

The history of museums

Geoffrey Lewis¹
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A history of the institutions that preserve and interpret the material evidence of the human race, human activity, and the natural world. As such, museums have a long history, springing from what may be an innate human desire to collect and interpret and having discernible origins in large collections built up by individuals and groups before the modern era. This article traces the history of museums, first by noting the etymology of the word museum and its derivatives, next by describing the private collecting conducted in ancient and medieval times, and finally by reviewing the development of modern public museums from the Renaissance to the present day.

1 Etymology

From mouseion to museum

The word museum has classical origins. In its Greek form, mouseion, it meant "seat of the Muses" and designated a philosophical institution or a place of contemplation. Use of the Latin derivation, museum, appears to have been restricted in Roman times mainly to places of philosophical discussion. Thus the great Museum at Alexandria, founded by Ptolemy I Soter early in the 3rd century BC, with its college of scholars and its library, was more a prototype university than an institution to preserve and interpret material aspects of the heritage. The word museum was revived in 15th-century Europe to describe the collection of Lorenzo de' Medici in Florence, but the term conveyed the concept of comprehensiveness rather than denoting a building. By the 17th century museum was being used in Europe to describe collections of curiosities. Ole Worm's collection in Copenhagen was so called, and



Ole Worm (1588-1654) and his cabinet.

¹ Lewis' text is slightly adapted. The pictures are added.

in England visitors to John Tradescant's collection in Lambeth (now a London borough) called the array there a museum; the catalogue of this collection, published in 1656, was titled *Musaeum Tradescantianum*. In 1677 the collection, having become the property of Elias Ashmole, was transferred to the University of Oxford. A building was constructed to receive it, and this, soon after being opened to the public in 1683, became known as the Ashmolean Museum. Although there is some ambivalence in the use of museum in the legislation, drafted in 1753, founding the British Museum, nevertheless the idea of an institution called a museum and established to preserve and display a collection to the public was well established in the 18th century. Indeed, Denis Diderot outlined a detailed scheme for a national museum for France in the ninth volume of his *Encyclopédie*, published in 1765.

Use of the word museum during the 19th and most of the 20th century denoted a building housing cultural material to which the public had access. Later, as museums continued to respond to the societies that created them, the emphasis on the building itself became less dominant. Open-air museums, comprising a series of buildings preserved as objects, and ecomuseums, involving the interpretation of all aspects of an outdoor environment, provide examples of this. In addition, so-called virtual museums exist in electronic form on the Internet. Although virtual museums provide interesting opportunities for and bring certain benefits to existing museums, they remain dependent upon the collection, preservation, and interpretation of material things by the real museum.

Museology and museography

Along with the identification of a clear role for museums in society, there gradually developed a body of theory the study of which is known as museology. For many reasons, the development of this theory was not rapid. Museum personnel were nearly always experienced and trained in a discipline related to a particular collection, and therefore they had little understanding of the museum as a whole, its operation, and its role in society. As a result, the practical aspects of museum work - for example, conservation and display - were achieved through borrowing from other disciplines and other techniques, whether or not they particularly met the requirements of the museum and its public.

Thus not only was the development of theory slow, but the theory's practical applications - known as museography - fell far short of expectations. Museums suffered from a conflict of purpose, with a resulting lack of clear identity. Further, the apprenticeship method of training for museum work gave little opportunity for the introduction of new ideas. This situation prevailed until other organizations began to coordinate, develop, and promote museums. In some cases museums came to be organized partly or totally as a government service; in others, professional associations were formed, while an added impetus arose where universities and colleges took on responsibilities for museum training and research.

The words derived from museum have a respectable, if confused, history. The term museography was first used in Caspar Friedrich Neickelius' *Museographie oder Anleitung zum rechten Begriff und nutzlicher Anlegung der Museorum oder*

Raritätenkammern (Leipzig-Breslau 1727). The term museology was used first (in print) by Philipp Leopold Martin in his *Die Praxis der Naturgeschichte* (Weimar 1869). But the terms museology and museography have been used indiscriminately in the literature, and there is a tendency, particularly in English-speaking countries, to use museology or museum studies to embrace both the theory and practice of museums.

2 The precursors of museums

Evidence from antiquity

The origins of the twin concepts of preservation and interpretation, which form the basis of the museum, lie in the human propensity to acquire and inquire. Collections of objects have been found in Paleolithic burials, while evidence of inquiry into the environment, and communication of the findings, can be seen in the cave and mobiliary art of the same period. A development toward the idea of the museum certainly occurred early in the 2nd millennium BC at Larsa, in Mesopotamia, where copies of old inscriptions were made for use in the schools. But the idea also involves the interpretation of original material--criteria that seem to have been met by objects discovered by Sir Leonard Woolley in the 6th-century-BC levels of the Babylonian city of Ur. Woolley's findings indicated that the Babylonian kings Nebuchadrezzar and Nabonidus certainly collected antiquities in their day. In addition, in a room next to the unearthed temple school there was found not only a collection of antiquities but also a tablet describing 21st-century-BC inscriptions. Woolley interpreted the tablet as a museum label. This discovery seems to suggest that Ennigaldi-Nanna, Nabonidus' daughter and a priestess who ran the school, had a small educational museum there.

