

[M. C. Lourenço, 2005. *Between two worlds: the distinct nature and contemporary significance of university museums and collections in Europe*. PhD dissertation, Conservatoire National des Arts et Métiers, Paris]

## Appendix A8: Historical synopsis of university collections and museums, with reference to precursors and significant events<sup>193</sup>

### Early 'teaching collections':

- c. 3000 BC: Introduction of the concept of State archives by the Sumerians (Lewis 1984).
- c. 2800 BC: *Hortus medicus* of Emperor Shen Nung of China. The *Sheng Nung Peng Tsao* is considered the earliest *materia medica*.
- 2<sup>nd</sup> millennium BC: Teaching 'collections' of the Larsa Schools, Mesopotamia (Woolley & Moorey 1982, Lewis 1984, Boylan 1999).
- c. 1500 BC: Garden of the King of Thebes, Egypt (Foster 1999).
- 1500s BC: Garden of King Thutmose III (reigned 1520-1504 BC), Temple of Amun, Karnak, Egypt; planted by Nekht (Foster 1999).
- 1400s BC (dated 1460 BC by Foster 1999): Menagerie of Queen Hatshepsut (reigned c. 1473-1458 BC), Thebes, Egypt, included monkeys, leopards, wild cattle, giraffe, and birds (Alexander 1979: 110).
- 9<sup>th</sup> century BC: Ashurnasirpal II of Assyria collected plants and seeds from abroad for home growing (Foster 1999).
- 700 BC: The beginning of animal menageries in Greece.
- 530 BC: Sumerian 'school museum', with historic artefacts and a 'museum label' in clay dating from 2000 BC, in Ur, Mesopotamia. The school was established by En-nigaldi-Nanna, daughter of Nabonidus, the last king of Babylon (Woolley & Moorey 1982, Lewis 1984, Boylan 1999).
- 4<sup>th</sup> century BC: Botanical Garden of Aristotle's *Lyceum* in Athens. The *Lyceum* also had a Menagerie, provided by Aristotle's former pupil Alexander the Great (Whitehead 1970).
- 4<sup>th</sup> century BC: Botanical Garden and Menagerie of the *Museion*, Alexandria, Egypt. The *Museion* was founded by Ptolomy Sotor, c. 290 BC (Lewis 1984, Boylan 1999), but according to Whitehead (1970) it was created by Ptolomy Philadelphus. There were also paintings, sculptures and casts for the instruction of artists (Boylan 1999).
- Hellenic and Roman periods: Academies "devoted to particular philosophical traditions would have had significant portrait collections, presumably on public display" (Boylan 1999).

---

<sup>193</sup> This listing does not pretend to be exhaustive. The numerous universities established over the recent decades have not been included. When no references are provided, data were taken from directories or from the World Wide Web.

- 3<sup>rd</sup> century BC: the School of Alexandria begins to perform dissections.
- 1230 AD: Menagerie of the Tower of London, owned by Henry III.
- 9<sup>th</sup> century AD: Monastery Garden of Saint Gall, near Lake Konstanz, Switzerland.
- 14<sup>th</sup> century AD: Marco Polo reports on his visit to Kublai Khan's great animal collection at the court of the Great Kahn in Khanabalik (Beijing).
- 1500s AD: Cortez finds botanical gardens in Ixtapalan and Chalco, Mexico; the Aztecs had made considerable study of medical botany (Alexander 1979). Montezuma's zoo was reportedly visited by Cortez in 1519 (Alexander 1979).
- 1575 AD: Holburn Physic Garden, London.

### **Eleventh century:**

- 1088: University of Bologna, Italy. Although not fully documented, 1088 is generally accepted as the date of foundation.

### **Twelfth century:**

- 1140: Roger II of Sicily creates the first degree in Medicine at Salerno, Italy (Clin 1994). The teaching of Medicine at Salerno (apparently to both genders) lasted from the late 11<sup>th</sup> to the early 15<sup>th</sup> centuries (Siraisi 1996). Statutes granted by Emperor Federico II in 1231.
- 1180: Beginning of the teaching of Medicine at Montpellier, France.
- 1188: University of Reggio, Italy (functioning until the late 13<sup>th</sup> century).

