in 1993, which collaborated on a collections listing exercise, envisaged as a basis for a national listing.

- The Museum is a BT Connected Earth partner and meets regularly with the other partner museums, which jointly hold the dispersed BT national telecommunication collection. (See Appendix III for further details.)

- The Manchester Designated Collections Consortium, the group of five Manchester museums and galleries with Designated collections, has been working in partnership on web publication of collections information since 1999, resulting in the launch of the *Manchester Museums Unwrapped* web portal in

2003. One of the objectives of the portal is to improve knowledge of each other's collections in order to collect more effectively and avoid duplication.

- With Manchester Central Reference Library and Greater Manchester County Records Office, the Museum carried out consultations with Chinese and Afro-Caribbean groups to raise awareness of local archive holdings and their research value. This resulted in the production of a targeted promotional leaflet in 2003.

- The Museum is one of two 'First Partners' to the Lead Partner of the North West Hub, Manchester City Galleries. The regional hub will develop and improve services at partner museums and provide benefit to museums within the North West.

- The *Renaissance in the Regions* report advocated the development of national subject networks that would bring together national museums, regional hub members and museums with designated collections. It was suggested that the role of such networks could include national assessments of collections, joint research and exhibition projects, and the sharing of skills and knowledge. In advance of further central direction of this recommendation, the Science Museum initiated a 'Rationalise & Interpret' project as a candidate for grant assistance from the 2003 round of the Government's 'Invest to Save' scheme. The project partners were the Museum of Science and Industry in Manchester and three other regional museums with substantial science and industry collections, on the premise that the collections of the five partner museums could be considered as a dispersed national collection.

  Although the funding bid was unsuccessful, the partners agreed that continued collaboration would be beneficial. One outcome was that the partner museums formed the core of a science and industry museums discussion session to respond to the Museum Association's *Collections for the Future* consultation. MLA's Subject Specialist Network initiative may provide the basis for a formalised partnership with additional members.

- Until 2004, archaeological archives arising from excavations in Manchester were automatically offered to the Manchester Museum. This applied to sites of all periods, but, in practice, excavations rarely addressed post-mediaeval sites, so post-mediaeval material tended to be recovered only from multi-period sites. Following the recent excavation of a purely post-mediaeval industrial site, the Museum has consulted with the Manchester Museum and reached an agreement whereby it will become the preferred repository for post-mediaeval archaeological archives, although the Manchester Museum will continue to hold post-mediaeval material from multi-period sites. A policy and guidelines for the transfer of archaeological archives to both the Museum and the Manchester Museum is currently being produced.

- The Museum also consults with the Manchester Museum with regard to the potential acquisition of material that forms part of the University of Manchester's 'orphan collections'. These are collections that are held by the departments and schools of the University, primarily for teaching or research purposes. They are

managed in accordance with a heritage policy whereby Manchester Museum acts in an advisory and supportive capacity.

- The Museum also collaborates and consults with national museums on matters such as touring exhibitions, research, collection care and management. Subject-specific collaborations may also involve other British museums and international partners, such as museums in Manchester's twin cities. Examples include the Museum's involvement in TICCHI working groups on textiles and papermaking.

### 3.4 De-accessioning and disposal

By definition, a museum has a long-term purpose and must possess (or intend to acquire) permanent collections in relation to its stated objectives. The governing body accepts the principle that, except for sound curatorial reasons, there is a strong presumption against the disposal of any items in the Museum's collection.

Sound curatorial reasons would include circumstances where:

- intact or partial objects or specimens, through their nature, pose a danger to staff, visitors, collections or premises;
- an item is too deteriorated to be of any future collections use;
- there is a planned programme of evaluation and rationalisation, relating, for example, to duplication of material, lack of provenance or a change in collecting policy.

Proposals to dispose of items from the collections would be made on a case by case basis. The museum will establish that it is legally free to dispose of an item. Any decision to dispose of material from the collections will only be taken after due consideration. Unaccessioned items will be treated on a par with accessioned items except where there is evidence that they were acquired as expendable material.

When disposal of an item is being considered, the Museum will establish whether if was acquired with the aid of an external funding organisation. In such cases, any conditions attached to the original grant will be followed. This may include repayment of the original grant.

Decisions to dispose of items will not be made with the principal aim of generating funds. Any monies received by the Museum's governing body from the disposal of items will be applied for the benefit of the collections. This normally means the purchase of further acquisitions but in exceptional cases improvements relating to the care of collections may be justifiable. Advice on these cases will be sought from MLA.

A decision to dispose of a specimen or object, whether by exchange, sale, gift or destruction (in the case of an item too badly damaged or deteriorated to be of any use for the purposes of the collections), will be the responsibility of the governing body of the Museum acting on the advice of professional curatorial (and archive) staff, and not of the curator (or archivist) of the collection acting alone.

Once a decision to dispose of material in the collection has been taken, priority will be given to retaining the item within the public domain, unless it is to be destroyed. It will therefore be offered in the first instance, by exchange, gift or sale, to other Accredited Museums (or, where more appropriate, to record offices) likely to be interested in its acquisition. If the material is not acquired by any Accredited Museums to which it was offered directly, then the museum community at large will be advised of the intention to dispose of material, normally through an announcement in the Museum Association's Museums Journal, and in other professional journals (such as the Heads of Repositories Circular) where appropriate. The announcement will indicate the number and nature of the specimens or objects involved, and the basis on which the material will be transferred to another institution. A period of at least two months will be allowed for an interest in acquiring the material to be expressed. If no expressions of interest have been received, the Museum may consider disposing of the material to other interested individuals and organisations.

Full records will be kept of all such decisions and the items involved and proper arrangements made for the preservation and/or transfer, as appropriate, of the documentation relating to the items concerned, including photographic records where practicable, in accordance with the SPECTRUM Procedure on deaccession and disposal. Where applicable, items will be de-accessioned by deleting their entry from the accession register, but the Museum will retain full records including the exit documents, in the form of either originals or copies.

### 3.5 Staff responsibilities

The holders of the following permanent posts have direct responsibilities for the development of the Museum's collections.

| | |
|---|---|
| Head of Interpretation & Learning: | is the member of the Senior Management Team who is responsible for corporate strategy and planning with regard to collections, and chairs the Acquisition Panel. |
| Collections Manager: | is the operational manager responsible for directing and supporting the development and interpretation of the object and archive collections, and is a member of the Acquisition Panel. |
| Access & Learning Manager: | is the operational manager responsible for directing and supporting the development of formal learning programmes relating to the object and archive collections, and is a member of the Acquisition Panel. |
| Senior Archivist: | is responsible for the development of and provision of access to the archive and image collections. |

| | |
|---|---|
| Collections Care Officer: | supports the development of the collections by advising on and assisting with the transport and storage of new acquisitions, and is a member of the Acquisition Panel. |
| Curator (Community History): | is responsible for the development and interpretation of the collections relating to local history, domestic life, water supply and sanitation, the food and drink industry, the Liverpool and Manchester Railway, workers' housing. |
| Curator (Energy): | is responsible for the development and interpretation of collections relating to primary power production (e.g. steam, hydraulics), the electricity and gas industries, and coal mining. |
| Curator (Industry): | is responsible for the development and interpretation of the collections relating to textile production, printing, papermaking and machine tools. |
| Curator (Science): | is responsible for the development and interpretation of the collections of scientific instruments and apparatus, computers and calculating machines, photographic equipment, telegraphy and telephony. |
| Curator (Transport): | is responsible for the development and interpretation of the collections of aircraft, rocketry, locomotives and rolling stock, motor cars, motorbikes, cycles and horse-drawn carriages. |
| Curator (Images): | assists the Senior Archivist in developing the image collections, which include photographs, engineering drawings, prints, paintings, film and video, and providing access to the archive collections. |
| Archivist (Cataloguing): | assists the Senior Archivist in developing the archive collections, which include company records, personal papers and ephemera, and providing access to the archive collections. |
| Collections Care Assistant: | assists the Collections Care Officer in supporting the transport and storage of new acquisitions. |

Collections Centre Facilitator: is responsible for providing services to users of the Collections Centre, which may include services relating to new acquisitions.

## 4 Key collecting areas 2005-2009

Priority will be given to collecting that underpins corporate objectives by:

- supporting gallery developments;
- increasing public access and supporting learning provision;
- reflecting the history of Manchester and the cultural diversity of its people;
- developing the breadth, depth and significance of the collections.

Summaries of the planned collecting in these areas appear below; further details are given in Appendix III.

### 4.1 Supporting gallery developments

The majority of active collecting projects will be directly linked to the programme of new gallery developments and enhancement of existing galleries. The programme currently includes Air & Space (provisionally reopening in 2007), Communications (opening in October 2005), Textiles Gallery (short-term enhancements scheduled for completion in summer 2006) and the Power Hall (enhancement to be completed in summer 2005).

Active collecting projects will primarily focus on contemporary collecting. The Museum will collect material which reflects the contemporary scientific and industrial life of the city and region, and the way that local people use and experience the end products of industry. The size and complexity of modern technology will make it necessary to represent many examples of plant, buildings and other artefacts by models or through photographic, video or sound recording.

### 4.2 Increasing public access and supporting learning provision

Specific priorities for active collecting in support of this objective will be identified through a combination of consultation with Access & Learning and Public Programmes staff and monitoring of Collections Centre enquiries. With regard to the object collections, collecting is likely to be restricted to smaller objects that are suitable for handling activities or supervised study. In the case of the archive collections, high priority will be given to complete company archives giving evidence of company structure, activities and practices, because such archives offer the greatest potential for research, interpretation and learning.

### 4.3 Reflecting the history of Manchester and the cultural diversity of its people

Currently, the Museum's collections and displays do not fully acknowledge the long history of cultural diversity in the city, nor do they fully reflect the city's role in world history - for example, as the prototype modern industrial city or as a node in the vast trade network of the British Empire. Most acquisitions are donated by either businesses in Greater Manchester or residents of the traditionally middle-class suburbs of Greater Manchester. While one explanation may be that domestic, community and industrial objects have simply not survived in less affluent districts, another factor may be a lack of awareness about museums in such communities and thus a lack of contact with museums.

The creation of the Community Exhibition Space in May 2004 has provided an opportunity to develop closer links with local communities. This will be used to inform the review and development of priority areas for Local History collecting. The general approach will be to collect objects relating to people, places and communities that are currently under-represented in the collections. Initial priorities with include:

- districts within East and North Manchester;
- people who have influenced life in the city in the last 50 years;
- people whose activities fall within more recently adopted collecting areas, such as the creative industries.

### 4.4 Developing the breadth, depth and significance of the collections

The baseline criterion for any acquisition, whether unsolicited or actively solicited, is that it adds to the breadth, depth and/or significance of the collections. Therefore, any active collecting that does not fit the criteria of the three preceding priority areas must satisfy this requirement.

Key factors in achieving this priority are:

- <u>Provenance</u>
  Wherever possible, the Museum will seek to acquire items with good provenance. This will be a primary consideration in the decision to acquire items and a criterion for assessing the item's stewardship and access status. However, the Museum acknowledges that provenance is likely to be incomplete if items pre-date current living memory. The Museum will record the immediate provenance as fully as feasible and desirable, which may include making photographic, video or oral history recordings. The Museum will also undertake such recordings as a form of surrogate collecting both within the context of contemporary collecting, where the original artefacts are still in use, and where traditional collecting is either not appropriate or not achievable.

- Vertical integration
  Within the industries/sectors identified, the Museum will collect to represent the whole industrial process, from raw material through to finished product and usage. Where relevant to Manchester, the Museum will collect material to represent commercial and mercantile elements, the political and economic context of the supply of materials and commodities, and the trading of Manchester's products. This includes material relating to the transport and communications infrastructure through which this trade happens. The Museum will acquire archives containing a range of documents which more broadly represent company structure, activities and practices than those which consist of limited categories of material (e.g. prints and drawings).
- Social construction and context
  The Museum will collect material revealing and relating to the influence of social, economic, political and cultural forces on artefacts, in their design, production, distribution and use. This means prioritising the collecting of artefacts that have been used, and the histories of their usage; collecting so-called 'failed' technologies; and collecting material that records the social impact of industries and technologies. The Museum will also collect material that reflects broader social/cultural trends, particularly in areas where it has a national remit. The Museum will collect material and documentary evidence of the past and present environmental impact of industries and technologies.

- Reflecting Manchester's industrial diversity
  Material relating to industries and scientific endeavours not addressed by previous collecting will be collected when it contributes to an understanding of the wider industrial picture in the Manchester region and how the Manchester region fits into the national economy. Material will also be collected which represents the development of the industrial landscape as experienced by residents of and visitors to Manchester.

- Reflecting Manchester's post-industrial identity
  Manchester's economic base changed radically during the second half of the twentieth century. The Museum will assess the scope of the existing collections by comparison with economic activity data; will identify target areas within the Museum's overall strategy which are under-represented in the collections; and will prioritise resources to collect in these areas. In particular, it will develop collections that reflect the change in Manchester's economic base resulting from the growth of the service sector, reflected in industries such as music and other creative industries, mail order and finance.

## 5 Managing the collections

The Museum's Collections Management Policy and Plan 2005-2009 is the companion document to this Acquisition and Disposal Policy. It covers all stewardship issues relating to the documentation, accommodation and preservation of the collections. The Museum is committed to meeting relevant professional standards (see item 2), whilst placing a strong emphasis on providing physical and intellectual access to the collections. It takes the view that, on the whole, greater visibility and access promotes greater vigilance and attention to care and maintenance of collections. However, Museum staff recognise that access may not always be compatible with the best interests of conservation. Items are assessed individually to determine what levels of protection are necessary and what levels of access are permissible. The assessment criteria include rarity, durability, quality of provenance, research and interpretive value, and financial value. The assessment ratings define what standards of environment, storage, display, handling and, if applicable, operation are applied.

The Museum has a networked collection information and management system, KE EMu, which is compliant with SPECTRUM standards. In developing and managing the Museum's object and archive collections, there is a common emphasis on the importance of recording provenance, to place items in the context of their unique histories of production, ownership and use. The treatment of archive collections respects the principle of archival integrity, whereby an organic group of documents or other records created by one person or organisation is arranged in such a way as to reflect the history, structure and practices of the originating body.

The commitment to meeting and improving standards of care and accommodation of collections is upheld through considerable investment of space, time and money in existing and new display and storage for the collections. In all cases where collections are relocated, the Museum ensures that the new location provides at least the same conditions in which they were previously housed and, where possible, strives to provide improved conditions. The completion of the Collections Centre, which opened in October 2001, provided increased space and a better environment for on-site storage of object and archive collections, together with enhanced facilities for both in-depth and casual study, and other forms of access.