Classical collecting

The archaeological and historical records do not provide evidence that the museum as it is known today developed in such early times; nor does the word museum support this, despite its classical origin. Nevertheless, the collection of things that might have religious, magical, economic, aesthetic, or historical value or that simply might be curiosities was undertaken worldwide by groups as well as by individuals. In the Greek and Roman empires the votive offerings housed in temples, sometimes in specially built treasuries, are but one example: they included works of art and natural curiosities, as well as exotic items brought from far-flung parts of the empires, and they were normally open to the public, often upon payment of a small fee. Closer to the concept of a museum was the Greek pinakothekē, such as that established in the 5th century BC on the Acropolis at Athens, which housed paintings honouring the gods. Nor was there a lack of public interest in art at Rome. Indeed, art abounded in the public places of Rome, but there was no museum. The inaccessibility of the collection of more than one Roman emperor was the subject of public comment, and Agrippa, a deputy of Augustus, commented in the 1st century BC to the effect that paintings and statues should be available to the people.

Asia and Africa

In Asia veneration of the past and of its personalities also led to the collection of objects. Collecting commenced at least as early as the Shang dynasty, which ruled China from approximately the mid-16th to the mid-11th century BC, and it was well developed by the Ch'in dynasty (3rd century BC) - as attested by the tomb of the Ch'in emperor Shih huang-ti, near Sian (Xian), which was guarded by an army of terra-cotta warriors and horses. Together with other grave goods, these objects are preserved on-site in the Museum of Ch'in Figures. The palace of Shih huang-ti is recorded as having many rare and valuable objects.

Successive Chinese emperors continued to promote the arts, manifest in fine works of painting, calligraphy, metalwork, jade, glass, and pottery. For example, the Han emperor Wu-ti (reigned 141/140-87/86 BC) established an academy that contained paintings and calligraphies from each of the Chinese provinces, and the last Han emperor, Hsien-ti (abdicated AD 220), established a gallery containing portraits of his ministers.

In Japan the Todai Temple, housing a colossal seated bronze statue of the Great Buddha (Daibutsu), was built in the 8th century at Nara. The temple's treasures still can be seen in the Shoso-in repository there.

At about the same time, Islamic communities were making collections of relics at the tombs of early Muslim martyrs. The idea of waqf, formalized by Muhammad himself, whereby property was given for the public good and for religious purposes, also resulted in the formation of collections. In tropical Africa the collection of objects also has a long history, as instanced in wayside shrines and certain religious ceremonies. Similar collections were made in many other parts of the world.

Medieval Europe

In medieval Europe collections were mainly the prerogative of princely houses and the church. Indeed, there was often a close link between the two, as in the case of the fine treasures of the emperor Charlemagne, which were divided among a number of religious houses early in the 9th century. Such treasures had economic importance and were used to finance wars and other state expenses. Other collections took the form of alleged relics of Christendom, in which there was a considerable trade. At this time Europe's maritime links with the rest of the world were largely through the northern Mediterranean ports of Lombardy and Tuscany, which, together with the ecclesiastical significance of Rome, brought considerable contact between the Italian peninsula and the Continent. There is evidence of the movement of antiquities, and of a developing trade in them, from the 12th century. Henry of Blois, bishop of Winchester, is reported to have bought ancient statues during a visit to Rome in 1151 and to have dispatched them to England, a journey of about one month's duration.

The movement of antiquities was not confined to those of Italy. Exotic material from other areas entering Italian ports soon found its way into royal collections, while the Venetian involvement in the Fourth Crusade early in the 13th century resulted in the

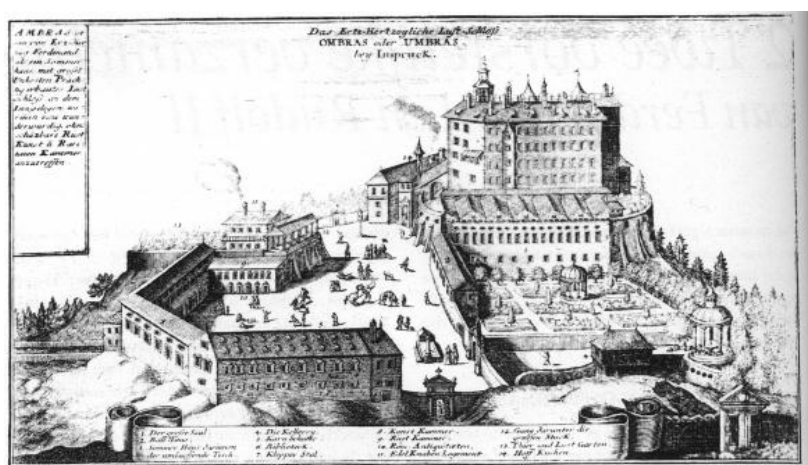
transfer of the famous bronze horses from Constantinople to the San Marco Basilica in Venice.