### **Thirteenth century:**

- 1211: University of Paris.
- 1214: First Chancellor conferred in Oxford, England. There is no clear founding date, but teaching took place in Oxford in some form from 1096 onwards and developed rapidly from 1167, when Henry II banned English students from attending the University of Paris. In 1231 the masters were recognized as a *universitas* or corporation.
- 1215: University of Arezzo, Italy. Discontinued during the 1260s, re-established in 1355, but definitely closed in 1373.
- 1218-19: University of Salamanca, Spain.
- 1220: École de Médecine de Montpellier, France.
- 1222: University of Padua, Italy.
- 1224: University of Naples, Italy.
- 1226: University of Cambridge, England (migration of students and professors from Oxford).

- 1228: University of Vercelli, Italy. Discontinued during the 14<sup>th</sup> century.
- 1229: University of Toulouse, France.
- c. 1235: University of Orléans, France. Recognised as *studium generale*, 1306.
- 1246: University of Valencia is granted the recognition of *studium generale* by the Pope. Although teaching occurred, the University itself would only be founded until 1411.
- 1246: University of Sienna, Italy. Discontinued in 1252, re-established in 1357.
- c. 1250: University of Angers, France. Recognised as *studium generale*, 1337.
- 1254-1260: University of Seville, Spain. Founded jointly by the King of Spain and the Pope, this *studium* may not have been university *sensu stricto* (cf. Verger 1996). It was discontinued during the 1270s.
- 1260: Medicine first taught at Bologna, Italy (Verger 1996).
- 1263-4: Merton College, Oxford, England.
- 1267: First Director of the Faculty of Medicine in Paris appointed (Clin 1994).
- 1288: University of Lisbon, Portugal. Discontinued in 1308 and transferred to the University of Coimbra, created in 1309 (Carvalho 1996).
- 1289: The École de Médecine of Montpellier officially becomes a university. The informal designation 'University of Medicine' had been in use since the École had been created in 1220.

#### Fourteenth century:

- 1300: University of Lerida, Spain.
- 1303: University of Rome. Discontinued during the late 13<sup>th</sup> century, re-established in 1431.
- 1303: University of Avignon, France.
- 1309: Botanical and Medical Garden, Salerno. Used for teaching medicine, it was organised by Mattheus Silvaticus (also known as Pandectarius), doctor to the King of Sicily, who already grew domestic and foreign plants since at least 1297. Pandectarius' *Liber pandectarum medicinae* is one of the first medical incunabula to be printed.
- 1318: University of Treviso, Italy. Discontinued during the late 14<sup>th</sup> century.
- 1332: University of Cahors, France.
- 1333: Botanical and Medical Garden of Venice, Italy.
- 1339: University of Grenoble, France, but discontinued shortly after.
- 1339: University of Verona, Italy. The existence of this university is controversial (cf. Verger 1996). The *studium* vanished during the 15<sup>th</sup> century.
- 1343: University of Pisa, Italy. Discontinued c. 1360, but re-established during the late 15<sup>th</sup> century.
- 1347: University of Prague.

- 1349: University of Florence, Italy. Transferred to Pisa in 1472.
- 1350: University of Perpignan, France.
- 1354: University of Huesca; discontinued during the first half of the 15<sup>th</sup> century, re-established in 1464.
- 1361 (April 13): University of Pavia; discontinued and transferred to Piacenza in 1398; re-established in 1412.
- 1364: University of Kraków; discontinued before 1370, but re-established in 1397.
- 1365: University of Orange; University of Vienna.
- 1369: University of Luca.
- 1379: University of Erfurt.
- 1385: University of Heidelberg.
- 1388: University of Cologne.
- 1389: University of Buda (discontinued c. 1400; re-established in 1410 and definitely closed in 1460).
- 1391: University of Ferrara (discontinued in 1394; re-established in 1430).