## 6 Reviewing the Policy

This Policy was approved by the Museum Trust on 17 December 2004. The Acquisition and Disposal Policy will be published and reviewed from time to time, at least every five years. The next review will be undertaken in or before December 2009. The review will be undertaken by the Collections Department, which will then make any appropriate revisions, consult other staff and collecting institutions, and submit the agreed document for approval by the Museum Trust. MLA North West will be notified of any changes to the Acquisition and Disposal Policy, and the implications of any such changes for the future of existing collections.

## APPENDIX I: DESIGNATION APPLICATION EXECUTIVE SUMMARY

The Museum of Science and Industry in Manchester is applying for Designation on the grounds of its pre-eminent collections, the historic significance of the buildings in which the collections are housed, the standard of service, and plans for future collections care, development and access.

The Museum has developed the concept of The Museum of the Industrial City as a unifying theme, reflecting Manchester's pre-eminence as the world's first industrial city. Two further characteristics distinguish the Museum and contribute to its national and international standing: quality and breadth of the collections, and location in outstanding buildings.

The quality of the Museum's collections lie both in the collections it holds which are of national scope and outstanding importance, and in regional and local collections which, because of Manchester's position, are of outstanding national and international importance.

The Museum achieves high standards of collections care. In all areas, collections work is highly focused with the aim of raising standards of care, management and access. The aim of all developments is to offer multi-level access to visitors and users of the collections, so that they may access collections according to their needs and interests, from mediated and interpreted gallery displays to high-density stored and study collections.

The Museum has a commitment to share expertise, foster co-operation and play a developmental role in collaborations in the region and the broader professional community. It has initiated and taken a leading role in projects to explore shared problems and offer benefits and solutions.

In consequence of its excellent collections, the Museum has a growing reputation as a location for research and scholarship. It has adopted a broad definition of research and stimulates and engages in many aspects of research, directed at present and future collecting, exhibitions and other services to the public.

In its services to visitors and users, the Museum aims to provide full physical and intellectual access to collections through careful adaptation of historic buildings, and imaginative approaches and methods of interpretation, supported by high-quality information and public services for general visitors, educational groups and researchers. These have been recognised by numerous awards. In order to maintain a high level of service, the Museum has consistently invested in staff training and development, relevant to and focused on corporate and individual objectives.

Finally, in its far-reaching future plans, the Museum will invest in developments which make a significant contribution to services, collections care and accessibility through major new galleries and through the creation of a Support Centre for extensive public access to stored and study collections.

## APPENDIX II: SUMMARY OF COLLECTIONS 1965-1998

### National collections

### Electricity Industry

Now one of the Museum's most significant subject collections, this collection began as a regional collection in 1970 and evolved into a national collection 15 years later. The first major acquisition resulted from the North Western Electricity Board's decision to dismantle its small private museum in 1970 and donate its collection to the fledgling North Western Museum of Science and Industry. The collection included smaller objects such as meters, switchboards and carbon arc lamps. A second major acquisition came in 1974, when the Museum purchased the collection of a private collector, Gordon Fowler, whose was head of a local electrical engineering firm. Mr Fowler had amassed a collection of smaller items relating to electrical engineering and telecommunications, including meters, motors, switches, light bulbs, telephones and radios.

At about the time when the Museum relocated to Liverpool Road Station, the Electricity Council, the national body responsible for the co-ordination and promotion of the electricity industry, was seeking a museum partner to host a 'national electricity gallery'. With the backing of the National Museum of Science and Industry, which was unable to take on the partnership role, the outcome was that the Electricity Council co-funded the creation of the Museum's National Electricity Gallery. In addition to providing capital funding, the Electricity Council loaned items from its national collections and helped the Museum to source additional items from within the generating and supply industry, including the central exhibit, an English Electric steam turbo-generator and control panels from the recently decommissioned Back o' th' Bank Power Station in Bolton. Other items included early generators, switchgear and electric street lights.

Under the Electricity Act 1989, the Electricity Council was to be replaced by a new body, the Electricity Association, which would have a reduced role. During 1989 and 1990, in preparation for its changed status, it donated its archives, together with an endowment of £100,000 towards cataloguing and other collections management costs, and simultaneously gifted the objects that it had previously loaned. The Electricity Council Archive forms an exceptional resource for researching and interpreting the industry. Dating from the 1890s to 1989, it includes a range of the Electricity Council's own records as well as those of its predecessor, the British Electrical Development Association, and those deposited by associated bodies, such as Electricity Area Boards. The earlier material covers the beginning of the industry in the shape of private and municipal enterprise in the 1890s through to the growth in public ownership and the completion of the National Grid. The records trace the development of the electricity generating and supply technology, the building and running of power stations, the administration of the power companies and the marketing of electricity. Since 1990, the Electricity Association has deposited additional records when they have become redundant for its operational purposes.

The object collections also have national scope, but where possible preference is given to items with Manchester or North West provenance. A strength of the collection is its coverage of generating equipment and meters from the 1890s to the 1950s. Significant early material includes switchboards and fuse panels from early generating installations, such as the Grosvenor Gallery scheme in London. The collection also contains a hydroelectric generator that was installed at a private house in Hawkshead in the Lake District in the late nineteenth century. Representing one of the earliest major electrical installations in Manchester, the Museum has a set of original light bulbs from the John Rylands Library in Manchester. Completed in 1900, the John Rylands Library was the first building in Manchester to be fitted with electric lighting as part of the build, and surviving light bulbs are inscribed with the date of installation.

Other Manchester-related material includes test meters from local standards laboratories which preceded the National Physical Laboratory and products of local electrical engineers, such as Metropolitan-Vickers, Mather & Platt, Dorman & Smith, W. T. Glover & Co. Ltd, the Lancashire Dynamo & Motor Co. Ltd and F. H. Royce & Co. Ltd. In the case of W. T. Glover, Trafford Park-based manufacturers of electric cable, the Museum has cable samples and the company archive, which includes photographic negatives taken for documentary and promotional purposes.

Since privatisation, rationalisation of generating capacity has yielded additional acquisitions. In preparation for the planned sale of Fiddler's Ferry Power Station, Warrington, PowerGen donated objects that had been displayed there. These included: a steam engine made by Browett, Lindley & Co. Ltd, Patricroft, with a direct current generator made by the Harland Engineering Co., Manchester and Glasgow; two turbine control telegraph sets from the Back o' th' Bank and Clarence Dock power stations; a master time clock and synchronising panel from Hartshead Power Station.

Both the objects and archive collections have been greatly strengthened by the acquisition of material relating to two major Manchester manufacturers of electrical plant and equipment. The Ferranti Collection, spanning the 1880s to the 1990s, is of national importance and an excellent example of a collection assembled by a company to preserve and celebrate its history. It became available after the company went into receivership in 1993 and, after lengthy negotiations, was acquired in 1996. The company records and more than 1,000 objects represent all areas of the company's production. The company's founder, Sebastian Ziani de Ferranti, was the leading British pioneer of AC electricity generation and supply in the 1880s. From 1896, the company had its headquarters in Greater Manchester and much of its production was based here. The records and products reflect the growth of British manufacturing in the field of electrical engineering. The object collection includes alternators, transformers, cable samples, meters, relays, resistance boxes and switches. They also illustrate the company's evolution from electrical engineering to electronic engineering, including avionics, defence (particularly the development of defence guidance systems) and computing.

The Museum also holds company records - including minute books, financial records, apprentice registers and the photographic library - of GEC, Trafford Park. Founded as British Westinghouse, the UK subsidiary of the US Westinghouse Corporation, the company introduced new manufacturing methods and organisation to Britain. It later became Metropolitan-Vickers and then merged with British Thomson-Houston, Edison Swan and other companies to form Associated Electrical Industries (AEI). The records, photographs and trade literature are of the highest technological, scientific and historic significance because they illustrate the company's diversification from heavy electrical engineering, particularly switchgear, to radio broadcasting, radar, gas turbine generators, jet engine design and information technology.

**Gas Industry**

The Museum had relatively few objects relating to gas production and supply until British Gas decided to review its heritage commitments, with a view to rationalisation, in the wake of the Gas Act 1986. In the North West, the British Gas site at Partington held a substantial archive repository and a smaller object collection. It was decided that Partington would be developed as the national gas archive (which has recently moved to Warrington), but the object collection would be made available on loan to the Museum as part of the creation of a National Gas Gallery, wholly funded by British Gas.

The collection represents the technical development of coal gas production, natural gas extraction, distribution and use from the early nineteenth century to the present. It includes gas retorts, street lights, drills and pipeline inspection equipment. The collection has national scope, but with a regional bias, thus respecting the collecting interests of other museums fostered by British Gas. The 1993 report by the Monopolies and Mergers Commission led to a restructuring of the privatised gas industry and a decision by British Gas to donate the objects that it had loaned for the Gallery, together with the offer of other items that had remained at Partington.

**Household Appliances**

The major acquisitions relating to the electricity and gas industries (as described previously) have included material relating to domestic use, reflecting the importance of domestic energy consumption in the development of the supply industries. The collection of gas appliances is less extensive and less diverse, reflecting the inherently more limited applications to domestic technologies and the smaller potential for technical innovation. Nevertheless, it includes some early examples of particular appliances and some unusual items. The development of the Gas Gallery fortuitously coincided with the first major auction of gas artefacts, the sale of a remarkable private collection. The Museum was able to purchase a selection of Victorian appliances, including an 1850s gas cooker, coffee roasters and gas fires. The collection also includes a gas cigar lighter from a public house and a gas hairdryer which was in use at a hairdresser’s salon in Blackpool until the 1970s.

The collection of electrical appliances ranges from the 1890s to the present day and includes appliances for cooking, laundry, cleaning, heating, cooling, food preparation and personal care. Its strength is a diverse range of domestic appliances from the 1920s to the 1950s, when electrical appliances still has luxury status in the majority of households. Overall, the collection illustrates the changing composition of the British electrical appliance industry, developments in technical and aesthetic design, and socio-economic influences on production and marketing. It provides a good representation of the major British electrical appliance manufacturers, such as Belling and Hotpoint, and British subsidiaries of overseas companies, such as Hoover and Electrolux. The acquisition of the Ferranti Collection improved the representation of local appliance manufacturing.

An acquisition that provides an interesting comparison with the institutional collections consists of about 30 kettles and supporting research material accumulated by a private collector. Its typological specialisation means that it represents a very different process of selection. Excluding the institutional collections and collections that reflect the private collecting of appliances, the Museum prefers, where feasible, to fill gaps and strengthen the representation of provenance of use by collecting appliances used in the Manchester area. Exceptions are made where rarity restricts the opportunities for local collecting.

The Museum also collects manual household appliances, but only as examples of local manufacture. These appliances are treated as part of the local history collection.

### Papermaking

The Museum has held the National Paper Museum Collection, the largest and most comprehensive papermaking collection in the country, on loan since 1969. The NPM Collection encompasses objects, archives (primarily paper samples and watermarks) and a collection of printed books, which include both reference material and examples of limited edition books printed on special papers. Traditional papermaking is represented through equipment such as a set of stampers, a rag cutter, hand moulds, a hand press, loft lanterns and papermakers' crosses. The first phase of mechanisation is represented through a replica Robert papermaking machine. Later mechanised papermaking is represented through laboratory-scale and model pulping machines, full-size, laboratory-scale and model papermaking machines, dandy rolls, drying equipment and testing equipment.

## Regional collections

### Aviation

Greater Manchester and the North West of England are of national importance in terms of both historic and contemporary aviation. Avro was the first British company to be founded solely for the manufacture of aircraft. Founded in Ancoats, Manchester, in January 1910, it is now part of BAe Systems, which retains Avro as a brand name.

The Woodford plant is the centre for British regional jet airliner production. The region was and remains a significant production centre; it also has Britain's third largest airport. The Museum's aviation collections were inherited from the former Greater Manchester Air and Space Museum, which was set up by Manchester City Council and opened in May 1983. In essence, the Air and Space Museum provided an exhibition space for items from the RAF Museum's reserve collections, which were made available on long-term loan. Additional loans were available from the Royal Aeronautical Society and Aeroplane Collection.

The representation of Avro aircraft in the loaned collections is incomparable. It includes the Avro 504K, an example of the aircraft type which established Avro as a major manufacturer. This aircraft is the only surviving example of a civilian Avro 504K, and was based at Hooton Park, Merseyside. It is recognised by the National Aviation Heritage Committee as an aircraft of national importance. The Avro Avian in the collection is the only example on public display in Britain. It is an example of the aircraft type that stimulated the recovery of Avro as an aircraft manufacturer in the interwar period by exploiting the rejuvenated leisure market. It is recognised by the National Aviation Heritage Committee as the best preserved example in Britain. The Museum also has a Roe Triplane replica, which was built at Avro's Chadderton factory. Research carried out while the Museum was restoring this replica enabled it to be restored to represent the triplane that A. V. Roe exhibited at Blackpool in 1909 more accurately than the 'original' in the Science Museum

The Avro Shackleton AEW2, the last Avro aircraft type to serve with the RAF, represents the 'family' of Avro aircraft which began with the Manchester and included the Lincoln, York, Tudor and Lancaster. It is recognised by the National Aviation Heritage Committee as the most complete and best-preserved extant example. The Avro 707A, a research aircraft that formed part of the Vulcan bomber development programme, is the only single-seater example in Britain.

The English Electric P1A prototype aircraft, built at Warton near Preston in 1955, represents another regional manufacturer. A prototype for the RAF Lightning interceptor aeroplane, this was the second P1A prototype and in 1963 became the first British aircraft to achieve supersonic speed in a vertical position.

The Museum's first major aviation acquisition was the nose cone and flight deck of a 1971 Hawker Siddeley Trident 3B jet airliner, which went out of service in 1986. While lack of availability has constrained its ability to acquire aircraft on a permanent basis, the Museum has been more successful in acquiring memorabilia and archives relating to local aviators. It holds personal items owned by Jack Alcock and Arthur Whitten-Brown, who made the first non-stop transatlantic flight in 1919. Important sets of personal papers include those relating to Avro aircraft designer Roy Chadwick and test pilot Jimmy Orrell. The Museum holds a small but significant collection of Avro wind tunnel models, which illustrate the research and development stage of aircraft manufacture. It has also acquired material relating to local airline companies (such as uniforms and ephemera) and the airport, which was the first municipal airport in Britain (Wythenshawe, 1929).