Renaissance Italy

The influences that led to the European Renaissance were already at work in Italy, and as a result the first great collections began to form. A reawakening of interest in Italy's classical heritage and the rise of new merchant and banking families at this northern Mediterranean gateway to the Continent produced impressive collections of antiquities, as well as considerable patronage of the arts. Outstanding among the collections was that formed by Cosimo de' Medici in Florence in the 15th century. The collection was developed by his descendants until it was bequeathed to the state in 1743, to be accessible "to the people of Tuscany and to all nations." In order to display some of the Medici paintings, the upper floor of the Uffizi Palace (designed to hold offices, or *uffizi*) was converted and opened to the public in 1582. Indeed, many of the palaces holding such collections were open to visitors and were listed in the tourist guides of the period.

Royal collections

Elsewhere in Europe, royal collections were developed. King Matthias I of Hungary maintained his paintings at Buda and kept Roman antiquities at Szombathely Castle during the 15th century. Maximilian I of Austria acquired a collection for his castle in Vienna. Samples of both scientific material and art were featured in the "green vaults" of the Dresden palace of Augustus of Saxony, while the archduke Ferdinand of Tirol housed a varied collection that included Benin ivories and Chinese paintings at Ambras Castle near Innsbruck. Other notable central European collections included those of the Holy Roman emperor Rudolf II at Prague and of Albert V, duke of Bavaria, who from 1563 to 1571 had buildings designed and erected to house his collections in Munich. The collection of the Polish king Sigismund II Augustus was housed at Wawel Castle, Kraków.



Archduke Ferdinand of Tirol (1529-1595) and Schloss Ambras.

Royal patronage was crucial to the encouragement of the arts at this time. Rudolf II sponsored astrologers and alchemists as well as artists. Francis I of France invited famed French and Italian craftsmen and artists to rebuild and embellish his château at Fontainebleau, and there he kept his outstanding collection of art. In England Henry VIII gave his attention to music and thus did not form a collection of significance. He was responsible, however, for the appointment in 1533 of a King's Antiquary, whose task was to list and describe the antiquities of the country. (Similar appointments were made subsequently by the Habsburg monarchs and by King Gustav II Adolf of Sweden.) It was not until the 17th century that the first important royal collection was formed in England by Charles I, only to be much dispersed after his execution in 1649. Following the Restoration, Charles II also maintained a collection, but this was lost in a fire at Whitehall Palace in 1698. Early in the reign of Charles II, displays of arms and armour were being prepared at the Tower of London; clearly intended for the public benefit, these displays marked an important step in the development of a museum of the Royal Armouries.

Specialized personal collections

The developing interest in human as well as natural history in the 16th century led to the creation of specialized collections. In Italy alone more than 250 natural history collections are recorded in that century, including the fine herbarium of Luca Ghini at Padua and the more eclectic collection of Ulisse Aldrovandi at Bologna. Other notable natural history collections of the time elsewhere in Europe were those of Conrad Gesner, Félix Platter, and, a little later, the John Tradescants, father and son. Among the specialized historical collections were those of portraits of great men assembled by Paolo Giovio at Como, the archaeological collection of the Grimani family of Venice, and the fine collection of illuminated manuscripts gathered by Sir Robert Cotton in England. A number of the latter had been acquired from monasteries closed during the Reformation. In due time these various collections found their way into museums. So did the collections of Ferrante Imperato of Naples, Bernardus Paludanus (Berent ten Broecke) of Enkhuizen, and Ole Worm of Copenhagen.



Cabinet Ferrante Imperato (Naples 1599)

A collection such as these was normally known as a cabinet in 16th-century England and France, while in German-speaking Europe the equivalents Kammer or Kabinett were used. Greater precision was sometimes applied, the terms *Kunstkammer* and *Rüstkammer*, for example, referring respectively to a collection of art and a collection of historical objects or armour. Natural specimens were to be found in a *Wunderkammer* or *Naturalienkabinett*. In England the term gallery, borrowed from Italian *galleria*, referred to a place where paintings and sculpture were exhibited. One Italian collection of natural specimens was called a *museo naturale*.

In 1565 Samuel von Quiccheberg published a work on the nature of collections, advocating that they represent a systematic classification of all materials in the universe. His view reflects a spirit of system and rational inquiry that had begun to emerge in Europe. Collections of natural and artificial objects were to play an important part in this movement. This can be seen in antiquarian studies, in the work of Nicolas-Claude Fabri de Peiresc at Aix-en-Provence in France early in the 17th century, for example, or in the classification of the plant and animal kingdoms by Carolus Linnaeus a century later. For the less-specialized collector, works such as *Museographia*, by Casper F. Neickelius, published at Leipzig in 1727, were generally available to aid in classification, care of a collection, and the identification of potential sources from which collections might be developed.

Collections of learned societies

Another product of the age was the learned society, many of which were established to promote corporate discussion, experimentation, and collecting. Some commenced as early as the 16th century. Better-known societies, however, date from later years; examples are the Royal Society in London (1660) and the Academy of Sciences in Paris (1666). By the turn of the century, organizations covering other subject areas were being established, among them the Society of Antiquaries of London (1707), and learned societies were also appearing in provincial towns. This was the beginning of a movement that, through the collections formed and the promotion of their subjects, contributed much to the formation of museums in the modern meaning of the term. A history of modern museums begins in the next section.