#### **Fifteenth century:**

- 1402: University of Würzburg (discontinued after 1413).
- 1404: University of Turin.
- 1409: University of Leipzig (migration of professors and students from Prague); University of Aix-en-Provence.
- 1411: University of St. Andrews, first university in Scotland (according to Rawson (2004) established sometime between 1410 and 1414).
- 1419: University of Rostok.
- 1425: University of Louvain (included a Faculty of Medicine right from the beginning).
- 1431: University of Basel (discontinued in 1449 and re-established in 1460); University of Poitiers.
- 1432: University of Caen.
- 1441: University of Bordeaux.
- 1446: University of Gerona; received Magna Charta in 1446, but only became a genuine university during the 16<sup>th</sup> century (Verger 1996).
- 1450: University of Barcelona.
- 1451: University of Glasgow.
- 1452: University of Valence (France); University of Trier.
- 1456: University of Greifswald.

- 1460-61: University of Nantes; closed in 1735, when the Law Faculty was transferred to Rennes. Therefore, the date adopted for the foundation of the University of Rennes is also 1460-61.
- 1464: University of Brugge.
- 1469-1499: During these 30-years, 39 editions of Pliny's *Natural History* and 11 'editions' of Aristotle natural history works were issued (!) (Whitehead 1970).
- 1470: *Studium* of Venice (School of Medicine, authorised to grant the degree of doctor).
- 1471: University of Genova (officially opened in 1513).
- 1474: University of Zaragoza.
- 1475: University of Copenhagen.
- 1476: University of Mainz; University of Tübingen.
- 1477: University of Uppsala
- 1483: University of Palma de Mallorca.
- 1489: University of Sigüenza (Spain).
- 1495: University of Aberdeen.
- 1498: University of Frankfurt am Oder (officially opened in 1506).
- 1499: University of Alcalá de Henares (Spain).

#### Sixteenth century:

- 1505: University of Wrocław, discontinued due to vigorous opposition by Krakow University. Re-established in 1702 by Leopold I of Habsburg and named the Leopoldine Academy after him. Renamed University of Wrocław in 1811.
- 1517: First official dissection in Strasbourg (Le Minor 2002).
- 1531: Beginning of the construction of the *Neue Residenz*, University of Halle-Wittenberg (finished in 1540), where the Geiseltal Museum is currently located.
- 1532: Records show the *hortus medicus* of the Reguliers monastery in Amsterdam (which was to become the *hortus botanicus* of the Atheneum Illustre) having burnt-out (Ursem 1994).
- 1543: *De humani corporis fabrica* by Vesalius (1514-1564) published. The first page depicts an anatomical theatre that existed, albeit temporarily, in Padua.
- 1544: Under the rule of Francis I, surgeons are considered equivalent to doctors in France (Clin 1994).
- 1545: In May, the senate of the Venetian Republic orders the foundation of the Botanical Garden at the University of Padua. Founder: Francesco Bonafede; first catalogue published in 1591 (Alexander 1979)
- 1544 or 1545: Botanical Garden, University of Pisa. Moved to a new site in 1562 or 1563, under the supervision and patronage of Ferdinando I de' Medici, when a natural history

museum was also constructed (cf. Olmi 2001). Founder: Luca Ghini, invited to work in Pisa by Cosimo I de' Medici between 1543 and 1544. According to Fernandes (1986), Ghini invented the herbarium, but Lewis (1984) states that Ghini probably organised the first scientific herbarium, which is a different thing, while Galassi (1991) states that Ghini probably invented the method of drying plants between paper.