The Museum has also built up an important collection of material relating to the development of Metropolitan-Vickers jet engines. Metrovick designed and developed the first British axial-flow jet engine. The Museum's Metrovick engines include: the B10 Betty Compressor, Britain's first axial-flow gas turbine test rig; the F2/1 axial-flow jet engine, Britain's first axial-flow jet engine to be flown in an aeroplane (in 1943); the F2/3 Beryl jet engine, an example of Britain's first production axial-flow jet engine; the F3 Ducted Fan Augmentor, designed and made to a Whittle patent. The Museum also has the Rolls-Royce Vulture engine supercharger, the only complete example in the world. It was used by Dr Keith Watson Todd to supply air to a wind tunnel built to

collect data to aid the design and development of the Metrovick B 10 and F2. Personal papers of leading Metrovick engineers complement the artefacts.

### Liverpool and Manchester Railway

The historic buildings and site that house the Museum give it a truly unique character. Liverpool Road Station is the oldest railway station in the world, and represents a turning point in the history of transport, communications and social mobility. The Liverpool and Manchester Railway was the archetypal modern railway, the first to be purpose-built for the operation of both goods and passenger services. Its opening in 1830 had an impact that was felt throughout the world. The listed railway buildings and structures are treated as a collection in their own right, worthy of the same standards of care and interpretation as the object and archive collections. They comprise:

- the 1830 Warehouse of 1830 (Listed Grade 1);
- the 1830 Passenger Station and 1831 Shops/Carriage Shed (Listed Grade 1);
- 1830 Viaduct (Listed Grade 2);
- 1855 Transit Shed (Listed Grade 2);
- 1867 Viaduct (Listed Grade 2);
- 1880 Lower Byrom Street Warehouse (Listed Grade 2).

The buildings and viaducts are not just symbols of an important step in railway history; they also embody the technology of the contemporary construction industry. The 1830 Warehouse is particularly important in the latter respect, because it was built by the leading Manchester contractor David Bellhouse Jr., whose standing in the industry is indicated by his appearances as an expert witness at royal commission hearings. One of Bellhouse's advantages as a contractor was his family business links, as his father was a major Manchester timber merchant. With its internal timber frame, the 1830 Warehouse illustrates both the composition of the timber import trade and the carpentry practices of the day.

Related objects and archives fall into two categories: items directly associated with the history of the site, mainly loose artefacts recovered in the course of restoring buildings; and memorabilia produced to commemorate the opening of the Railway and significant anniversaries. The first group includes the original bell and sundial from the passenger station, two stock books, tools and wage tins. The second group includes prints, ceramic tableware, glassware and medals, made between 1830 and 1980. A large proportion of the memorabilia was assembled by a private collector.

## Local collections

### Calculating and Computing

The collection charts the production of calculating and computing equipment in Manchester from the days of the slide rule to present-day computer manufacture. It illustrates the development of both 'universal' calculating equipment and calculators designed to serve the specialist needs of particular local industries (e.g. textile calculators). The local company A. G. Thornton, later British Thornton, became

nationally known and acknowledged with a Design Centre award for the quality of its slide rules. The collection includes a good selection of the company's rules and some of the dies used in their manufacture. Another local company, Fowler & Co. of Sale, specialised in the manufacture of circular calculators, including models specifically designed for textile calculations. The Museum has a good selection of Fowler calculators.

Douglas Hartree of Manchester University designed a differential analyser to solve differential equations, which was built by Metropolitan-Vickers and installed in the Physics Laboratory in 1935. This was the first analyser to be designed and built in this country; the Museum has half of it and the other half is at the Science Museum in London. The Museum also has a later Metrovick analogue computer, which provides a mechanical counterpoint to the early electronic computers built in Manchester.

The world's first working stored-program computer, the Baby, was built at Manchester University in 1948. The Museum's collection contains a working replica of the Baby (completed in 1998 to mark the fiftieth anniversary) and parts believed to have been used in the subsequent prototype Manchester Mark I computer, including a unit of two Williams tubes. Ferranti Ltd took on the commercial development of the Mark I at its Moston factory, producing the world’s first commercial computer in 1951. The company continued to work closely with the University, providing an excellent example of an academic-industrial partnership. The collection includes:

- a Ferranti Pegasus I, believed to be the earliest example of its type in a public collection;
- parts of the ATLAS computer, developed at Manchester University and believed to have been the most powerful computer in the world at its inauguration in 1962;
- several Ferranti Argus computers, representing the highly successful series of process control computers that developed from initial work on missile guidance systems at the Wythenshawe factory.

In 1963, Ferranti Ltd sold its mainframe computer business and the West Gorton factory to ICT (later ICL and now owned by Fujitsu), but continued to develop and manufacture specialist process control computers at Wythenshawe. It also nurtured its semiconductor business, which had begun in 1953. As with computers, Ferranti decided to focus on the production of specialist semiconductors, based at Gem Mill in Oldham, and became a European leader in this market. The collection contains examples of the company's innovative semiconductors, including the first European microprocessor, the F100-L.

The development of microcomputers is represented through examples that were used in the Manchester region for a range of applications, including word-processing, desktop publishing, playing games and learning computer programming.

**Chemical Industry**

In acknowledgement of the specialist interests of Catalyst: the Museum of the Chemical Industry in nearby Widnes, the Museum adopts a conservative approach to collecting material relating to the chemical industry. It focuses primarily on the

scientific aspects of the important local dye industry, but also seeks to represent local manufacture of toiletries and pharmaceuticals. The material relating to the dye industry includes dyestuffs, dye recipe and sample books, and a collection of equipment, protective clothing, safety signs and dye samples from the ICI dyeworks in Blackley, Manchester.

The local pharmaceutical industry is represented through samples of pharmaceutical products made by companies including James Woolley and Paterson Zochonis Ltd. Woolley was one of the first members of the new Pharmaceutical Society of Great Britain in 1841 and his company was in business for more than 150 years from 1833. The company later made photographic chemicals, photographic equipment and scientific instruments. With headquarters in Manchester from 1886, Paterson Zochonis & Co. began life in 1879 as merchants in West Africa. In the late twentieth century, the company diversified into pharmaceutical and toiletry manufacture through acquiring Roberts Laboratories Ltd of Bolton, which manufactured proprietary drugs, and the Cussons Group Ltd of Kersal Vale, Salford. The Paterson Zochonis Collection includes examples of pharmaceuticals and toiletries made for retail in Britain and Africa.

**Food and Drink Industry**

Reflecting the history of both food processing itself and the manufacture of food-processing machinery in the Manchester area, most of this collection dates from the late nineteenth century onwards. This is a small collection which, nevertheless, illustrates key elements of the local industry. A local product with late eighteenth century roots is carbonated drinks, which began as a small-scale industry, practised by druggists and herbalists on their shop premises. The collection contains a selection of bottles made for local makers of carbonated drinks.

Although manufacture of agricultural machinery was never a significant Manchester industry, one company that was successful in this area was Follows & Bate Ltd of Gorton. The Museum has two cases of medals awarded to Follows & Bate at trade fairs and agricultural and horticultural shows. Follows & Bate also made a range of mechanical aids to food preparation. The Museum has examples of its marmalade cutters. Marmalade (and other preserves) was also one of the first foods to be mass-produced locally - by James Robertson & Sons Ltd (makers of ‘Golden Shred’) from 1890 and by F. Duerr & Sons Ltd (makers of 'Manchester Marmalade') from 1881. Jam jar filling machines were one of the products developed by Mather & Platt Ltd of Newton Heath. The Museum has one of the smaller versions, together with company records relating to Mather & Platt's food processing and handling machinery division.

The manufacture of grain-milling machinery is represented through a roller mill made by Henry Simon Ltd in Stockport and a malt mill, made by Thomas Robinson & Son Ltd in Rochdale and used for 50 years at the John Willie Lees Brewery in Manchester. These two companies, both set up in the late nineteenth century, merged in 1988 and were taken over by the Satake Corporation of Japan in 1991. Other material relating to the local brewing industry includes coopers' tools, bottles,

flagons and beer mats, together with testing instruments (in the scientific instruments collection) such as hydrometers and dipsticks. The commercial bakery industry is represented through the Mason Collection, which includes a model dough-mixing machine, bakery equipment catalogues and photographs. Another local industry, biscuit manufacture, is represented through examples of Co-op novelty biscuit tins. The Co-operative Wholesale Society's biscuit works in Crumpsall, set up in 1870, was the first of its factories.

The opening of the Manchester Ship Canal, which brought bulk food imports direct to the city, stimulated the growth of the food industry. The largest item in this collection is a disassembled packing line, dating from about 1950, from the Kellogg's factory in Stretford, close to the Manchester Ship Canal. When the factory opened in 1938, it was the largest breakfast food plant outside the United States and the most modern in the world. The packing line marks the post-war expansion of the plant.

The collection also reflects changes in food retailing. It includes a model grocer's cart that was displayed in the shop window of a local grocer's shop and a complete set of picture tiles that decorated the Beswick Co-operative Wholesale Society shop. The trading standards aspect of food retailing is covered by the Measuring and Observing Instruments collection, which contains standard weights and measures and a large collection of Co-op scales.

**Housing**

Observers of the industrialisation and urbanisation of Manchester in the late eighteenth and early nineteenth centuries took particular interest in the living condition of the workers. To represent this aspect of the social impact of industrialisation, the Museum holds the fabric of two sets of Manchester early workers' housing. This collecting activity was initiated by the planned demolition of two late eighteenth century blind-back houses on the north side of Manchester city centre. The Museum was able to enlist the services of Greater Manchester County Council architects to supervise the careful dismantling of the houses in 1984 and record their structure. Each brick was plotted and given a unique number so that the walls could be faithfully reconstructed. The timber elements were in generally poor condition and thus unsuitable for re-use, but samples were removed and retained to be as used as patterns for replication.

In 1990, another collecting opportunity arose with the planned demolition of the surviving shell of Walker's Buildings, a block of back-to-back houses constructed in two phases (1815 and 1835). At that time, it was one of only two surviving blocks of back-to-back housing, both of which had been considerably altered. Walker's Buildings had few interior walls and a replacement roof, so brick-by-brick recording was not merited. The Museum decided to acquire the original fabric and commissioned Greater Manchester Archaeological Unit to record the building and supervise demolition.

The houses were acquired with the intention of reconstructing a court of workers' housing in order to interpret the social impact of industrialisation. However, the only

suitable part of the Museum site was used for a new shop and entrance, so the material remains crated and stored until an alternative site can be found.

**Local History**

This collection began as a new collecting initiative when the Museum moved to Liverpool Road Station. Its main purpose was to illustrate the social, economic and political backdrop to Manchester's industrial and scientific development. This is a fairly small collection which falls into two main categories: items commemorating or associated with significant social, political and economic events and achievements; products of traditional craft industries (such as clock-making) and minor or small-scale manufacturing industries.

Material includes commemorative and souvenir pottery, medals, awards, costume, regalia and ceremonial items. The collection provides a good representation of major local events, including the 1819 Peterloo Massacre, the 1887 Royal Jubilee Exhibition and the opening of the Manchester Ship Canal in 1894. Reflecting more recent events, it includes the badges of office and memorabilia of the Greater Manchester County Council (1974-1986) and the Cross Street traffic light which was damaged by the 1996 Manchester bomb blast. The collection also represents influential local organisations and landmarks, such as Chetham's Hospital, the Manchester Reform Club and the Independent Order of Odd Fellows.

Coverage of lesser industries includes sewing machine manufacture, clock and watch-making, the tobacco industry and manufacture of manual household gadgets, such as knife-cleaners. Companies represented include Gresham & Craven, the Jones Sewing Machine Co. Ltd, Bradbury & Co., Botsford & Ollivant and the Manchester Tobacco Co. Ltd.

**Machine Tools**

Manchester became an important centre of precision engineering, exemplified by the achievements of Joseph Whitworth from the 1830s to the 1880s. Whitworth and his company made vital contributions to the development of national and international standards in engineering and to improving the quality of machine tool manufacturing. The Museum holds the largest and most comprehensive collection of Whitworth products. Whitworth's early specialisms - precision measuring machines and screw-cutting machines - were influenced by his training in the London workshop of Henry Maudslay, the leading machine tool maker of his day. These are reflected in the collection through lathes, taps, dies, gauges, micrometers and end-measuring machines. Whitworth also developed a belt-driven planing machine that offered greatly improved precision, and the collection includes an early example. Illustrating the variety of Joseph Whitworth & Co.'s output, the collection also contains a pillar drill, a gear-cutting machine, a slotting machine and a shaping machine.

An earlier 'graduate' of Maudslay's workshop was Richard Roberts, who moved to Manchester to start up his own business and invented the self-acting mule in 1824. The oldest machine tool in the collection is an 1835 Sharp Roberts slotting machine. An 1866 swaging machine, made by Platt Brothers of Oldham, provides another

example of the close relationship between machine tool manufacture and textile machinery manufacture. Platt Brothers became the world's largest textile machinery manufacturer.
The most recent development in machine tool technology represented in the collections is the numerical control (NC) process, whereby the machine tool is programmed to carry out a sequence of precise operations automatically. The Museum has the first British NC machine tool, a boring machine made by Kearns & Co. Ltd of Broadheath (with a British Thomson-Houston control unit) and installed at the Leicester factory of the British United Shoe Manufacturing Co. Ltd in 1955. This was the world's first punchcard-controlled machine tool, as the earlier American NC system used punched tape. Ferranti Ltd was another British pioneer in the development of NC technology, exhibiting its first NC machine tool in 1956. Ferranti became involved in this area because of its own production needs, particularly in relation to the mass production of radar wave-guides. The Museum has an early Ferranti coordinate inspection machine, made at the Edinburgh factory in about 1961.

The collection also contains machine tools for hammering, grinding and polishing, boring, rolling steel, punching and shearing, and rivetting. Other Manchester machine tool manufacturers represented in the object collection include William Muir, Craven Brothers, Churchill & Co., Kendall & Gent, George Richards & Co. Ltd and Smith & Coventry. The only significant archival material relating to machine tool manufacture is a collection of B. & S. Massey engineering drawings.

**Measuring and Observing Instruments**

Manchester's academic institutions and industries provided a ready market for scientific instruments, stimulating the establishment of local instrument manufacture. Prominent amongst the early makers of scientific instruments in Manchester were Italian immigrants, including the Ronchetti family, Zanetti, Predari and Bolangaro. They tended to specialise in barometers, although the Ronchettis diversified into thermometers, hydrometers and other glass-based instruments. The Museum has a good selection of late eighteenth century and nineteenth century barometers. Joseph Casartelli married into the Ronchetti family and then bought the business. He expanded the business to include all kinds of high-quality optical, surveying and engineering instruments. The Museum has examples of many kinds of Casartelli instruments, including surveying levels, pressure gauges, yarn scales and anemometers.