3 Toward the modern museum

From private collection to public exhibition

In the previous section it is explained that the modern museum can trace some of its origins to private collections maintained by prominent individuals during the Renaissance. Many of these Renaissance collections were symbols of social prestige and served as an important element in the traditions of the nobility and the ruling families, but over time a developing spirit of inquiry brought to collecting a different meaning and purpose as well as a much wider group of practitioners. These new collectors, concerned with enjoyment and study and the advancement of knowledge, while equally concerned with the continuity of their collections, had no such guarantee of succession. If this guarantee could not be found in the family unit, then the route of succession had to be found elsewhere, and the corporate unit provided greater

security. Furthermore, if knowledge were to have lasting significance, it had to be transmitted in the public domain. It is the transferral of collections from the private to the public domain that is the subject of this section.

Public collections

The earliest recorded instance of a public body receiving a private collection occurs in the 16th century with the bequests of the brothers Domenico Cardinal Grimani and Antonio Grimani to the Venetian republic in 1523, to be supplemented in 1583 with a further bequest from the family. The motivation seems to have been both to promote scholarship and to grace the seat of government. At the time of the Reformation in Switzerland, material was transferred from ecclesiastical establishments to the authorities of Zürich and other municipalities, eventually forming important components of their museums. The city of Basel, concerned that the fine cabinet of Basilius Amerbach might be exported, purchased it in 1662 and nine years later arranged for its display in the university library. In 1694 the head abbot of Saint-Vincent-de-Besançon in France bequeathed his collection of paintings and medallions to the abbey to form a public collection. To some extent the emerging learned societies also were becoming repositories for such collections, in addition to developing their own. In the case of Ole Worm's collection, as in other cases, lack of interest among the owner's family after his death resulted in the transfer of the collection in 1655 to the royal cabinet in Copenhagen.

The first public museums

The Ashmolean

The first corporate body to receive a private collection, erect a building to house it, and make it publicly available was the University of Oxford. The gift was from Elias Ashmole; containing much of the Tradescant collection, it was made on the condition that a place be built to receive it. The resulting building, which eventually became known as the Ashmolean Museum, opened in 1683. (The Ashmolean later moved to another new building nearby, and its original building is now occupied by the Museum of the History of Science.)



Elias Ashmole (1617-1692) and the Ashmolean Museum, Oxford

The British Museum

The 18th century saw the flowering of the Enlightenment and the encyclopaedic spirit, as well as a growing taste for the exotic. These influences, encouraged by increasing world exploration, by trade centred on northwestern Europe, and by developing industrialization, are evident in the opening of two of Europe's outstanding museums, the British Museum, in London, in 1759 and the Louvre, in Paris, in 1793. The British Museum was formed as the result of the government's acceptance of responsibility to preserve and maintain three collections "not only for the inspection and entertainment of the learned and the curious, but for the general use and benefit of the public." These were housed at Montagu House, in Bloomsbury, specially purchased for this purpose. The collections had been made by Sir Robert Cotton, Robert Harley, 1st earl of Oxford, and Sir Hans Sloane. The Cotton and Harley collections were composed mainly of manuscripts. The Sloane collection, however, included his specimens of natural history from Jamaica and classical, ethnographic, numismatic, and art material, as well as the cabinet of William Courten, comprising some 100,000 items in all. Although public access to the British Museum was free of charge from the outset, for many years admission was by application for one of the limited number of tickets issued daily. Despite this, François de la Rochefoucauld, visiting from France in 1784, observed with approval that the museum was expressly "for the instruction and gratification of the public."

The Louvre

It was a matter of public concern in France that the royal collections were inaccessible to the populace, and eventually a selection of paintings was exhibited at the Luxembourg Palace in 1750 by Louis XV. Continuing pressure, including Diderot's proposal of a national museum, led to arrangements for more of the royal collection to be displayed for the public in the Grande Galerie of the Louvre palace. However, when the Grande Galerie was opened to the public in 1793, it was by decree of the Revolutionary government rather than royal mandate, and it was called the Central

Museum of the Arts. There were many difficulties, and the museum was not fully accessible until 1801. The collection at the Louvre grew



Louvre, Grande Galerie in 1797

rapidly, not least because the National Convention instructed Napoleon to appropriate works of art during his European campaigns; as a result many royal and noble collections were transported to Paris to be shown at what became known as the Musée Napoléon. The return to its owners of this looted material was required by the Congress of Vienna in 1815. Nevertheless the Napoleonic episode awakened a new interest in art and provided the impetus that made a number of collections available to the public.

Museums in Rome

The extensive collections of the Vatican also saw considerable reorganization during the 18th century. The Capitoline Museum was opened to the public in 1734, and the Palazzo dei Conservatori was converted to a picture gallery in 1749. The Pio-Clementino Museum, now part of the museum complex in Vatican City, opened in 1772 to house an extensive collection of antiquities. The Neoclassical architecture of this building set a standard that was emulated in a number of European countries for half a century.

The spread of the European model

Before the end of the 18th century the phenomenon of the museum had spread to other parts of the world. In 1773 in the United States the Charleston Library Society of South Carolina announced its intention of forming a museum. Its purpose was to promote the better understanding of agriculture and herbal medicine in the area. Another early institution, the Peale Museum, was opened in 1786 in Philadelphia by the painter Charles Wilson Peale. The collections rapidly outgrew the space available

in his home and were displayed for a time at Independence Hall. After a number of vicissitudes the collections were finally dispersed in the middle of the 19th century, but not before the fine Chinese collection had formed a major exhibition in London.