- 1545: Botanical Garden, University of Padova.
- 1546: Botanical Garden, University of Florence.
- 1546: Picture Gallery of Christ Church College, University of Oxford.
- c. 1550: Conrad Gesner's Museum. On his death, this was bought by Felix Platter, who also had his own museum. Both museums became part of the Natural History Museum of Basel (Alexander 1979; Whitehead 1970).
- 1551: Ulisse Aldrovandi begins his herbarium at the University of Bologna (Soldano 2000).
- 1563: School of Human Anatomy, University of Turin. There are no records of collections until the first decades of the 18<sup>th</sup> century (Giacobini 1997).
- 1565: Samuel Quiccheberg publishes his famous treatise on museography *Inscriptiones vel Tituli Theatri Amplissimi* (Mauriès 2002).
- 1566: Botanical Gardens of the Universities of Ferrara, Sassari and Bologna (date for Bologna sometimes given as 1568; cf. Paiva 1981). Botany had been taught in Bologna during the Middle Ages as part of medical courses (Cristofolini *et al.* 1993).
- 1566: Académie de Strasbourg, which became University of Strasbourg in 1621.
- 1575: University of Leiden.
- 1577: Botanical Garden, University of Leiden.
- 1578: University of Vilnius, Lithuania.
- 1580: Botanical Garden, [University of] Leipzig (Paiva 1981).
- 1584: Publication of the first catalogue of Francesco Calceolari's collection (Verona) by Giovanni Battista Olivi. The second catalogue was published in 1622 by Andrea Chiocco. Calceolari owned a pharmacy and turned three rooms of his museum into a place of teaching and study (Olmi 2001).
- 1585: Publication of the only written record of one of the earliest societies, the little-known *Ottiosi* ('men of leisure'), founded in Naples by Giambattista della Porta (Whitehead 1970).
- 1586: Antonio Giganti (1535-1598) draws an inventory and plan of his museum in Bologna, contemporary to Aldrovandi's (Laurencich-Minelli 2001). Giganti was the secretary to two Bologna clerics.
- 1587: Aldrovandi publishes *Index alphabeticus rerum omnium naturalium in musaeo appensarum incipiendo a trabe prima*, describing his museum. He is also a pioneer in catalogue publication (Ray 2001).

- 1587: Botanical gardens of the University of Leiden (Rooseboom 1958). Founder and designer: Charles l'Ecluse. Rooseboom (1958) claims that these were the first outside Italy, but this remains uncertain (cf. e.g. Leipzig above). According to L.A. Tjon Sie Fat (1992, *De Tuin van Clusius, het ontstaan van de Leidse Hortus*), in 1587 Leiden University decided to use 'an empty place' behind the Academy Building for the Herbal Garden. The formal establishment of the *Hortus Academicus Lugduna-Batavus* took place on 9 February 1590, but the first plantation was not ready before 1594. Charles l'Ecluse – better known as Carolus Clusius (1526-??) – was appointed in 1592 and arrived, at the age of 67, with his plant collection in the autumn of the following year. He was assisted by the hortulanus Clutius (Dirk Cluyt). The garden was rectangular, 39.9 m long and 30.9 m wide. In 1600, the *Ambulacrum* was built at the southern end, where a considerable collection of botanical, zoological, geological and anthropological objects were displayed (S. de Clercq pers. comm., 11 August 2002).
- 1591 (?1596): Gabinetto di Storia Naturale, University of Pisa. Today Museo di Storia Naturale e del Territorio (Certosa di Calci). Founded by Grand Duke Ferdinando I, using a number of specimens from the de' Medici palaces in Florence, especially the Uffizi. Part of the mineralogy collections was returned to Florence in 1669.
- 1593: Henri IV asks physician and professor Richer de Belevall to create a Jardin de Plantes in Montpellier to support the teaching of medicine.
- 1594: Anatomical Theatre, University of Padua: first permanent anatomical theatre in Europe and still in existence today.
- 1595: Aldrovandi's museum in Bologna amounted to 11,000 animals, fruits and minerals, 7,000 plants 'dried and pasted' into 15 volumes, and 8,000 *tempera* illustrations. Ulisse Aldrovandi (1522-1605) was Professor *de fossilibus, plantis et animalis* at the University of Bologna and Director of the Botanical Garden. His collections – which included common objects, a feature that distinguished them from the normal renaissance mannerist cabinet and studiolo (Olmi 2001) – were later incorporated by the university, together with those of Ferdinando Cospi (catalogue of 1677).
- 1596: Natural History Cabinet, University of Pisa.
- 1597: Anatomical Theatre, Leiden University (Rooseboom 1958), built on the bequest of Peter Paauw, Professor of Anatomy, who had visited Padua's anatomical theatre. Included an anatomical cabinet with specimens and curiosities.
- 1597: John Gerard (1454-1612) publishes his *Herball*, often considered the first plant catalogue, but apparently almost entirely based on a translation of *Stirpium historiae pemptades sex* (1583) by Flemish botanist Rembertus Dodoens (Encyclopaedia Britannica 2002). Around 1562, in Holborn (London), John Gerard built one of the earliest study gardens in England. The *Herball* is said to be the catalogue of the Holborn garden.