Pre-eminent amongst Manchester instrument makers, John Benjamin Dancer became nationally renowned for his scientific instruments, especially his microscopes. The collection contains a selection of Dancer instruments, including a travelling microscope and thermometers that he made for James Joule (see Manchester Scientists). Other Manchester instrument makers represented in the collection include Thomas Armstrong & Brother, A. Franks Ltd and Flatters & Garnett. Thomas Armstrong & Brother made a wide range of instruments and the collection includes examples of barometers and barographs, microscopes and microprojectors, and telescopes. The Franks family began as opticians and expanded their trade to

include a range of optical instruments, reflected in the collection through a telescope, camera and microscopes.

Schools and other educational establishments provided an important market for scientific instrument makers. Some companies specialised as educational suppliers. One such company was Flatter & Garnett, which began as producers of lantern slides (with natural history content), microscope slides and microscopic preparations. Microscopes, microtomes and projectors were later added to the product range. The Museum has the Garnett Collection, which was donated by the Manchester Literary and Philosophical Society. Other educational specialists, such as G. Cussons Ltd, concentrated on demonstration models and apparatus. The collection includes a Cussons projector and optical bench, together with apparatus for demonstrating gravity, steam valves and crank drives.

The collection also represents the introduction of electrical and electronic instrumentation in the twentieth century, particularly through the products of Fielden Electronics and Metropolitan-Vickers (later AEI). Fielden Electronics, based in Wythenshawe, was set up in 1946 and sold electronic process control instruments all over the world. The collection contains a large selection of these instruments. Metropolitan-Vickers made important contributions to the development of electron microscopes and the collection contains several examples, including an EM2/1 of 1947. The Museum also has a Metrovick mass spectrometer.

Aside from the precision instruments required for use in scientific and industrial research and development, measuring instruments are also used in widely in everyday life. This is reflected in the collection through, for example, the Lound-Jackson Collection of more than 200 weighing scales made or factored by the Co-operative Wholesale Society for use in its shops all over Britain. The Museum also has Manor of Manchester standard weights and measures, which were used by the Manor's market inspectors for checking that traders gave fair quantities. The Museum also has a small collection of coin scales, which were in common use in the eighteenth century as a means of checking that gold and silver coins had not been clipped.

Similarly, the collection also contains eye testing equipment and eyeglasses relating to the history of optometry in Manchester. Items include eyeglasses made by J. B. Dancer and Thomas Armstrong & Brother. The latter firm acted as official Opticians to the Manchester Royal Eye Hospital for about 60 years from 1877.

**Photographic Equipment**

This collection illustrates the production and use of photographic equipment in the Manchester area from the 1840s to the present day. John Benjamin Dancer was one of the first people to practice photography in Manchester. He took the first photograph of Manchester in 1842 and this daguerreotype is in the collection. Dancer designed and patented the first stereoscopic camera, of which three examples are in the Museum's collections, including a prototype version. He also developed the

technique of microphotography and the collection contains over 500 Dancer microphotographs.

The acquisition of the Beyer, Peacock Collection (see Rail Transport) in 1966 brought examples of the work of the pioneering Manchester photographer James Mudd, who was one of the first photographers to record industrial subjects. In 1858 he was commissioned by Beyer, Peacock to take photographs of locomotives. Mudd was experimenting with the dry collodion process for sensitising glass plates while undertaking this work. His involvement was fairly brief but the company continued this practice.

Another of the Museum's earliest major acquisitions was the collection of photographic equipment relating to the production and retail of photographic equipment and materials by J. T. Chapman, later Foxall Chapman. Chapman's key contribution to photography was producing the first reliable dry plate and the collection includes examples of his trade literature and a number of experimental and production plates, including the 'Manchester' dry plate. It also includes cameras and accessories made and retailed by Chapman.

The Altrincham-based company Thornton-Pickard achieved a national reputation for its 'Instantaneous' roller-blind shutter, which was fitted to many makes of camera, and went on to produce a range of high-quality cameras. The Museum has a good selection of Thornton-Pickard cameras and photographic equipment, including reflex cameras, a gun camera and an enlarger. The collection also contains equipment for viewing photographs, such as stereoscopic viewers (including one made by J. B. Dancer) and lantern slide projectors (including examples made locally by W. I. Chadwick and Furnival). The only major archive collection relates to Ilford Ltd's photographic materials factory in Mobberley, Cheshire. It includes extensive examples of packaging materials and product samples.

The collection also includes cameras and accessories used in Manchester for both professional and amateur photography, but made elsewhere by major manufacturers such as Kodak, Agfa and Rolleiflex. It also encompasses specialist cameras, such as copy cameras, darkroom equipment, ciné cameras and projectors.

**Prime Movers**

The collection illustrates the major technical developments in the field of industrial prime movers. The Museum holds the country's largest collection of working stationary steam mill engines, all still steam-powered, as well as an early collection of working gas, diesel and hot air engines. The majority of these engines were made and used in the area, reflecting the national and international reputation of Manchester engineering companies, such as Galloways and McNaught.

A one-third-scale model of a Newcomen atmospheric steam engine symbolises the first phase of steam engine development. The oldest steam engine in the collection is a beam engine, made in about 1830, and last used to power machinery in joiners' shop at Haydock Colliery. An example of the type of engine invented by James Watt

in 1782, it is reputed to have been one of the original stationary engines used to hauling trains up the inclined plane at the Liverpool end of the Liverpool and Manchester Railway. The oldest mill engine is a horizontal steam engine made by Earnshaw & Holt, Rochdale, in 1864 and used at Durn Mill, Littleborough. Mounted on its own cast-iron base, this engine was self-supporting for ease of installation. The collection also includes the last new steam engine, made by Galloways Ltd of Manchester, to be installed in a British textile mill (Elm Street Mill, Burnley, in 1926). Galloways Ltd was also famous for its Lancashire boilers. The Museum has several models of these and one full-scale Lancashire boiler, which has been sectioned for display. The Manchester-based engineer William Fairbairn invented a rivetting machine that transformed the manufacture of boilers. The Museum has one of Fairbairn's notebooks and a bust of Fairbairn, created by the Pre-Raphaelite sculptor Thomas Woolner. Another leading Manchester boilermaker was Daniel Adamson & Co. of Dukinfield, which is represented through company records, including engineering drawings and letters patent. Other significant collections of engineering drawings relate to McNaught, Scott Hodgson and Galloways.

The development of stationary engine technologies that were more suited to the needs of small workshops and businesses is illustrated through a series of Manchester-made hot-air engines and internal-combustion engines. W. H. Bailey & Co. Ltd of Salford specialised in hot-air engines, while Crossley Brothers of Openshaw and the National Gas & Oil Engine Co. Ltd of Ashton-under-Lyne were amongst the local manufacturers of gas and oil internal-combustion engines. The collection also includes hot-air, diesel and petrol engines by Gardner of Patricroft, The replica of a 1876 Otto four-stroke internal-combustion engine is the only working Otto engine in Britain.

From 1894 to 1972, Manchester Corporation supplied hydraulic power to businesses in the city centre. Hydraulic power was used mainly for lifting goods and operating packing presses, but it served a variety of other purposes, such as winding the Town Hall clock. The collection includes both hydraulic generating and supply equipment, such as a Mather & Platt accumulator, and hydraulically operated machines, such as pumps by E. T. Bellhouse of Manchester and James Parrott of Salford, and a lift cage from the former Watts Warehouse.

**Printing**

This collection represents both the printing industry and the manufacture of printing machinery. The strength of the printing collection lies in the representation of the evolution of newspaper printing technology, but the collection also includes Manchester-made examples of the kind of printing equipment used by general jobbing printers.

Manchester's first newspaper, the *Manchester Mercury*, was established in 1752 and its most renowned newspaper the *Manchester Guardian* was founded in 1821, but its prominence as a newspaper production centre came in the twentieth century. The technology of eighteenth and nineteenth century newspaper printing is represented through a replica common press, a Stanhope press of about 1830 and a Columbian

press. True mass production is represented by a Hoe rotary press, made in about 1925, the only preserved example of a multi-unit rotary press in Britain. It was used by the South Lancashire Newspapers Group, which published local newspapers in Wigan, Leigh and St Helens. Local newspaper production is also represented through a Western Manufacturing printing press and proof dryer used at the *Oldham Chronicle* plant and a teleprinter used at the Manchester *Daily Express* offices.

The most comprehensive subset of the printing collection is the material relating to the mechanisation of typesetting, which was Manchester's major contribution to the development of newspaper technology. The Linotype Company was set up in Manchester in 1889 to manufacture the new Linotype machines (invented in America in 1884), which were to revolutionise newspaper production. It moved to Broadheath, Altrincham, in 1899 and became the Linotype & Machinery Co. Ltd (commonly abbreviated to L&M) in 1903. The Museum holds the Whittaker linecaster collection, a collection of Linotypes and rival Typograph and Intertype linecasters, covering the period 1890-1965. It includes a square-based Linotype machine of c. 1892, the first Manchester-made model. The Museum also holds the L&M company records and a Miehle press made by L&M.

Other local manufacturers of printing equipment represented in the collection include T. C. Thompson of Manchester and Furnival & Co. Ltd of Reddish, whose products cover a range of printing techniques and include ancillary machines, such as guillotines and perforators. Small models of hand letterpress include the Albion and the Imperial, and the Museum has a good selection of letterpress type, housed in type cabinets. While much of the non-newspaper printing equipment relates to the activities of local jobbing printers, specialist printing is represented by an intaglio printing press made by Hopkinson & Cope of London and used by the music publisher Novello & Co.

**Radio and Television**

As with household appliances, major acquisitions relating to the electricity industry, in particular the Fowler Collection and Ferranti Collection, included radios and televisions. While the object collection represents local manufacture of radio and television equipment, this was not a major local industry. Ferranti Ltd was the only significant local manufacturer of radios and televisions, but this production department was never commercially successful and was sold to E. K. Cole Ltd in 1956. Therefore much of the collection represents local use of radios and televisions made by major British manufacturers, such as Bush, Marconi and Ferguson, whose products were sold and used nationwide.

The radio collection provides comprehensive coverage of the development of radio receivers from the 1920s to the 1960s, illustrating the shift from crystal to valve to transistor technology and changes in cabinet design and materials over this period. A reference-quality collection of thermionic valves and a smaller collection of cathode ray tubes represent the development of the core electronic technologies that made radio and television possible. The Ferranti Collection reflects the company’s important contribution to the development of audio frequency transformers. Early

Ferranti AF transformers were the most advanced of their time and formed the basis for Ferranti's entry into radio receiver manufacture. The television collection includes a Baird televisor and examples of 1950s projection televisions, as well as examples of table and console television sets which reflect key developments in electronic television, such as improved picture definition and the introduction of colour pictures.

Relatively little collecting of objects was done to represent the local radio and television broadcasting industry. The most significant acquisition was a set of microwave transmission control cabinets and associated waveguides, made by Standard Telephone & Cable Ltd and used at the Windy Hill transmitter, near Manchester, to relay television broadcasts to the Kirk o' Shotts transmitter in Scotland. Introduced in 1952, this was the world's first microwave television transmission system. The archive collections provide more substantial representation of the local radio broadcasting industry. The GEC (Trafford Park) company records and associated personal papers of employees represent the role of Metropolitan-Vickers in establishing the 2ZY radio station, which became the BBC's Manchester station, and as a co-founder of the BBC. The Museum also holds the Greater Manchester Radio archive.

**Rail Transport**

In the wake of the opening of the Liverpool and Manchester Railway, Manchester and North West England became an important centre for the production of locomotives and rolling stock. Local manufacturers, which included Beyer, Peacock & Co. Ltd in Gorton and the Vulcan Foundries in Newton-le-Willows, exported locomotives worldwide. This collection represents the Manchester companies which manufactured locomotives and rolling stock.

One of the Museum's first major acquisitions was the company records of Beyer, Peacock, which was one of Britain's major locomotive manufacturers between the 1860s and its closure in 1966. The strength of the Beyer, Peacock Collection lies in its relative completeness and the wide variety of record formats, including minute books, order books, engineering drawings, photographic negatives and prints, and copies of an in-house journal. The Beyer, Peacock Collection has international research value and is heavily used by researchers from model makers and family historians to academic researchers. The collection also contains a limited range of small artefacts, including printing blocks showing locomotives and foundry patterns.

Collecting actual locomotives was not feasible until the Museum had secured the Liverpool Road Station site. A small number of locomotive models were acquired prior to that. From 1980, the Museum set out to actively collect sufficient locomotives and rolling stock to form a display at its new site. The first such acquisition was *Pender*, a small steam locomotive commissioned for the Isle of Man Railway. *Pender* was sectioned to reveal its construction and motorised to demonstrate how the connecting rods drive the wheels. A second Beyer, Peacock locomotive was acquired in 1984 from a more distant source. This was a 1929 Beyer-Garratt

articulated locomotive, commissioned for use on the South African Railway, where it remained in service until the 1970s.

Another major exporter of locomotives was the Vulcan Foundry in Newton-le-Willows, which is represented through a 1911 steam locomotive built for the North West Indian Railways (which later became Pakistan Railways). The company was set up in 1830 by the side of the new Liverpool and Manchester Railway.

Between 1936 and 1954, the Manchester-Sheffield-Wath line was the first mainline route in Britain to be electrified. The Museum has the cab of *Hector,* a Class 76 Bo-Bo EM1 electric locomotive. The EM1 locomotives came into service on the Manchester-Sheffield railway line in 1950. *Hector* was built at the London & North Eastern Railway Works in Gorton, Manchester, which was known locally as 'Gorton Tank'. The successor EM2 locomotives were also built at Gorton Tank. The Museum has the *Ariadne* EM2 locomotive, which was sold to the Netherlands Railway in 1970 and operated until 1986, when it returned to Manchester. The electrical equipment for the EM1 and EM2 locomotives was supplied by Metropolitan-Vickers, Trafford Park.

**Road Transport**

Covering the manufacture of horse-drawn carriages, bicycles, motorcycles and cars in the Manchester area, this collection began, like the Rail Transport collection, as a solely archival collection. A major early acquisition was the Cockshoot Archives, the company records of Joseph Cockshoot & Co. Ltd. Trained as a coachbuilder, Joseph Cockshoot set up a horse-drawn carriage business in Manchester in 1844, which began to make car bodies in 1895. Cockshoot's customers included the local car makers Rolls-Royce and Crossley Motors, as well as Daimler, Renault, Mercedes and many other car makers. The company records include photographs of Cockshoot bodies.