Peale's Museum, Long room (1822)

European colonial influence was responsible for the appearance of museums elsewhere. In Jakarta, Indonesia, the collection of the Batavia Society of Arts and Science was begun in 1778, eventually to become the Central Museum of Indonesian Culture and finally part of the National Museum. The origins of the Indian Museum in Calcutta were similar, based on the collections of the Asiatic Society of Bengal, which commenced in 1784. In South America a number of national museums originated in the early 19th century: the Argentine Museum of Natural Sciences in Buenos Aires was founded in 1812; and Brazil's National Museum in Rio de Janeiro, which owes its origin to a selection of paintings presented by John VI, exiled king of Portugal, was opened to the public in 1818. Among others were the National Museum, Bogotá, Colombia (1824), and the national museums of natural history in Santiago, Chile (1830), and Montevideo, Uruguay (1837). In Canada the zoological collection of the Pictou Academy in Nova Scotia (founded in 1816) was probably opened to the public by 1822. In South Africa a museum based on the zoological collection of Andrew (later Sir Andrew) Smith was founded in Cape Town in 1825. It is likely that an amateur naturalist and diplomat, Alexander Macleay, was responsible for the initiatives that led to the opening in 1829 of what was to become the Australian Museum in Sydney.

New public collections in Europe

By this time a number of new collections were available to the public in Europe. Many of these resulted from royal and noble patronage, while others were created on the initiative of public authorities. The Prado Museum in Madrid dates from 1785, when Charles III commissioned the erection of a new building to serve as a museum of

natural science. Construction was interrupted by the Napoleonic Wars, and when the building opened in 1819 it instead housed an art gallery to display part of the royal collection. In Prussia Friedrich Wilhelm III had a picture gallery built in Berlin to house some of his collection, and the gallery was opened to the public in 1830. This was the beginning of a remarkable complex that developed over the next century to house various portions of the national collection on a single site, now known as the Museumsinsel. Another development in Germany was the erection of the Alte Pinakothek (1836) at Munich to display the painting collections of the dukes of Wittelsbach. This building was designed to exacting standards by Leo von Klenze, who was also responsible for the New Hermitage, one of the five buildings of the Hermitage museum in St. Petersburg, where in 1852 Nicholas I made available to the public the major collection of the Russian tsars. The Royal Museums in Brussels originated by royal warrant in 1835 in the interests of historical study and the arts. In the Netherlands a national art gallery was opened at the Huis ten Bosch in 1800; it was later moved to Amsterdam and eventually became the Rijksmuseum. The National Gallery in London, founded on the personal collection of the merchant and philanthropist John Julius Angerstein, opened initially at Angerstein's house in 1824. In 1838 it moved to purpose-built premises on Trafalgar Square.

4 The establishment of museums

By the early 19th century the granting of public access to formerly private collections had become more common. What followed for approximately the next 100 years was the founding, by regional and national authorities throughout the world, of museums expressly intended for the public good.

Museums and national identity

Central Europe

Contributing to the establishment of museums in the early 19th century was a developing national consciousness, particularly among the peoples of central Europe. In 1807 the National Assembly of Hungary founded a national museum at Pest from collections given to the nation five years earlier by Count Ferenc Széchenyi. In Prague the natural history collections of the counts of Sternberg and other noble families were formed into a museum and opened in 1823 with the intention of promoting national identity. The Moravian Museum in Brno opened in 1817, and others followed at Zagreb and Ljubljana in 1821. At the centre of the Austro-Hungarian Empire, in Vienna, the imperial collections acted as the national museum; regional museums were formed at Graz, Innsbruck, and Salzburg during the period 1811-34. In Nürnberg the Germanic National Museum was directed by a proponent of a unified Germany, Hans von Aufsess, and by mid-century most of the German states had a museum. Farther north, in Poland, a national museum, although conceived in 1775, was not established until 1862, but Princess Izabella Czartoryska maintained a museum in the castle park at Pulawy, near Warsaw, for eight years at the beginning of the 19th century, and two private collections were opened to the public at about the same time in Wilanów and Warsaw.

Museums of antiquities

Increasing interest in antiquities led to the excavation of local archaeological sites and had an impact on museum development. In the years 1806-26, in Russian lands to the north of the Black Sea, four archaeological museums were opened, at Feodosiya, Kerch, Nikolayev, and Odessa (all now located in Ukraine). The Museum of Northern Antiquities was opened in Copenhagen in 1819 (it was there that its first director, Christian Jürgensen Thomsen, developed the three-part system of classifying prehistory into the Stone, Bronze, and Iron ages). This museum was merged with three others (of ethnography, antiquities, and numismatics) in 1892 to form the National Museum of Denmark. In France the Museum of National Antiquities opened at Saint-Germain-en-Laye late in the 18th century. It still acts as a national archaeological repository, as does the State Historical Museum in Stockholm, which houses material recovered as early as the 17th century. The national archaeological museum in Greece was started at Aegina in 1829. Certain European countries, however -the United Kingdom and Germany, for example - do not have well-developed national collections of antiquities, and as a result regional museums in those countries are the richer.