- 1598: Botanical Garden, University of Montpellier (Paiva 1981).

### Seventeenth century:

- 1603: Aldrovandi donates his collection and library to the Senate of Bologna. In 1617, the whole collection was transferred to the Palazzo Pubblico, arranged in six rooms and provided with a keeper who allowed access to scholars (Laurencich-Minelli 2001).
- 1603: Amsterdam's Surgeon's Guild founded – there was an anatomical theatre of which now only the dome remains (Rooseboom 1958).
- 1604: Improvements at the Faculty of Medicine (rue de Bûcherie, Paris) lead to the construction of the first anatomical theatre and botanical garden (Clin 1994).
- 1606: Accademia dei Lincei.
- 1614 (August 23): University of Groningen.
- 1619: Hortus medicus, Strasbourg: created by the mairie but for teaching and study of medicine (Le Minor 2002).
- 1620: Beginnings of the *Jardin royal des Plantes médicinales*, predecessor of the Muséum national d'Histoire naturelle (Eidelman & Van Praët 2000).
- 1621: Botanical Garden, University of Oxford. First curator: John Tradescant the Elder "although surviving evidence of his influence there is scarce and indirect" (MacGregor 2001: 134).
- 1621: University of Strasbourg.
- 1626: Hortus Medicus, University of Altdorf (Nuremberg): the founder was Leipzig-born Professor of Botany and Medicine Ludwig Jungermann.
- 1630-31: Anatomical School, University of Oxford (Christ Church College), included a collection of 'natural curiosities' (Boylan 1999).
- 1632: *Athenaeum Illustre*, predecessor of the University of Amsterdam.
- 1632: University of Tartu, founded by Gustav II Adolph of Sweden. The University was closed in 1656 and reopened in 1802.
- 1634 (or 1633): Astronomical Observatory on top of Leiden University Academy Building, said to be the first in a Dutch university (S. de Clercq, pers. comm. 11 August 2002).
- 1635: Jardin des Plantes, Paris. A small cabinet of curiosities, the *Cabinet du Roi*, is also created.
- 1636: Utrecht University. The university was founded in 1634 as 'illustrious school', university without *jus-promovendus*, which was granted two years later (S. de Clercq, pers. comm. 9 August 2002). Books and documents confiscated from churches and convents during the Reformation became the nucleus of the University Library (S. de Clercq, pers. comm. 11 August 2002).