The Museum only began to collect road vehicles, but on a small scale, after the move to Liverpool Road station. One of its first acquisitions was a Cockshoot 'Liverpool Gig', dating from about 1900. Manchester was never a significant bicycle manufacturing centre, but the collection does contain one example of Manchester innovation - the Lu-Min-Um bicycle. This bicycle was assembled and retailed by the Lu-Min-Um Manufacturing Company Limited in Manchester between 1896 and 1898. The lightweight aluminium frame was innovative because the mass production of aluminium was a recent advance. A modern counterpart is a Windcheetah recumbent tricycle, made by the Seat of the Pants Company, Altrincham, in 1997. It was specially adapted for a local cyclist who has the use of only one arm and used the trike for leisure activities. The Museum purchased a replacement for the owner in exchange for acquiring his original trike and supporting information about its use. The pickup version of the Windcheetah, designed for transporting goods, was awarded Millennium Product status by the Design Council in 1998.

While Manchester made a more substantial contribution to the development of the British motor car industry, local manufacture died out just before the Second World

War. Charles Rolls met Henry Royce in the Midland Hotel in Manchester on 4 May 1904, where they agreed that Rolls would sell cars designed and made by Royce. Two years later, their partnership became Rolls-Royce Ltd. The Museum has the two-stroke engine fitted to the second Royce car, made at Royce's Cooke Street factory in Hulme in 1904 for his business partner Ernest Claremont.

Other local car manufacturers included Crossley Motors, Belsize, Imperial and Newton-Bennett. The collection includes: a 1909 Crossley limousine, which is believed to be the oldest surviving Crossley car; a Crossley Regis, made in 1935, just two years before Crossley Motors stopped making cars in order to concentrate on military and, later, commercial vehicles; a 1904 Imperial motor car, believed to be last surviving example of this make.

Akin to a cross between a motor car and motorcycle, the Harper Runabout was designed by Robert Owen Harper of Stretford and built in the Avro aircraft factory at Newton Heath, Manchester, between 1922 and 1924. The Museum has a 1923 model. A late twentieth century equivalent of the Runabout was the Sinclair C5, of which the Museum has an example. J. J. Harvey of Manchester made the moulds for the bodywork and one of the three main distribution centres was at Preston.

The Museum's oldest motorcycle is a 1917 Royal Ruby motorbike with side-car. Made in Altrincham, it was ordered by the Imperial Russian Army, but never delivered as a result of the 1917 Revolution. The most famous Manchester motorcycle brand is DOT – 'Devoid of Trouble'. The Museum has a 1923 DOT motorbike for road use, which has been never been restored and has been carefully conserved to retain the evidence of deterioration. It also has a 1951 DOT RST motorbike, which had been restored before the Museum acquired it.

**Scientific Research**

The collection represents the history of science and scientific activity in the Manchester area, including the work of world-renowned scientists. John Dalton, who developed his atomic theory in Manchester, is represented through most of his extant apparatus and some personalia. The Dalton Collection reflects the scope of Dalton's scientific interests from atomic theory (models of atoms), meteorological observations (two stick barometers) and colour-blindness (the remains of his eye). Dalton bequeathed his instruments to the Manchester Literary and Philosophical Society, which he had chaired. The Dalton Collection was originally loaned to the Museum by the Lit & Phil, but was converted to a donation in 1988. This dual provenance gives the Dalton Collection added value, because it demonstrates the importance of the Lit & Phil to the Manchester scientific community in the nineteenth century.

James Joule, who determined the Mechanical Equivalent of Heat in his laboratory in Salford, is represented through much of his surviving apparatus, including that used in the rarefaction and condensation of air experiments. The Joule Collection also includes instruments made for Joule by J. B. Dancer, including a microscope and a rule. Both the Dalton and Joule Collections have inspired contemporary scientific research.

Much important research was carried out in the Chemistry Department at Owens College, and later Manchester University, and the collections contain specialist apparatus used by Edward Frankland and sample chemicals from work carried out under Henry Roscoe between about 1860 and 1885. Edward Schunk carried out important research work on natural dyes and plant products in his private laboratory in Manchester and the collections include the sample chemicals from this work.

**Telegraphy and Telephony**

During the 1960s and 1970s, the Museum assembled an embryonic collection of material relating to telegraphy and telephony. Telegraphy was represented through examples of needle telegraph sets, Morse telegraph senders and telegraph cable. The Fowler Collection included some early examples of telephone handsets (representing both the Bell and Edison designs), Ericsson wall telephones and skeleton telephones. Other acquisitions included an office telephone switchboard with a matching set of table telephones made by the Standard Telephone Company in Manchester. Representation of telephony infrastructure was lacking until the mid-1980s when the Museum only began to collect examples of telephone exchange equipment. However, this remained a patchy collection until the acquisition of the BT Collection (see Appendix III).

**Textile Manufacturing**

The mechanisation of the cotton industry changed the character of Manchester, transforming an unremarkable market town into the archetypal industrial city of the early nineteenth century. This collection reflects Manchester's position at the centre of the Lancashire textile industry and its role as the mercantile and finishing centre for the national and international markets. Fittingly, the first accessions to the collections were five models of textile machines and loom parts, all presented by the Department of Textile Technology at UMIST.

The collections include an extensive range of machines for spinning, weaving and finishing cotton, many of which were manufactured, as well as used, locally. Traditional textile manufacture is represented through examples of spinning wheels and handlooms. Preston-born inventor and entrepreneur Richard Arkwright set up the first Manchester cotton mill that used a steam engine, although this was an atmospheric steam engine for pumping water up to a waterwheel. Arkwright's contributions to the mechanisation of the cotton industry are represented through an early Arkwright water frame (c. 1772-1775), the only surviving four-spindle example, and an Arkwright's carding engine. Opposition to mechanisation is illustrated by a winding frame housed in a chest of drawers, which provides evidence of the precautions taken by mill owners to evade machine-wrecking. Another rare artefact is the double-dial longcase clock from Park Green Mill, Macclesfield, which was installed in 1810 to measure and regulate productivity by comparing real time with ‘mill time’.

The collection of working textile machinery mainly spans the period from 1880 to 1940, reflecting the prime of the local cotton industry, which peaked in 1913. These working machines follow the process of cotton manufacture from the opening of the raw cotton bales through to the weaving of greycloth. They include a draughting spinning mule, made by Platt Brothers of Oldham in 1927 and used at Elk Mill, Royton, together with Platt drawing, roving and intermediate frames. Platt Brothers was the world's largest manufacturer of textile machinery in the 1920s and the collection covers a range of the company's products, including cotton gins, combing machines and doubling machines. Other manufacturers represented in the collection include Howard & Bullough of Accrington, J. & R. Shorrock of Darwen, Harrop & Wilkinson of Salford and William Harrison & Co. of Manchester.

While the Museum lacks material relating to Charles Macintosh's rubberised cotton process, which entered commercial production in Manchester, it has a legacy product in the form of a rubberised canvas immersion suit blouse, made by Frankenstein & Son, Manchester, in the 1940s. More recent textile technology and specialist textile production are also illustrated in the collection. Advances in loom technology are represented by an air-jet loom and a water-jet loom, while a conventional Jacquard loom, made by Butterworth & Dickinson Ltd of Burnley, was used to weave Concorde nose cones. The collection also reflects the development of synthetic yarns and fabrics, most significantly through company records, spanning 1929-1968, relating to the development of Terylene, a trade name for polyester. The first wholly synthetic fibre invented in Britain, Terylene was created by Calico Printers Association chemists John Rex Whinfield and James T. Dickson in Accrington in 1941.

Another important aspect of the local textile industry was the manufacture of textile testing equipment and the provision of testing services. The collection includes testing instruments such as strength testers, yarn balances, twist testers, moisture testers and staple length testers, made by local manufacturers including Goodbrand & Co. Ltd, J, Nesbitt and Fielden Electronics Ltd. The Museum has a collection of testing instruments from the Shirley Institute, Didsbury, Manchester, which became the headquarters of the newly formed British Cotton Industry Research Association (BCIRA) in 1920 and of the amalgamated British Textile Testing Group in 1988. The Shirley Institute also developed and made testing instruments. For example, it collaborated with Ferranti Ltd on the Ferranti-Shirley viscometer, of which there are several examples in the Ferranti Collection.

The object collection represents the textile finishing trades through items such as hand printing blocks, trademark printing blocks, printing rollers, a yarn dyeing frame and silk-screen printing equipment. Archive material, including fabric samples, bolt ends and shippers' tickets, adds greatly to the representation of this aspect of the industry and also illustrates Manchester's role as the headquarters of a number of national textile associations. The Bleachers' Association is represented through a collection of framed samples that illustrate production faults. The Calico Printers Association is represented through a group of pattern books and framed samples, spanning the late eighteenth century to the 1960s. One of the strongest archive collections is the Paterson Zochonis Collection of fabric samples and shippers'

tickets, which sheds light on the role of merchant-converter companies in developing and sustaining export markets, particularly in West Africa.

**Water Supply and Sanitation**

This collection supports the 'Underground Manchester' gallery, the first gallery in Britain devoted to the history of water supply and sanitation. As the world's first industrial city, Manchester was at the forefront of developments in water and sanitation technology in the nineteenth century. The construction by Manchester Corporation of the Thirlmere reservoir and aqueduct between 1885 and 1894 was one of the great engineering schemes of the late nineteenth century. The collection is small and local in scope but is significant in representing an essential industry which has been comparatively neglected in museum collections.

The problem of scale in collecting the infrastructure of water supply and sewerage is illustrated by the two largest items in the collection. The first is a reconstructed section of a Victorian sewer, which was built using original bricks from the Bridgewater Street sewer of the late 1830s; the second is a 5-metre high, self-closing valve, made by Glenfield and Kennedy of Kilmarnock and installed in a valve house along the 150-kilometre Thirlmere Aqueduct in about 1890.

The Museum has also been able to acquire unique historic models that represent aspects of sanitation technology. A model of a night soil cart, made by apprentices of the Manchester Cleansing Department in about 1900, and two surviving pails represent the era of the earth closet. Earth closets were finally phased out in Manchester in the 1950s. A pair of sewer models, dating from the late 1890s , are of particular interest because they show faults in the sewers under Liverpool Road and Water Street, which run alongside the Museum site. The models were made as supporting evidence for a court case whereby Manchester Corporation sued a construction company for not meeting its contractual specifications. The Museum also has material, including clogs and breathing apparatus, relating to the workers who were responsible for inspecting and maintaining sewers.

The Museum has also been able to collect a small selection of water closets, of which the most unusual – and most substantial - is a wastewater closet, made by Duckett & Son of Burnley and installed as an outside toilet at a terraced house in Oldham. Also known as a tippler, tipper or slop toilet, it had no cistern and saved water by using household wastewater for flushing. This type of water closet was only found in parts of Southeast Lancashire and West Yorkshire. Other toilets include a plain water closet of the type installed in working-class houses in the late nineteenth and early twentieth century, a Twyford water closet installed in the Bury public library and museum for its opening in 1901, and the pedestal, seat and door of an outside pail closet privvy from a house in south Manchester.

Water supply in Manchester during the mediaeval period through to the early nineteenth century is represented through a selection of wooden and stone water pipes. The impact of piped water supply on public hygiene is represented through laundry equipment and a swimming pool depth marker from the Moss Street Public

Baths and Laundry, Bolton, which was built in the 1920s. The laundry equipment was made by Thomas Bradford & Co. Ltd of Salford, which also made two wash tubs installed in the outhouse of a house in south Manchester, illustrating the domestic impact of piped water. The Museum also has examples of Manchester-made Victorian water filters. Such filters were used to improve the quality and taste of drinking water, as the standard of piped water remained variable until the early twentieth century

There is very limited potential to collect archives relating to the water industry because water supply and sanitation were controlled by local authorities until the creation of the regional water authorities in 1974. Therefore collecting opportunities arise primarily in relation to manufacturers of associated equipment and infrastructure. For example, the Museum has acquired company records of the Manchester Water Meter Co., Ardwick, covering the period 1853-1958.

## APPENDIX III: SUMMARY OF RECENT ACQUISITIONS (1999-2004)

### Adding breadth to the collections

### Coal Mining

Prior to 2001, the Museum consciously refrained from collecting material relating to coal mining because of the pre-existing specialist collection held by the Lancashire Mining Museum, located only a few miles away in Salford. However, in 2000 Salford City Council decided to close the Lancashire Mining Museum and offer the associated object and archive collections, together with a comprehensive reference library, for transfer to a suitable museum. Following open consultations with potential host museums, there was a clear consensus that the Museum of Science and Industry in Manchester would be the best home for the collection.

While most of the collection comfortably fitted the Museum's collecting policy, there were a number of problem areas to be addressed, as follows.

- The object collection included duplicate items, unprovenanced items and items of non-Lancashire provenance, which had some display merit (in the context of a specialist mining museum) but generally added little research or interpretive value. The solution was to exclude the respective objects, barring a small number of items of exceptional quality, from the transfer and seek more appropriate museum recipients.
- A significant proportion of the object collection consisted of material held on 'permanent loan' from the former National Coal Board (NCB). Aside from the inherent contradiction of so-called permanent loans, a tacit continuation of this arrangement was unacceptable given that the NCB had been superseded by the Coal Authority. The Museum successfully negotiated the donation of the relevant loaned objects and was authorised to pass on the remaining objects to other museums.
- The archives included items, mainly plans, classified as public records, which the Museum was not authorised to hold. This material was transferred to Lancashire County Records Office, which already held a larger collection of related public records.

As a result of these actions, the reduced Lancashire Coal Mining Collection fits coherently within the Museum's collections.

The object collection provides good coverage of the Lancashire coal mining industry. Spanning the late eighteenth century to the late twentieth century, it includes material associated with more than 30 pits spread across the Lancashire coalfields. Some of the oldest artefacts - for example, tools and structural fragments from the St Helens opencast mines - were recovered through archaeological excavations. The collection also includes geological specimens in the form of coal samples, core samples and Carboniferous plant and animal fossils. Tools, machinery, instruments and structural elements represent all stages of the coal mining process from geological exploration, through mine construction to extraction and administration. The working and social lives of miners are represented through such artefacts as

lamps, protective clothing, safety equipment, bravery awards and trade union badges. The collection also reflects local manufacturing of mining equipment by companies such as the Protector Lamp Co. (of Eccles) and Heyes & Co. (of Wigan). Stripped of the public records, the archives consist mainly of personal papers, notices, posters, certificates and other ephemera.

Since acquiring the Lancashire Coal Mining Collection, the Museum made a small number of acquisitions to strengthen it. The most significant of these is a collection of mine ventilation equipment and archive material relating to collieries in the North West, including Worsley Delph and other early collieries that were not well-represented in the Lancashire Coal Mining Collection. It was assembled by Donald Haigh, a local mining engineer, during and after his working life and includes a barograph and anemometers made by Casartelli, Manchester.