Influence of industry and science

In Britain, social reforms to overcome problems resulting from industrialization contributed to the development of municipal museums. The support of museums by local authorities was seen as a means of providing both instruction and entertainment to the increasingly urbanized population and became the subject of special legislation in 1845. Museums were also viewed as a vehicle for promoting industrial design and scientific and technical achievement. Such promotion was the motivation behind the precursor of the Victoria and Albert Museum (for decorative arts) and the Science Museum, both in South Kensington, London; the founding collections were acquired from the Great Exhibition of 1851 - the first of the world's fairs. International exhibitions have contributed significantly to the formation of a number of museums since then, including the Technical Museum of Industry and Trade in Vienna and the Palace of Discovery in Paris.

The United States

The Smithsonian Institution, in Washington, D.C., came into existence through the remarkable bequest of nearly one-half million dollars from James Smithson, an Englishman. He wished to see established in the United States an institution "for the increase and diffusion of knowledge among men." In 1846 the U.S. Congress accepted his bequest and passed legislation establishing the Smithsonian as an institution charged with representing "all objects of art and curious research . . . natural history, plants, [and] geological and mineralogical specimens" belonging to the United States. The U.S. National Museum opened in 1858 as part of the Smithsonian's scientific program and formed the first of its many museums, most of which stand along the Mall in Washington, D.C.

The first of the historic house museums to be developed by a local society (a type characteristic of the United States) was Hasbrouck House, at Newburgh, N.Y., which

had served as the final headquarters of George Washington in the Revolutionary War. The purchase of the house by the State of New York in 1850 established another precedent, whereby public authorities provide and maintain museum buildings while a body of trustees assumes responsibility for the collections and staff. Two other well-known museums, both in New York City, provide examples of this system: the American Museum of Natural History, founded in 1869, and the Metropolitan Museum of Art, opened in 1870.

Other national and regional museums

The middle of the 19th century saw the establishment of a number of other well-known museums. In Canada the collection of the National Museum commenced in 1843 in Montreal as part of the Geological Survey, while the precursor of the Royal Ontario Museum in Toronto, the Ontario Provincial Museum, was founded in 1855. In Australia the National Museum of Victoria was established at Melbourne in 1854; it was followed by the National Gallery of Victoria in 1861 and the Science Museum of Victoria in 1870. In Cairo the Egyptian Museum was established in 1858. These all followed the European model, and even in South America art collections tended to be predominately of European origin, to the neglect of indigenous works of art.

The first museum boom

Europe

It was during the second half of the 19th century that museums began to proliferate in Europe; civic pride and the free education movement were among the causes of this development. About 100 opened in Britain in the 15 years before 1887, while 50 museums were established in Germany in the five years from 1876 to 1880. This was also a period of innovation. The Liverpool Museums in England, for example, began circulating specimens to schools for educational purposes; panoramas and habitat groups were used to facilitate interpretation. As first gas lighting and then electric lighting became available, museums extended their hours into the evenings to provide service to those unable to visit during the day.

South America

The increase in the number of museums was not, however, a peculiarity of Europe or North America. In South America particularly, new museums were founded both in the capital cities and in the provinces. Some of these were provided by universities, as in the case of the Geological Museum in Lima, Peru (1891), or the Geographical and Geological Museum at São Paulo, Brazil (1895). Others were created by provincial bodies: the regional museums at Córdoba (1887) and Gualeguaychu (1898), both in Argentina, and at Ouro Preto, Brazil (1876); the Hualpen Museum, Chile (1882); or the Municipal Museum and Library at Guayaquil, Ecuador (1862). New specialist national museums also appeared in certain countries, while at Tigre, in Argentina, a maritime museum was founded in 1892. Early in the following century, memorial museums were created, including those dedicated to Bartolomé Mitre, a former

president of Argentina, in Buenos Aires (1906) and to Simón Bolívar in Caracas, Venez. (1911).

Asia

By this time the Indian Museum, in Calcutta, and the Central Museum of Indonesian Culture, Jakarta, were well-established institutions in Asia, but a number of new museums were appearing as well. In Japan a museum to encourage industry and the development of natural resources was opened in 1872; this provided the basis for the present-day Tokyo National Museum and National Science Museum. Although some learned-society museums existed in China in the late 19th century, the first museum in the strict sense of the word was the Nan-t'ung Museum in Kiangsu province, founded in 1905, to be followed within a decade by the Museum of the History of China in Peking (Beijing) and the Northern Territory Museum in Tientsin. The collections established in the Grand Palace at Bangkok in 1874 became, about 60 years later, the National Museum of Thailand. The National Museum of Ceylon (now Sri Lanka) opened to the public in 1877; the Sarawak Museum (now in Malaysia) opened in 1891; and the Peshawar Museum, in Pakistan, opened in 1906.