- 1638 (17 January): Hortus Medicus, Atheneum Illustre, predecessor of the University of Amsterdam (Ursem 1994). In 1635, Amsterdam was struck by an epidemic of plague, which was so severe that almost half of the population perished. Merchants, apothecaries, pseudo-medical doctors and 'real' doctors sold all sorts of remedies. In 1636, the City of Amsterdam established a training and certification programme for physicians, enforcing them to pass an exam (the *keur*). The Hortus Medicus was established to support training and was placed under the supervision of a group of physicians from the *Athenaeum Illustre*. In 1638, the first director, Johannes Snippendaal, was appointed and remained in this position until 1648. The first exams took place on 27 April 1638, when the first plants came into flower and were visible enough to be recognized (B. Ursem, Director of the Botanical Garden of Delft University, *pers. comm.* 13 August 2002). Recently, the garden has used another date to commemorate its beginnings, i.e. 20 October 1682. At that date, the Hortus Medicus moved to the present location at the Plantage Middenlaan and changed its name into Hortus Botanicus.
- 1639: Botanical Garden, Utrecht University. On 11 March 1639, the City of Utrecht decided "(...) *dat men het bolwerk Sonnenburgh sal doen approprieren ende beplanten met cruiden nodig tottet oefnenen van studenten in de medicijnen (...)*" In 1723, the Hortus moved to the present location of the 'Oude Hortus', now the garden of Utrecht University Museum. Since 1996, the museum itself is situated on the site of the Theatrum Academicum (S. de Clercq, *pers. comm.* 11 August 2002).
- 1642: Astronomical Observatory, Utrecht University, on top of Smeetoren (S. de Clercq, *pers. comm.* 11 August 2002).
- 1642 (or 1643): Anatomical Theatre, University of Copenhagen. Built under the direction of Olaus Worm (Schepelern 2001). This theatre was destroyed in 1728.
- 1649: Anatomical Theatre, University of Bologna. This was altered in 1733-34, destroyed by bombs during the WWII, but reconstructed in the 1950s.
- 1657: Ferdinando Cospi's Museum joins Aldrovandi's at the Palazzo Publico, Bologna.
- 1660: Hans Sloane born. "Like Ulisse Aldrovandi, Sloane typifies that rare phenomenon, the man of means who combines wealth, social position and scientific ability to the general advancement of science, not as a mere patron, but as an active participant" (Whitehead 1970: 52).
- 1660: The Royal Society, London.
- 1661: L'viv University (Ukraine).
- 1662: University of Basel purchases the Amerbach collection to prevent it leaving the country and installed it in the new university library building; public access was granted in 1671 (Lewis 1984). Note that this antedates the Ashmolean by 12 years. Bateman (1975: 159) stated that the Basel museum "was probably the first [university museum]".

- 1662: William Croone reports on the use of spirits of wine in specimen preservation to the Royal Society. For more information on the development of preservation techniques, see Whitehead (1970).
- 1663: Anatomical Theatre, Uppsala University, built under the supervision of Olof Rudbeck the Elder.
- 1665: Botanical Garden (Hortus Medicus), University of Uppsala. Founder: Olof Rudbeck the Elder.
- 1666: Académie Royale des Sciences, Paris.
- 1670: Theatrum anatomicum, University of Strasbourg. Anatomical preparations are preserved for teaching and study and gradually originate a Cabinet of Anatomy (Le Minor 2002).
- 1674: Anatomical Theatre, Royal College of Physicians (London), designed under the direction of Robert Hooke.
- 1675: The creation of the Theatrum Physicum at Leiden University marks the foundation of the Leiden Cabinet of Physics (Clercq, 1997).
- 1682: *Haagse Academie van Beeldende Kunsten* (The Hague Academy of Fine Arts) is founded by a group of artists. It had a fine and representative plaster cast collection for study and research; opened to the public in 1888 (Rheeden 2001).
- 1683 (May): Ashmolean Museum, University of Oxford. For a complete and picturesque description of the Ashmolean's complex history, see Whitehead (1970). For a description of the early Ashmolean, see MacGregor (2001).
- 1691: Beginnings of the construction of the new anatomical theatre at rue de l'École de Médecine, Paris, specifically designed for surgeons (Clin 1994). Finished in 1694.
- 1694: Gustav Adolf II donates the Augsburg Art Cabinet, given to him by the Lutheran Council of Augsburg in 1632, to Uppsala University. Today, it still exists in the Museum Gustavianum.
- 1694: the Abbey of Saint-Vincent, Besançon, (currently known as the Musée des Beaux-Arts et d'Archéologie) is the first museum in France "specifically for the public benefit" (Lewis 1984: 11, Poulot 2001).
- 1695: First 'modern' chemical laboratory in the Netherlands (Prof. Barchusen), established in the basement of bastion Sonnenburgh (then Hortus Botanicus), Utrecht. The remains are still visible today (S. de Clercq, *pers. comm.* 11 August 2002).
- 1696: University and State Library Sachsen-Anhalt, Martin-Luther University of Halle-Wittenberg.
- 1697: First dissection at Tartu University.
- 1698: Botanical Gardens, Martin-Luther University of Halle-Wittenberg.