### Local History

The most significant acquisition was the Manchester Clay Tobacco Pipe Collection. Purchased with the aid of a grant from the PRISM Fund, this is a nationally important collection which represents the legacy of John Pollock & Company of Manchester, the last remaining traditional clay tobacco pipe firm in Britain in 1968. Established by Edward Pollock in Ancoats in about 1879, the business ended in 1990 and the collection includes tools and equipment, left-over stock and a small group of company records, including order books and accounts ledgers. The greatest strength of the collection is the early cast-iron moulds.

The collection represents a local industry that thrived in the nineteenth century, during which about 50 clay pipe makers are known to have been based in Manchester. It provides an example of remarkable technological stability in that pipes continued to be made using much the same traditional techniques as in 1879, a striking contrast to the ongoing technological evolution that characterised the definitive Manchester industries such as textile production.

## Adding depth to the collections

### Aviation

As outlined in Appendix II, the key weakness of the permanent aviation collections is the paucity of aircraft. The donation of a Skyhook Safari hang glider (designed, built and flown by Len Gabriel for the first London to Paris flight by hang glider), a Mainair Tri-Flyer/Hiway Demon 175 microlight (with trailer), an Elliott Olympia 463 glider and a paraglider (with harness and rucksack), all owned and flown by local residents, has bolstered representation of the later history of leisure flying. More significantly, the cessation of production of the Avro RJX regional jet airliner provided the opportunity to collect a contemporary, locally manufactured aircraft. The RJX was the last airliner to be built in Britain. This acquisition also offers new interpretive possibilities because it is only partly assembled, thus revealing its construction.

The Museum also acquired a Hunting-Percival P84 Jet Provost T4SX179 aircraft, which was used as a training aircraft at various RAF bases from 1963 until it was bought by Salford University in 1994 for use in vibration testing. The aircraft engine collection was strengthened by the donation of a Rolls-Royce RB211-22B jet engine (with transport stand, cover and intake blank), made in 1973. Coverage of local airline operators was augmented by the donation of 15 items of JMC Airlines male and female cabin crew uniform and 11 items of Air 2000 cabin crew uniform.

Representation of aviation in the archive collections has been strengthened by the acquisition of personal papers, company literature, photographs and ephemera, including:

- the personal papers of Richard Connor, an Avro designer from 1940 to 1978, who was particularly noted for his work on the Avro 748;
- the personal papers of Eric Esler, who worked as a test pilot at Avro in the 1940s;
- photographs of aircraft component manufacture and assembly lines at the Avro factories in Chadderton and Woodford, c.1960-1962;
- issues of The Joystick, the in-house magazine of A. V. Roe & Co. Ltd, 1917-1919;
- manuals, reports and leaflets relating to British Aerospace flight operations at Woodford, c. 1962-1990.

**Calculating and Computing**

Adding to the collection of Manchester-made mainframe computers was the acquisition of ICL S3L, Series 39 DX and Series 39 DX mainframe computers. The ICL 3SL computer was designed at West Gorton, Manchester, and built in Ashton-under-Lyne under a new technology agreement between ICL and Fujitsu. At its launch in 1985, the ICL S3L was the most powerful single commercial computer system in the world. It was ICL's most successful system and sold five times more than planned. The ICL SX was the world's most powerful large mainframe at the time of its launch in 1990 and was the mainstay of UK national and local government computing in the 1990s. The ICL DX was the world's first CMOS mainframe and was launched as the DM1 in 1984. It was designed in Manchester and built in Ashton-under-Lyne, and was the first product of ICL's collaboration with Fujitsu.

Representation of local computer retailing was improved by the acquisition of a collection of nine microcomputers, made in 1982-1997, stocked by PAL Computers, which was the second computer shop established in Manchester. PAL's owner, Pritpal Makan, initially saw an opportunity for dealing in second-hand microcomputers and later built customised PCs for large local users such as hospitals, universities and schools. The business was sold off in 2003 due to increased competition from large retailers such as PC World. This selection of microcomputers complements the existing collection by providing examples of significant makers or models that were previously unrepresented.

Other acquisitions that have added depth to existing collections include:

- a Ferranti Argus 700 500Mb computer hard drive, made in Wythenshawe in 1994 for the Ferranti Argus series 700 MODPAC, but used by Digital Applications International on the full-size Argus 700 for software development;

- papers relating to Dr Peter Niblett's research and development work into computers at Ferranti, Bracknell;
- prototype braille training equipment, made by Sidney Smith, Manchester, 1980s;
- photographs and archives relating to the Hartree differential analyser, 1948-1961.

Providing an interesting adjunct to computer-related material in the Ferranti Collection was the donation of Basil de Ferranti's personal collection of 12 calculating instruments, c. 1890–1930. Like the Ferranti Family Archive, this collection illustrates the crossover between business and personal interests that characterised members of the Ferranti family.

**Chemical Industry**

The most significant addition in this area was the loan of the personal papers of William Perkin, who invented mauveine, the first wholly synthetic dye. The collection was also strengthened by small acquisitions, including:

- the purchase of two mid-nineteenth century chemist's recipe books from the business of Esau Bomford, Eccles, and three early twentieth century window posters for the successor business A. C. Bomford;
- papers relating to the creation and operation of the Royal Society of Chemistry North West Region Analytical Division, 1924-200;
- papers relating to John Reddish, Oswaldtwistle, including dyer's notebook and three handwritten dye recipes, c. 1812.

**Creative Industries**

In the late twentieth century, Manchester developed as an important centre of the creative industries. While this was symptomatic of a general shift from manufacturing to the service industries, it also built on established local strengths in terms of skills and business infrastructure. This is a recent collecting area that was initiated by the opportunity to acquire the archive of Factory Communications, the company responsible for Factory Records and the Hacienda nightclub. The Factory Communications Collection includes financial records, posters, videotapes and audiotapes.

**Electricity Generation and Supply**

The Museum acquired seven items of equipment used for testing electricity distribution equipment and systems at power stations in the North West, including Capenhurst and Kearsley, between about 1950 and 1975. Three test gauges and a dead-weight tester were made by the Budenberg Gauge Co. Ltd, Broadheath. Adding to the representation of local manufacturers of local equipment, the Museum acquired a voltmeter made by F. H. Royce & Co. Ltd, Hulme, and a Royce electric equipment catalogue, both dating from the 1890s.

Reflecting the pre-eminence of its archive collections in this area, the Museum continues to give high priority to collecting relevant archive material, particularly where it relates directly to existing holdings. Significant acquisitions include:

- Three photograph albums recording the construction of Kearsley Power Station, 1963-1965.
- Mounted sectional drawing of Agecroft B power station boiler, c. 1950, and plaque dated 1962 commemorating the official opening of Agecroft B & C power stations.
- Personal papers relating to Sir Felix Pole, chairman of Associated Electrical Industries, 1929-45.
- Album of photographs showing the construction of the British Westinghouse works in Trafford Park, 1901-02, three Metropolitan Vickers Apprentice of the Year awards, research reports from British Westinghouse and successor companies (1919-1980s).
- Minute books from the Micanite and Insulators Co. Ltd, 1921-1977.
- Photographic prints, negatives and photo albums, together with the original photographers' daybooks, relating to the production of switchgear by Ferguson Pailin in Higher Openshaw from 1913 to 2003.
- The Ferranti family papers, c. 1880-1980.
- Photograph album relating to Ferranti's High Power Transformer Department.

**Food and Drink Industry**

The major acquisition was a collection of equipment, essences and ephemera relating to J. N. Nichols & Co. Ltd, Manchester, producers of Vimto cordial. The equipment includes a manual bottling machine, which was used for bottling small batches of cordials (e.g. peppermint), a machine for fitting bottle-tops, a pill or sweet press and various items of laboratory equipment. Previously, the soft drinks industry was only represented through a selection of bottles relating to local manufacturers. The Nichols Collection also relates to the pharmaceutical collections, as J. N. Nichols began as a herbalist business in 1908.

**Household Appliances**

Among the acquisitions that strengthened the coverage of types of appliance or significant models of particular appliances were:

- a 'portable' bath unit with integral immersion heater, made by Wundabath Products Ltd, Manchester, c. 1961, and installed in a terraced house in Burnley;
- a GEC electric storage heater, c. 1960, which was installed in a house in Oldham at the time when the regional electricity boards were introducing special price tariffs to encourage the use of storage heaters;
- a D25 teasmade, made by Goblin Electrical Appliances, Leatherhead, c.1940;
- a Philips CD300 compact disc player, the first commercial model, and an accompanying A4 binder explaining the 'new' digital music technology.

**Liverpool and Manchester Railway**

A small, but highly significant, purchase, made with the aid of a grant from the V&A Purchase Grant Fund, was a sketch of Liverpool Road Station by Salford engineer James Nasmyth, the inventor of the first successful steam hammer (in 1840). Nasmyth's autobiography records the inspiration that he drew from watching the Stephensons test a locomotive on the Liverpool and Manchester railway. As the

Museum has no Nasmyth machine tools, the acquisition of any material relating to Nasmyth is valuable.

**Local History**

Updating its coverage of major local events, the Museum acquired a selection of material relating to the Manchester 2002 Commonwealth Games. The material included costumes worn during the opening ceremony, souvenirs and ephemera. These items were donated by Manchester City Council's Manchester 2002 Legacy Team, which was set up to carry out legacy activities relating to the Games and dissolved in March 2004.

Among the acquisitions adding to the coverage of minor local industries were:

- a sausage-making machine, made by Follows & Bate Ltd, Gorton, c. 1900;
- a brass bugle, made by J. Higham, Manchester, c. 1865-1880.

**Machine Tools**

The Museum has made a number of acquisitions that directly relate to the existing collection. Complementing the collection of B. & S. Massey engineering drawings, the Museum acquired a B. & S. Massey pneumatic hammer, which was delivered to Blackburn Corporation in 1930. It was used for the next 60 years for general forging work (for example, for making/repairing parts for street furniture, ironwork in parks, etc.). An Armstrong-Whitworth measuring machine and set of calibration rods, was purchased at auction. While the Museum already a good selection of Whitworth and Armstrong-Whitworth measuring machines and micrometers, none of them had calibrating rods. A donation of catalogues and instructions for machine tools made by Smith & Coventry Ltd, Manchester, added a welcome personal touch to the collection. These papers had belonged to an engineer who studied at Altrincham Technical College and worked at Smith & Coventry Ltd from 1918 to 1927.

**Measuring and Observing Instruments**

Complementing the Garnett Collection, the Museum acquired a microtome by Flatters & Garnett and company minute books and publications, spanning 1901-1967. Two acquisitions that represent research and development work in the field of scientific instruments were:

- pulse radiolysis apparatus installed at the Paterson Laboratories, Christie's Hospital, Manchester in 1967 and research papers relating to Dr John Keene's work in designing scientific measuring apparatus at the Radiation Division of Vickers-Armstrongs Ltd, Swindon;
- the personal papers of Dr Jack Blears, 1917-1997, former head of Scientific Instruments Division at Metropolitan-Vickers, Trafford Park and first Chair of Industrial Studies at University of Liverpool.

**Papermaking**

The closure of the East Lancashire Paper Mill Co., Radcliffe, in 2001 presented a collecting opportunity. Occupying a typical nineteenth century paper mill, the company made high quality writing and drawing papers. The Museum acquired an early twentieth century laboratory hollander beater (mounted on a bench), made by Charles Walmsley, Bury, and two ornamental dandy rolls, made in 1924. It also received two interesting archive collections that represent the manufacture of stationery:

- papers relating to Newton Mill Ltd, c. 1900-70, a paper mill in Hyde which specialised in stationery and was known for early experiments with colour notepapers and other gift stationery innovations;
- stationery order books containing samples of stationery produced by Mr Thornley's Manchester-based company, c.1900-1970s.

**Photographic Equipment**

Extending its largest archive relating to the manufacture of photographic equipment and materials, the Museum acquired additional company relating to Ilford Ltd, Mobberley, Cheshire, dating from the 1920s to 1970s. The records include catalogues, labels and other packaging material. Other acquisitions include:

- an Artist bellows plate camera, made by Thornton-Pickard, Altrincham, c. 1895, and used at John Rylands Library;
- a JVC GR-C2 Video Moviecamera plus carrying case, leads, battery, battery charger, instruction manual and example of film cassette, purchased in c.1981 from a Cheadle retailer and used to record family holidays and special occasions.

**Prime Movers**

The major acquisition was a hydraulic pumping engine, made by Galloways Ltd, Manchester, in 1909 and used at the Water Street hydraulic pumping station from 1909 to 1972. Grants from the Heritage Lottery Fund and PRISM Fund covered the considerable costs of removal from the University of Salford, where it had been for 30 years, and installation and recommissioning in the Power Hall. The presentation of a bound volume of plans of the Manchester Corporation Waterworks hydraulic power network in 1891 was accompanied by a full set of digital copies. The donor, Cable & Wireless, had acquired the plans so that it could use the redundant hydraulic network for new cable installations, thus providing a link to the telecommunications collections. The hydraulics collection was further strengthened by the donation of moulds and examples of leather packings for hydraulic equipment, made by Leathers Company (Altrincham) Ltd, together with related archive material, c. 1880-1980.

The Museum added to its Gardner engines by acquiring an experimental Type 1L2 single-cylinder diesel engine, made in about 1937 and used in the L. Gardner & Sons Ltd factory laboratory in Patricroft for research and development. It also took the opportunity to acquire two steam-flow meters, made by Curnon, Manchester, c. 1910-20, which were installed in the plant room of Churchgate House, Manchester, to record the steam supplied from Bloom Street Power Station. While the Museum already had examples of Curnon steam-flow meters, this was the first time that it was

able to collect the associated electric integrators and some of the supply pipework and valves.

Among the acquisitions that strengthened existing archive holdings were:

- the personal papers of Henry Pilling,1883-1928, engineer and one of the last Directors of the Galloways firm of Manchester;
- the company records of the boiler makers Joseph Adamson, Hyde, including financial records, sales ledgers, estimate books, minute books, photographs and journals for the period c. 1859-1978;
- personal papers relating to turbine technology of Frank Harris, a former Chief Engineer of the Steam and Gas Turbine Department of GEC, Trafford Park;
- sales catalogues, engine specifications and apprentice papers, c.1957-1969, relating to Crossley Brothers, Openshaw.

**Printing**

The closure of the Linotype & Machinery factory in Broadheath brought the opportunity to acquire specialist production equipment relating to the manufacture of Linotype machines. The Museum acquired a workbench and two engraving tools. Supplementing the Whittaker Linecaster Collection, the Museum acquired a Linotype 78 linecaster with operator's chair, made in 1962 by Linotype & Machinery Ltd. This was accompanied by a collection of photographs, newspapers and reproduction newspapers relating to the donor's working life as a linecaster operator at the Daily Mail Offices, Manchester, 1968-1987.