Africa

In central and southern Africa, museums were founded early in the 20th century. Zimbabwe's national museums at Bulawayo and Harare (then known as Salisbury) were founded in 1901, the Uganda Museum originated in 1908 from collections assembled by the British District Commissioners, and the National Museum of Kenya in Nairobi was commenced by the East Africa and Uganda Natural History Society in 1909. Mozambique's first museum, the Dr. Alvaro de Castro Museum in Maputo, was founded in 1913. Meanwhile in North Africa the Egyptian Museum in Cairo had been relocated to its new building in 1902, and certain of the collections had been transferred to form two new institutions: the Museum of Islamic Art (1903) and the Coptic Museum (1908). In South Africa there was steady museum development in a number of the provinces, for example in Grahamstown (1837), Port Elizabeth (1856), Bloemfontein (1877), Durban (1887), Pretoria (1893), and Pietermaritzburg (1903).

5 The 20th century: museums and social change

During the 20th century a number of social forces influenced the development of museums, especially of the national and regional museums whose proliferation through the 19th century is described in the previous. In the concluding section the new functions and roles brought to museums by a century of economic and political change are reviewed.

A period of reassessment

The first half of the 20th century saw the profound social consequences of two world wars, the Russian Revolution of 1917, and periods of economic recession. For museums in Europe this was a period of major reassessment. Governments, professional associations, and other organizations reviewed the role of museums in a

changing society and made a number of suggestions to improve their service to the public. In some countries new approaches were developed; in others, museums continued to reflect their diverse ancestry, and some decades were to pass before resources generally became available for the implementation of major changes.

Change was notably radical in Russia, where collections and museums were brought under state control following the Russian Revolution of 1917. Lenin's belief that culture was for the people and his efforts to preserve the country's cultural heritage led to a trebling of the number of museums in 20 years. Not only was much of the country's artistic, historic, and scientific heritage brought together in museums, but other types of museums emerged as well. Particular attention was given to amassing material related to Russia's three revolutions. The earliest museum to result from such collections opened in 1919 in the Winter Palace at Petrograd (St. Petersburg); after 1924 the Central Museum of the Revolution in Moscow became the focal point for these collections. Another type was the memorial museum housing the personal effects of well-known figures. These were often used as a means of communicating political propaganda - the Central Lenin Museum in Moscow, opened in 1936, serving this purpose.

In Germany a large number of regional museums were established after World War I to promote the history and important figures of the homeland, and they undoubtedly encouraged the nationalistic tendencies that led to the Nazi era.

In the main, however, museums were not well organized to meet changing social conditions. In Britain a diversity of providers--government at both national and local levels, universities, societies, companies, and individuals--did not encourage cohesive policymaking at a national level. In central Europe associations attempted to develop and run individual museums, but they were unable to provide the necessary resources. Outside Europe the influence of social change was less marked, and there was little evidence of museums being organized as a national force. In the United States museum development was influenced by a desire to establish a coherent past - a movement that was widely encouraged through private patronage.

In the industrialized world new types of museums appeared. Some nations made conscious attempts to preserve and display structures and customs of their more recent past. Examples, following Sweden's pioneering reerection of significant buildings, include the open-air museums at Arnhem in The Netherlands (Nederlands Openluchtmuseum, opened in 1912) and at Cardiff, Wales (the Welsh Folk Museum, opened in 1947). The preservation and restoration of buildings or entire settlements in situ also began; particularly well known is Colonial Williamsburg, founded in Virginia in 1926. A new type of science museum also emerged in which static displays of scientific instruments and equipment were replaced with demonstrations of the applications of science. London's Science Museum, founded in 1857, eventually was moved to specially built premises in 1919. Similarly the Deutsche Museum in München was transferred to new premises in 1925. Both established worldwide reputations for excellence in interpreting science and technology for the general public.

After World War II: new developments and new roles

Museums and the public

The years immediately following World War II were a period of remarkable achievement for museums. This was reflected both in international and national policy and in the individual museums as they responded to a rapidly changing, better-educated society. Museums became an educational facility, a source of leisure activity, and a medium of communication. Their strength lay in the fact that they were repositories of the "real thing," which - unlike the surrounding world of plastics, reproduced images, and a deteriorating natural and human environment - could inspire and invoke a sense of wonder, reality, stability, and even nostalgia.

In Europe particularly there was a period of postwar reconstruction. Many art treasures had been removed to places of safety during the war, and they now had to be recovered and redisplayed; buildings also had to be refurbished. In some cases museums and their collections had been destroyed; in others collections had been looted (though in some cases restitution followed). Reconstruction provided opportunities for the realization of some of the ideas that had been advanced earlier in the century. A new approach emerged in which curators in the larger museums became members of a team comprising scientists as conservators, designers to assist in exhibition work, educators to develop facilities for both students and the public, information scientists to handle the scientific data inherent in collections, and even marketing managers to promote the museum and its work. There was a perceptible shift from serving the scholar, as befits an institution holding much of the primary evidence of the material world, to providing for a lay public as well. As a result of such innovations, museums found a new popularity and attracted an increasing number of visitors. Many of the visitors were tourists, and governments, particularly in certain European countries, soon acknowledged the museums' contribution to the economy.

Statistics from the United States give an indication of the increase in the number of museums and in museum visiting. Of 8,200 museums reported for 1988, 75 percent had been founded since 1950 and 40 percent since 1970. In the 1970s nearly 350 million visits per year were made to American museums; in 1988 the recorded figure was 566 million. Elsewhere the Russian state museums alone were known to receive about 140 million visits annually, while some of the oldest established museums in Europe--such as the British Museum, the Louvre, and the Hermitage--each regularly attracted more than 3 million visits a year. Some science and technology museums were even more popular.