- 1698: Cabinet of Natural and Artificial Curiosities, founded by August Hermann Francke, Professor of Halle University (integrated in the Martin-Luther University of Halle-Wittenberg during Soviet occupation and transformed into a foundation in 1991).

### **Eighteenth century:**

- c. 1700: There were 20 botanical gardens in Europe, mostly associated with universities (Alexander 1979).
- 1706: The purchase of the first physical instrument (air pump by Jan van Musschenbroek) marks the beginning of the Utrecht Cabinet of Physics (S. de Clercq, *pers. comm.* 11 August 2002).
- 1711: Istituto delle Scienze, Bologna, by Luigi Ferdinando Marsili.
- 1717: Peter the Great buys Frederik Ruysch's and Albertus Seba's natural history collections and takes them to St. Petersburg. For more than 60 years, Frederik Ruysch (1638-1731) was Professor of Anatomy at the University of Amsterdam, specialising in the injection of wax and mercury into vascular systems for didactical purposes (Whitehead 1970). For more information on Ruysch, see Rooseboom (1958). Albertus Seba (1665-1736) was an apothecary and merchant whose dealings with shipments from the East Indies included the purchase of curiosities (Whitehead 1970).
- 1724: Collège de Chirurgie, Faculty of Medicine, Paris.
- 1724: Theatrum Academicum, Utrecht University, situated at the back of the Hortus Botanicus. Used for medicine (anatomy, botany, natural history, natural philosophy, etc.); see Haneveld (1978).
- 1726: Astronomical Observatory La Specola, University of Bologna.
- 1727: Caspar F. Neickel's *Museographia* published in Leipzig (Alexander 1979).
- 1728: Dr. John Woodward's fossil collection bequested to the University of Cambridge, later originating in the Sedgwick Museum, the oldest museum in Cambridge.
- 1729: Botanical Garden, University of Turin.
- 1730: Museo di Mineralogia, Geologia e Paleontologia, University of Turin (included Botany).
- 1735: Carolus Linnaeus begins publishing his *Systema Naturae*.
- 1735: Zoology Museum, University of Lund.
- 1739: Museo di Zoologia, University of Turin.
- 1739: Giovanni Poleni appointed Professor of Natural Philosophy at the University of Padua. Poleni began a collection, which became the core of the Museum of History of Physics (Peruzzi & Talas 2004). The Museum does also include older instruments, dating from the 16<sup>th</sup> century.
- 1739: Naturwissenschaftliches Museum, Coburg, Germany.

- 1741: Linnaeus becomes Professor at Uppsala University. There were no collections at the time, these only started when Linnaeus reputation began to grow (Whitehead 1971).
- 1743: Ulisse Aldrovandi's collection finds its way into the University of Bologna's museum.
- 1744: Anatomical Theatre, École de Médecine, Paris.
- 1744: Anatomical Theatre of the University of Louvain (octagonal), at the corner of the rue des Récollets and rue des Capucines, ordered by Henri Joseph Réga (1690-1754) and used until 1877 (Aubert 1998). Réga was also responsible for the reorganisation of the Botanical Garden and for the creation of an anatomy museum.
- 1746: Princeton University.
- 1752: First modern zoo at Schönbrunn, Vienna, established by the Franz Joseph I.
- 1753: Following a donation of collections by Hans Sloane, the British Museum is officially founded and opens to the public in Montagu House in 1759.
- 1755: Much of the Ashmolean natural history collections are destroyed in a fire, including Tradescant's dodo (only one leg and the head were saved).
- 1755: Royal Botanical Garden of Madrid, but only definitely established in the Prado in 1781.
- 1759 (10 January): British Museum. There were three departments: Printed Books, Manuscripts and Medals, and Natural and Artificial Productions (Bateman 1975).
- 1761: Herbarium, University of Cambridge.
- 1763: Anatomical Theatre, University of Turku, Finland. In 1759, Professor of Medicine Johan Leche, who supervised the construction work, suggested to enlarge the plans. He wanted, among other things, a *laboratorium chemicum* and to raise the ceiling in order to create an upper floor where there was to be a storage room for chemicals and another one for "[mineral and] naturalia collections" and for "future apparatus of experimental physics that should be displayed in public", after the example of Lund (the "magnifique apparatus Menlösianus" of Prof. Daniel Menlös, who donated it to the University of Lund). The big fire of 1827 destroyed the building and "the natural history collections" and only one drawing of the façade survived (M. Myllykoski, *in litt.* 3 September 2002).
- 1765: Freiberg Mining Academy created, which included mineralogy collections (Hamm 2001).
- 1768: James Cook begins his first voyage of exploration.
- 1768: Royal Botanical Garden of Ajuda, Lisbon. This was the first botanical garden in Portugal. The Garden of Ajuda included a museum of natural history (the building still exists) and was open to the public once a week (Abecasis 1999). Earlier, there had been a *hortus botanicus* under King D. João IV in Xabregas, Lisbon. In 1918, the Garden of Ajuda became part of the Technical University of Lisbon, thereby becoming a university botanical garden (Monteiro *et al.* 1999).