Other notable acquisitions included:

- a selection of printing type used at John Rylands Library, Manchester, including Baskerville Roman metal type, wooden type, pictorial metal printing blocks, metal chases and a lithographic stone with pictorial motif;
- a hand-operated lithographic printing press, made in 1871 by Alex Seggie, Edinburgh, and used in Manchester at the printing business of J. C. Norbury, 1871-1955;
- a manual typewriter, made by the Underwood Typewriter Company, New York, and used by A. Booth Company, a Manchester stationery company;
- an indenture of apprenticeship to Philips Park Press, 1931.

**Radio and Television**

The major acquisition was a collection of broadcasting equipment from the Oxford Road studios of the BBC and relating to the cessation of analogue recording in 2003. The material dates from the late 1970s and includes mixing desks, a record player used to play music and sound effects, and a reel-to-reel tape recorder used for Radio 1 broadcasts. The Museum also acquired the production 'running order' for 'The Last Ever Mark and Lard Show' on Radio 1 (March 2004) and two signed postcards of Mark and Lard. The running order was signed by the production team, presenters and guests (Travis). The Mark and Lard Show was the only regular Radio 1 programme broadcast live from outside London.

Strengthening the coverage of radio receivers, the Museum acquires a Ferguson Mains Minor model 526 valve radio receiver, which the donor received second-hand in 1944 and used to listen to the D-Day landing broadcasts, and a novelty transistor radio in the form of a world globe, made by Binatone, Japan, c. 1960.

## Rail Transport

Adding to the Museum's Beyer, Peacock holdings, the Crompton Collection consists largely of proposal drawings for locomotives, including the ‘SuperGarratt’ and designs for American locomotives, none of which were put into production. It also includes ledgers from the Drawing Office and other company documents plus original artwork and mock-ups from the Beyer, Peacock Quarterly Review.

## Road Transport

The Museum acquired a second Joseph Cockshoot & Co. horse-drawn carriage - a ‘Sociable’ horse-drawn carriage of 1895. Adding to the coverage of the DOT motorcycle manufacturing business, the Museum purchased a 1957 DOT scrambler motorbike (with 1965 Registration Book and associated documents). It also received a small collection of photographs and documents relating to Bill Barugh’s employment as works rider for the DOT motorcycle works, Manchester, during the 1950s and 1960s.

## Scientific Research

The work of women scientists is under-represented in the collections so a significant acquisition was the donation of a 1952 microscope used by Dr Kathleen Drew in her work as a research fellow in the Botany Department at the University of Manchester. This was accompanied by dried and pickled samples of 'Nori' seaweed. Dr Drew discovered the Conchocelis phase of Porphyra or ‘Nori’ seaweed, which was of great benefit to the Japanese seaweed industry.

## Telegraphy and Telephony

One of the Museum's largest acquisitions during this period was the BT Collection, a donation which came about as a result of BT's decision to disband its national collection and disperse as much as possible to a group of museum partners. The Connected Earth project also involved the creation of a web site dedicated to Britain's telecommunications heritage. As a Connected Earth partner, the Museum received relevant material from the London-based national collection and had a free hand in selecting further material held at BT depots within the North West region.

Major items include:

- Two-needle telegraph used on the Preston & Wyre Railway and later kept as a ‘curio’ at the Manchester School of Signalling, Victoria Station;
- CB10 telephone exchange, made by Peel Connor of Salford, c. 1910, and used at Barrow-in-Furness;
- CB1 telephone exchange, 1929, used in Bolton and later in Morecambe;
- Microwave reception dish from Kirk o' Shotts, Scotland, which relates to the Museum's microwave transmission equipment (see Radio and Television section in Appendix II);
- PABX 1 console;
- Microscribe computer designed for BT.

The BT Collection also contains examples of underground cable and cable markers, linesmen's equipment and a variety of telephones.

**Textile Industry**

During this period, the Museum collected its largest textile machine - a mercerising machine made by Mather & Platt Ltd in 1913. It was installed at the works of Pollock & Cochrane Ltd, a Paisley-based textile finishing company, where it remained in use until 2002. In 1956 the washing section was replaced with Mather & Platt's current washing apparatus, and a hydraulic drive installed in 1962. A video was made of the machine in operation and a full record was made as the machine was dismantled.

The last cotton spinning business in the North West, Shiloh Spinners Ltd of Swan Lane Mill, Bolton, closed in 2001. The Museum acquired a conditioning oven, made by Goodbrand & Co. Ltd, Manchester, and a small collection of Shiloh product samples (including sample booklets), yarns (including some partially processed coloured yarns) and swatches of fabric made with Shiloh yarns, 1996-2001. Other acquisitions include:

- a guillotine with serrated blade made by Crossland, Bredbury, Stockport, 1911 and used for cutting fabric swatches for textile sample books by Allsops, a central Manchester pattern book maker;
- a revolution counter in a presentation case, made by John Nesbitt, Manchester, and presented to Alexander Wood, Throstle Bank Mill, Hyde, by fellow employees in 1913.

Archive acquisitions have improved the coverage of the textile finishing processes and the cotton export trade. In the field of specialist textile finishing, the Museum acquired papers relating to Winterbottom's Book Cloth Company, Manchester, 1877-1965, which was the largest British producer of textiles for use in the book trade. Textile design holdings were augmented by the donation of a booklet of hand-drawn and coloured copies of textile designs by Brunet, a French textile designer, c. 1880. It was used in the design studio of the Strines Printing Works, near Disley. The Museum purchased four swatch books of fabric samples from Williamson Bros, Manchester, c. 1830-40, at auction for £700 with the aid of a 50% PRISM Fund grant.

The Museum is particularly keen to represent the diversity of export markets served by Manchester cotton merchants. A significant contribution was made by the donation of the Cooper Collection, which relates to Stavert, Zigomala, a Manchester textile trading company that was in business from about 1880 to 1965. It consists of company records, fabric samples, labels and trademark printing blocks. Stavert, Zigomala exported (mainly cotton) textiles to South America, the West Indies and India, and was also involved in shirting manufacture in its later years. A smaller addition was the papers of David Midgeley Donner & Co. Ltd, c. 1940-41, including correspondence with the firm's agents in Jamaica. The collections previously had little representation of the Latin American and Caribbean export market. The Museum also purchased a collection of items relating to Manchester's cotton exports from a private collector. This material included: invoices and delivery notes from shipping label and stamp-making companies; two stamp reference books from Star

Vale Bleachworks, Horwich; a boxed set of stamps owned by Ralli Bros; a boxed set of about 200 small stamps bearing the brand names used by Stavert, Zigomala.

## APPENDIX IV: COLLECTING PRIORITIES 2005-2009

Except where otherwise specified, the priorities may be met by the acquisition of any type of material from the range described in section 1.2.

### 1 Collecting to support gallery development

**Air & Space Hall**

Astronomy

- Material relating to historic and contemporary North West astronomy (e.g. Nasmyth, Crabtree and Manchester Astronomical Society).
- Material in support of the operation of the Planetarium, formal and informal education and Public Programmes.

Aviation

- Aircraft incorporating modern technology and/or manufacturing techniques (e.g. Panavia Tornado F3).
- Material relating to aerial advertising and 'fun' aviation.
- Material relating to aviation orientated leisure pursuits (e.g. ballooning, kite flying).
- 'Popular culture' objects demonstrating the influence of aviation, North West science fiction and space (e.g. toys).
- Objects and archives relating to the physical impact of flying (e.g. socks to prevent 'deep vein thrombosis').
- Material relating to the impact of flying on the environment.
- Material relating to the manufacture of aircraft and aero-engines (e.g. Avro RJX archive).
- Material relating to the design of aircraft, rocketry and engines (e.g. wind tunnel models).
- Material relating to aerial surveillance.
- Material relating to North West rocketry (e.g. Avro Astronautics Department, Woodford, HOTOL, MUSTARD, Blue Streak testing at Spadeadam, Fairey Fireflash, Blue Jay/Firestreak, Red Top, Bloodhound, Falcon Project, Starchaser Industries, Lucas Aerospace).
- Material relating to amateur rocketry in the North West (e.g. Eric Burgess & 'Aspire Space' prize).
- Material relating to satellite communication (e.g. Ferranti and Pilkingtons).
- Material relating to the British Satellite Broadcasting project (later Sky television) and Granada TV.
- Objects and archives relating to North West universities involvement with aviation and space projects (e.g. Cassini).

**Communications Gallery**

Computing

- Contemporary material relating to a local software house.

Creative Industries

- Examples of sets, costumes, equipment and other material relating to the making/setting of film and television programmes in Manchester by the BBC, Granada and independent production companies such as Cosgrove hall, Hot Animations and Red Productions.

Papermaking

- Contemporary material relating to a newspaper manufacturing plant (e.g. collect/document a plant control room).

Printing

- Contemporary material relating to current local and international journalism and story-gathering for the *Manchester Evening News*, *The Guardian* and/or *City Life* magazine (e.g. notebooks, hand-held recording equipment, equipment for wiring pictures, ephemera relating to travel for work). This will include material to illustrate the start, development, and telling of one famous North West-based story project, to show how a newspaper is made in Manchester today, from start to finish. This will include creative documentation of the computer-plate process and the giant printing presses now used, together with the collection of both objects and 'software'. This project will be repeated periodically.
- Material relating to Manchester journalism and story-gathering from 1800 onwards to provide context for contemporary collecting project and to illustrate Manchester's role as an important regional centre.
- Material relating to newspaper distribution and selling in the North West from 1800 to provide context for contemporary collecting project (e.g. material relating to WH Smith's early depots, newspaper billboards or signage outside newsagents, especially relating to the Guardian).
- Contemporary material relating to the development of a Manchester-based print advertising campaign to complement existing business archives (e.g. material relating to the designers behind the Hacienda brand or the agency responsible for Boddingtons successful TV and poster campaigns).

Radio and Television

- Material relating to local radio broadcasting - e.g. by Metrovick 2ZY station, BBC, Granada, Key 103 and local community radio stations - including satellite link equipment.
- Radio models that illustrate major changes in design or technology (for example, changes in materials, miniaturisation and transmission standards such as AM/FM, UHF/VHF), e.g. 1950s transistor radio, 1960s or 1970s stereo tuner and/or receiver, 1970s or 1980s ghetto blaster, 1990s digital personal radio.
- Contemporary examples of radio equipment including speakers and CB sets.
- Examples of modern transmission cable.
- Evidence of the social context of CB and amateur radio equipment.
- Items of associated ephemera, e.g. programmes, advertising material.
- Television models that illustrate major changes in design or technology (such as changes in materials, miniaturisation and transmission standards), including: 1970s or 1980s 'flat-screen' television (e.g. Sony Trinitron), televisions operable by remote control (photoelectric, ultrasonic, infrared), early model of television with teletext reception, pocket television with LCD screen, 1990s wide-screen or large-screen television, 1990s home cinema projection television system.
- Television peripherals for receiving satellite, cable and digital terrestrial broadcasts, e.g. satellite dish, cable television box, digital decoder
- 1990s integrated home entertainment system.
- Examples of home video-recording equipment, e.g. videodisc player, 1980s Betamax videocassette recorder and VHS videocassette recorder, DVD recorder.

- Games consoles for use with television monitors (e.g. Atari, Nintendo, Sega and Sony formats).

Telegraphy and Telephony

- Material relating to long-established BICC subsidiary Connolly Brothers (of Blackley).
- Material relating to Johnson & Firth Brown Ltd as descendant company of Richard Johnson & Nephew.
- Material relating to local communications and Internet service providers, e.g. U-Net, Nynex, Norweb.
- Telegraph apparatus, especially that dating from c. 1840 to 1890, and material from private commercial and Post Office exchanges.
- Items associated with telegraphy, e.g. pieces of telegraph cable and wiring, early relays, paper tape punches, automatic transmitter and a provenanced telegraph pole.
- Items of associated ephemera, e.g. telegrams, tables of charges, punched and inked paper tape, and coding material.
- Items associated with the manufacture of telegraphy sets including documentary and pictorial evidence.
- Evidence of links with the railway network.
- Telephone apparatus, especially early domestic telephones such as the candlestick and skeleton telephones, later domestic appliances such as the Tele 88 and trimphone telephones and up-to-date examples of telephones including mobile telephones and telephone equipment, supplied by the National Telephone Company, the Post Office, British Telecom and private suppliers.
- Public telephones other than telephone kiosks.
- Telephone switchboard ephemera and evidence of use by employees.
- Pictorial and documentary evidence of the use and manufacture of telephones, to include conversations, etiquette and so on.
- Associated ephemera, e.g. directories, phone cards, address and telephone books, and advertising material.
- Early telex and facsimile transmission equipment, related items and ephemera.
- Equipment to aid the use of telephonic equipment by hearing-impaired people.

**Computing**

Computers will be acquired in working condition, if possible, with all the necessary peripherals and consumables, and with local provenance and associated documentation.

- Equipment and associated material relevant to the development of computer technology at Manchester's universities.
- Examples dating from the late 1970s of significant volume production microcomputers and examples of consumer software to illustrate the different uses of computers in the local area, especially those with which ordinary people come into contact, provided experience of use is available. Examples required include: Apple II, Space Invaders machine, single-use games computer, multiple-use games computer such as Nintendo/Sega Megadrive, and software.
- Significant examples to act as evidence of the social/industrial/environmental impact of the use and manufacture of computing equipment by people in the

Manchester area, together with oral history, photographs, related ephemera, material produced on computers such as printouts, programs and data.
- Peripherals/consumables to enable computers already in the collection to be returned to working order, used in the Manchester area if possible, including: two paper tape readers, paper tape dispenser, hand tape spooler and chair for Ferranti Pegasus; Sinclair QL printer; magnetic tape deck for DEC PDP-8; Positron printer and Noral 5DT 816 emulator.
- Evidence associated with the commercial production of computers, software and related industries in the Manchester area, including locally-made computers and software and evidence of working conditions, such as a computer assembly bench with soldering iron, oral history relating to production and copies of emulations/simulations to enable downloading and use of software.
- Evidence of related technologies, including: a typewriter from a typical user; micro-processor controlled equipment used by consumers such as a cash dispenser; telecommunications and a Kurzweil reading machine for visually-impaired people.

**Manchester Science**
- Material relating to scientific research projects featured in the Manchester Science Today and Tomorrow display. This material could include oral/video histories, documents, photographs of laboratories and other workspaces, ephemera, consumable laboratory supplies, protective clothing and smaller items of equipment (given that major pieces of equipment would only be available at the end of their working lives).