Despite such growth, there has remained a great disparity in museum provision. More than two-thirds of the world's museums are still located in the industrialized countries, with a ratio of one museum to fewer than 50,000 inhabitants in Europe and the United States. In India or Nigeria, on the other hand, the ratio is approximately one museum for every 1.5 million inhabitants.

Museums and the environment

Among other factors that have contributed to the development of museums since the mid-20th century is an increased awareness of the environment and the need to preserve it. Many sites of scientific significance have been preserved and interpreted, sometimes under the aegis of a national park service, and historic sites and buildings have been restored, the latter sometimes being used as museums. This has led to the development of historic and natural landscapes as museums, such as the renovation of Mystic Seaport in Connecticut as a maritime museum, the use of Ironbridge Gorge as a museum to interpret the cradle of the Industrial Revolution in England, and the restoration of the walled medieval cities at Suzdal and Vladimir in Russia. In Australia the heyday of the gold rush has been re-created in the form of the Sovereign Hill Historical Park, at the gold-mining town of Ballarat. Gorée, a small island off the Senegal coast that served as a major entrepôt for the Atlantic slave trade, has been restored as a historic site with a number of supporting museums.

A related development has been the ecomuseum, such as the Ecomuseum of the Urban Community at Le Creusot-Montceau-les-Mines in France. Here a bold experiment involves the community as a whole, rather than specialists, in interpreting the human and natural environment, thereby generating a better understanding among its inhabitants of the reasons for cultural, social, and environmental change. Some of these projects have involved the acquisition and preservation of massive artifacts, but perhaps no undertaking has been as spectacular as the recovery from the seabed of ships such as the *Vasa*, the Sung-dynasty ship from Ch'üan-chou, the *Mary Rose*, or the Hanseatic cog from Bremerhaven; all these vessels are now preserved in museums in Sweden, China, England, and Germany, respectively.

Museums and public finance

Contemporary museum development has been much influenced by changing policies in public sector finance. In many countries the contribution of public funds to museums has remained static or has fallen, so that museums' governing bodies and directors have had to seek funding from alternative sources. This not only has affected the way museums are organized but also has accentuated the need for marketing and fund-raising expertise. Thus, with Russian state museums having acquired greater budgetary autonomy since the collapse of the Soviet Union, the Hermitage in St. Petersburg has drawn on international expertise and financing to conduct major renewal work. In the United Kingdom the National Museum of Arms and Armour raised substantial funding from the private sector to build its new Royal Armouries Museum in Leeds; in addition it established a public company to operate the museum after it opened in 1996.

Another reflection of the changed financial situation has been the introduction of admission charges. In 1984 none of the British national museums charged an entry fee, but 10 years later almost half were doing so. The number of American museums charging fees for admission increased over a similar period from 32 percent to 55 percent.

New museums and collections

Despite constraints in public funding, governments have not been inactive. In 1982, for instance, Australia opened its National Gallery of Art in Canberra. Also in Australia the National Gallery of Victoria has been developed as part of Melbourne's arts complex, while Sydney's Powerhouse Museum (1988), provides a major attraction in that city. In Paris the Pompidou Centre (1977) combines a gallery of modern art and special exhibition galleries with other cultural activities, while the "Grand Louvre" project has included the opening of the pyramid (1989) and the renovation of the Richelieu, Denon, and Sully wings - all considerably enlarging the capacity of the Louvre. The Museum of London, amalgamating the collections of two previous museums, was opened in 1976 to tell the story of the capital and its immediate environs. In 1964 the National Museum of Anthropology, just one of a fine complex of museums in Mexico City, opened a magnificent new building to display the country's archaeological richness. Additions to the Smithsonian's museums in Washington, D.C., have included the National Air and Space Museum (1976) and the Hirshhorn Museum and Sculpture Garden (1974). A spectacular development from an architectural point of view is the Canadian Museum of Civilization at Hull, Quebec, which opened in 1989. Other new museum buildings have included the Vasa Museum in Stockholm (1990), the Olympic Museum in Lausanne, Switzerland (1993), and the Holocaust Memorial Museum in Washington, D.C. (1993).

Many buildings of historical significance have been adapted to house museums. Among these is the Musée d'Orsay, formerly a major railroad station in Paris, which was reopened in 1986 as a national museum of the 19th century, and the Tate Gallery of the North at Liverpool (1988), an art museum housed in a warehouse in the Albert Dock, by the River Mersey.

Nor have developments been restricted to the industrialized countries. A desire to preserve their local history has led many Caribbean islands to establish small museums. Several African states also have given high priority to the provision of museums. Museums have been established in the principal cities of Nigeria by its National Museums and Monuments Commission to assist in developing cultural identity and promoting national unity. The Jos Museum, one of the earliest of these, also administers a museum of traditional buildings, while others have developed workshops where traditional crafts can be demonstrated. Crafts are also a feature of the National Museum in Niamey, Niger, and products of these workshops are exported to Europe and North America.