**Power Hall**

<u>Hydraulic Power</u>
- Material which illustrates social context, construction and impact, e.g. meters and ancillary equipment
- Material which provides physical evidence of changing technology and its impact on consumers.
- Contemporary images of the use of hydraulic power systems still in operation around the city.
- Material relating to the further uses of hydraulic power in Greater Manchester and the North West.

<u>Stationary Engines</u>
- Material which illustrates social context, construction and impact.
- Material which supports formal and informal education provision.

**Textiles Gallery**
- Items to fill gaps in displays currently or until recently served by loans, e.g. evidence of late eighteenth to early nineteenth century banking in Manchester and of merchants' activities in the same period.
- Printed cotton gown (1790s – 1830s) to show how the demands of fashion played a part in the expansion of the cotton industry.
- Material relating to mail order (as an important retail activity in Manchester) and the experiences of workers, including the use of specialist equipment.
- Material relating to the making-up of clothing and bedclothes in Manchester.

- Material relating to textile printing (as an important economic activity in the North West from the late eighteenth century onwards).
- Material relating to digital printing for textiles, e.g. contextual information to accompany acquisition of Commonwealth Games costumes made from textiles which were printed locally in this way.
- Trademark stamp-making equipment.
- Objects and contextual information relating to more recent spinning and weaving technologies, e.g.:
  - experiments in new spinning techniques at Bolton Institute/Shiloh Mill (including products and promotional literature);
  - new developments in loom technology which are in use in the North West;
  - the manufacture of synthetic yarns (including products, promotional literature, evidence of consumption & use);
  - rubber manufacture in Manchester (including products, promotional literature, evidence of consumption & use);
  - material relating to the activities of a multinational textile firm which may only have one facet of its production based in Manchester.

## 2 Increasing public access and supporting learning provision

Collecting will be directed to serve the specific needs of programmes that serve educational needs or promote public access. For example, the development of a set of handling boxes for use both on-site and off-site may require the acquisition of modern equivalents of old equipment in order to facilitate investigation of changes in materials, design and other considerations.

## 3 Reflecting the history of Manchester and the cultural diversity of its people

### Local History

- Material that represents the home lives and community and leisure activities of Manchester people, particularly those living in currently or formerly industrialised districts and other under-represented parts of Manchester.
- Material that reflects the cultural interests of the different communities within Manchester, such as objects relating to links between Manchester's trade and industries and the history of the international slave trade.
- Material which illustrates retailing activity relating to the production industries and artefact collections covered by the current collections.
- Material relating to events which have affected large numbers of people within the Manchester region, where possible linked to Manchester industries or people, such as the post-IRA bomb redevelopment of Manchester city centre, the Manchester 2002 Commonwealth, communal watching of sport on city-centre TV screens and community festivals.
- Material relating to individuals, to places and to communities which are currently under-represented in the collections such as:
  - districts within East and North Manchester;

- ➢ individuals who have influenced life in the city in the last 50 years.
- Material relating to the home lives, and community and leisure activities of Manchester people, in particular from those parts of Manchester which are, or have previously been, heavily industrialised (e.g. East Manchester, Ancoats, Chorlton-on-Medlock).
- Material which reflects the cultural interests of the different communities within Manchester, such as links between Manchester's trade and industries and the history of the international slave trade.
- Material which illustrates retailing activity (selling and shopping) relating to the production industries and artefact collections covered by the current collections
- Oral histories that will increase coverage of the experiences of culturally diverse communities and younger people. Themes to seek to cover include: migration to and within the city; the social and working experiences of people involved in industries covered by the collections; the experiences of consumers of Manchester-made products.

## 4 Developing the breadth, depth and significance of the collections

### Calculating and Computing

- Material relating to Ferranti Ltd and ICL/Fujitsu.
- Evidence of related technologies including a cash register.
- Locally used punched card equipment from a financial environment such as an accounting office or bank: including sorters, tabulators and punches by BTM/Powers Samas.
- Examples of electric and electronic calculators with local provenance to replace examples in the collections without such provenance.
- Contemporary examples of calculating equipment.
- Calculators for use by visually impaired people, e.g. with raised numbers or braille.
- Evidence of how people used calculators and for what purposes, such as oral history, related items and ephemera, and material produced on calculators.

### Chemical Industry

- Synthetic dyestuffs, initially produced for the textile industry and now with wider applications such as plastics and paper.
- Pharmaceuticals produced locally since the Second World War.
- Material relating to the local manufacture of soap and cosmetics.
- Material relating to sources of raw materials and the effects of consumption (to be limited to collecting small items for display use only).
- Material relating to the social impact of the industry (e.g. drug dependency and growth of interest in alternative medicine).
- Material relating to its social and environmental impact (e.g. the use of greenfield sites for large plants, animal testing, pollution, the use of finite resources as raw materials, re-cycling of oil and plastics).
- Material relating to the involvement of ethnic minority groups in the industry.

- Material relating to the operations of large, small and medium-sized enterprises involved in batch production, the supply of intermediates and end products.
- Material relating to health and safety issues.
- Material relating to sterile production (e.g. dyed material, models, mixing vat).
- Material illustrating local companies' exports and involvement in foreign markets, such as South East Asia and Eastern Europe.

**Coal Mining**

- Material to provide physical evidence of changing extractive technologies.
- Material relating to the later NCB/British Coal and privatisation period.
- Material relating to domestic consumers, including consumers with specific cultural or physical needs.
- Material relating workers in the coal industry and their trade unions and social organisations.
- Material relating to manufacturing and retail companies, professional associations, consumer associations and government bodies.

**Creative Industries**

- Material relating to the writing, production and performance of theatre, variety and comedy where this illustrates the leisure experiences of Manchester people and provides context for creative activity reliant on electronic equipment or media.
- Material relating to the production and promotion of recorded music in Manchester by, for example, records labels (such as Twisted Nerve, Grand Central), promoters (such as In The City), poster/graphic designers (such as Bill Green, Rick Myers and the Central Station team) and film-makers such as Matthew Norman.
- Material relating to the promotion and performance of live music in the city of Manchester, (including the limited collection of musical instruments of local and regional significance).

**Electricity Generation and Supply**

- Oral history interviews with consumers to represent the shift in consumer choice in electricity service provision.

**Food and Drink Industry**

- Machinery and equipment representing the production methods and products of major food-processing industries in Greater Manchester (e.g. brewing, dairies, biscuit manufacture, tea processing, flour production, soft drinks).
- Material representing the social context, shaping and impact of changes in the technology of food processing and preservation.
- Material relating to the origins of foodstuffs processed and consumed in Greater Manchester, particularly in relation to the countries of origin of ethnic groups now resident locally.
- Material relating to the destinations of foodstuffs processed in and distributed from Greater Manchester.
- Material representing changing patterns of consumption, particularly in relation to health issues and socio- economic status.

- Material representing the marketing and retailing of food products, such as examples of advertisements and packaging.
- Material representing the environmental context and impact of food production and distribution.

**Gas Production and Supply**
- Oral history interviews with consumers to represent the shift in consumer choice in gas service provision.

**Household Appliances**
- Appliances from the pre-1880 and post-1930 periods which illustrate social context, construction and impact.
- Material providing physical evidence of changing appliance design and technology and the impact on consumers, particularly in relation to special needs (cultural or physical).
- Recent or contemporary examples of types of appliances that are absent from the collection and where earlier examples may be difficult to acquire, including small appliances (e.g. electric toothbrush, electric can-opener).
- Material illustrating the environmental context and impact of appliance manufacture and use (e.g. energy-saving appliances).

**Machine Tools**
- Material relating to Manchester engineers such as Whitworth, Nasmyth, Roberts and Fairbairn and companies (e.g. trade catalogues).
- Material relating to the development and use of numerically controlled machine tools
- Whitworth products not already represented in the collections.
- Whitworth product catalogues or other archival material.
- Objects relating to new machining/shaping techniques linked to product development, especially rapid-prototyping.
- Material relating to other manufacturing techniques, such as injection-moulding and foundry work.

**Measuring and Observing Instruments**
- Unrepresented examples of the range of instruments made by Manchester manufacturers for domestic, educational, industrial and laboratory use.
- Material associated with the production of scientific instruments in Manchester.

**Optician's Equipment and Eyeglasses**
- Material associated with Manchester opticians/scientific instrument makers and used in surgery or hospitals.
- Material associated with eyesight examination and the manufacture and fitting of eyeglasses in Manchester.
- Examples of eyeglasses made and prescribed by Manchester opticians, including National Health spectacles.
- Optical aids used by local visually impaired people, e.g. hand lenses.

**Papermaking**

- Material relating to local papermaking, particularly manufacture of products which include recycled paper pulp.

**Photographic Equipment**

- Cameras and projectors made by unrepresented Manchester makers between 1840 and 1940 with information on use and photographs made/used with them where available.
- Examples of unrepresented, significant production cameras and projectors made elsewhere, but used in the Manchester area by amateur photographers, showing the important developments to the present day, with information on use and photographs made/used with them where available.
- Microphotographs made by J. B. Dancer unrepresented in either the microphotograph or negative collections.
- Unrepresented, locally-used examples of cameras and projectors made for amateur use, showing the significant advances to the present day, with information on use and film made/used on them where available.
- Material relating to the processing of film by chemists and photo processing laboratories, from the consumer's perspective.
- Material associated with the production of photographic equipment in Manchester including documentary, oral and pictorial evidence.
- Manufacturers' information for users, illustrations showing the use of equipment, oral history recording the use of equipment.

**Printing**

- Material relating to Linotype & Machinery Ltd.
- Material focusing on technological developments in letterpress printing and in typesetting
- Models and images to illustrate the constant growth in the scale of newspaper printing after 1814, especially material related to the types of presses used at the Guardian and other locally published papers
- Objects to illustrate developments in typesetting that followed tele-typesetting, film and photographic setting
- A small modern lithographic press and contextual material to illustrate the way in which lithographic printing has entirely overtaken letterpress printing to meet almost all modern printing needs.
- Material relating to printing press manufacturer T. C Thompson & Co.
- Products (magazines, books and ephemeral material) printed on Miehle and Wharfedale presses, together with oral history recording of local workers.
- Material relating to current newspaper distribution and selling.

**Radio and Television**

- Examples of early equipment, e.g. coherers and televisors.
- Models of radio and television sets that have good provenance of use (for example, in relation to the factors influencing choice of particular models, their reliability and durability), or illustrate environmental context and impact (for example, through the use of recycled materials and reduction in power consumption).

- Peripheral apparatus such as accumulators and junction boxes for radio headphones.
- Material associated with major companies not currently represented in the collection, e.g. Sony, Panasonic, JVC, Bang & Olufsen.

**Rail Transport**
- Material relating to Liverpool Road Station and Liverpool & Manchester Railway
- Material relating to Beyer, Peacock & Co. Ltd.

**Renewable Energies**
- Material relating to solar, wind and water power, especially in the post-1980 period (e.g. wind-powered turbine blade).

**Road Transport**
- Material relating to Manchester car, motorcycle and bicycle manufacturers and component makers (e.g. Crossley Motors, Cockshoot and DOT).
- Manchester-assembled Model T Ford car. (Henry Ford brought mass-produced cars to Britain, opening his first factory outside America at Trafford Park in 1911. Between 1912 and 1923, the Model T Ford was Britain's best-selling car.)

**Scientific Research**
- Material relating to scientists employed by universities and other academic institutions in Greater Manchester, including material held in the 'orphan collections' of scientific departments within the University of Manchester.
- Material relating to scientists employed by commercial laboratories and other relevant companies in Greater Manchester.
- Oral and video histories documenting contemporary science, particularly where the nature of the laboratories means that it would be difficult to collect the actual laboratory equipment because of its scale or financial value.

**Stationary Engines**
- Material relating to Manchester makers (e.g. Crossley Brothers & Engines).

**Telegraphy and Telephony**
- Material relating to local interest societies.
- Examples of equipment, e.g. pipework and cylinders.
- Experimental sets.

**Textiles**
- Material relating to textile design and dyeing developments, particularly in relation to cotton (e.g. textile sample books, dye recipe books).

## APPENDIX V: BODIES WITH RELEVANT COLLECTING INTERESTS

Amberley Museum, near Arundel

Anson Engine Museum, Poynton

Astley Green Colliery Museum, near Wigan

Bolton Archive and Local Studies Service

Bolton Museum and Art Gallery

Boat Museum, Ellesmere Port

Brooklands Museum, Weybridge

Bury Archive Service

Bury Art Gallery and Museum

Catalyst Museum, Widnes

Centre for Alternative Technology, Machynlleth

Cheshire County Record Office

Chetham's Library, Manchester

Coventry Transport Museum

Derbyshire Record Office

Fleet Air Arm Museum, Yeovilton

Gallery of Costume, Manchester

Gallery Oldham

Greater Manchester County Record Office

Greater Manchester Fire Service Museum, Rochdale

Greater Manchester Police Museum

Imperial War Museum, Trafford, London and Duxford

John Rylands University Library of Manchester

Knowsley Museum Service, Prescot

Lancashire County Record Office

Lancashire County Museums Service

Lion Salt Works Trust, Northwich

Liverpool City Record Office

Manchester City Archives Department

Manchester City Galleries

Manchester Jewish Museum

Manchester Museum

Manchester Transport Museum

Manchester University Medical School Museum

Museum of Transport, Manchester

National Archives, Kew

National Archive for the History of Computing, University of Manchester

National Coal Mining Museum for England

National Gas Archive, Warrington

National Motor Museum, Beaulieu

National Museum of Science and Industry, including:

- Science Museum, London
- National Museum of Photography, Film and Television, Bradford
- National Railway Museum, York

National Museums Liverpool

National Waterways Museum, Gloucester

North West Film Archive, Manchester

North West Sound Archive, Clitheroe

Oldham Archives Service

People's History Museum, Manchester

Quarry Bank Mill, Styal

Rochdale Library Service

Rochdale Museum Service

Rossendale Museum

Rolls-Royce Heritage Trust, Bristol, Coventry and Derby

Royal Air Force Museum, Cosford and Hendon

Saddleworth Museum

Salford City Archives Service

Salford Museum and Art Gallery

Salt Museum, Northwich

Silk Museum, Macclesfield

Southampton Hall of Aviation

Museum of Electricity, Christchurch, Dorset

Stockport Archives Service

Stockport Heritage Services

Tameside Archives Service

Tameside Museums & Galleries Service

Trafford Local Studies Library

The Trevithick Trust, Camborne

Victoria and Albert Museum, London

Warrington Museum and Art Gallery

West Yorkshire Record Office

Whipple Museum for the History of Science, Cambridge

Whitworth Art Gallery

Wigan Pier Heritage Centre

Wigan Record Office