- 1769: Department of Zoology, University of Halle-Wittenberg. A Natural History Cabinet was established. Previously, there were only zoology teaching collections at the Faculty of Medicine (Gattermann & Neumann 2003).
- 1771: Museum of Natural History of the University of Pavia, by Lazzaro Spallanzani (1729-1799).
- 1772: Official foundation of the Royal Botanical Gardens of Kew, which became a national institution in 1840 (Alexander 1979).
- 1772: Official foundation of the Natural History Museum, University of Coimbra (included the Botanical Garden).
- 1772-1775: James Cook's second voyage of exploration.
- 1773: Botanical Garden, University of Pavia. A panel at the entrance of the Garden reads (translated from the Italian): "The Botanical Institute of the University of Pavia stands on the ancient Lateran Presbytery of Saint Epiphany. The cloister is the only remaining part of the structure and despite being largely restructured, still retains some 15<sup>th</sup> century remains, for example the terracotta corbels deriving from the same casts as those of San Lanfranco. The Botanical Garden was rearranged in 1773, during the reign of Maria Teresa of Austria, by the botanists Brusati and Borsieri. Wooden greenhouses were designed and created by the architect Giuseppe Piermarini and later replaced by the present iron and glass ones. Giovanni Antonio Scopoli (1777) greatly reformed the Garden by increasing the botanical specimens and establishing it as one of the most avant-garde centres of study and research in Europe".
- 1775: Grand Duke Pietro Leopoldo creates the Royal Imperial Museum of Physics and Natural History in Florence. Its origins date back to the Medici (Alexander 1979: 47). The natural history collections, together with the scientific instruments from the Accademia del Cimento (previously at the Uffizi) were all assembled under one roof. When the University of Florence was created in 1922, the collections were integrated in the university (natural history remained there while physics went to the Istituto e Museo di Storia della Scienza).
- 1777: Utrecht, foundation of *Natuurkundig Genootschap* (Physical Society, 'for the study and promotion of experimental physics'). The instruments were kept – and used – together with those of the university and expensive instruments were bought jointly. An inventory of the instruments of the Academy and the Physical Society, compiled in 1838, counted 1238 items: 671 of the Society and 567 of the Academy. The remaining instruments are now in the Utrecht University Museum (H.J.M. Bos, 1968, *Mechanical instruments in the Utrecht University Museum*; S. de Clercq, *pers. comm.* 11 August 2002).
- 1777: Cabinet d'Histoire naturelle, University of Perpignan; became town museum in 1840 (Bourgat 2002).

- 1778: Linnaeus dies. For an account on the fate of his collections and why they did not stay in Sweden, see Whitehead (1971).
- 1778: Teyler's Museum in Haarlem founded by Pieter Teyler van der Hulst.
- 1778: Alessandro Volta (1745-1827) becomes Chair of Experimental Physics at the University of Pavia and stays until 1805.
- 1780s: A Cabinet of Mechanics is created in the University of Krakow (teaching collection) (Jasiuk 2001).
- 1781: Collection of the Royal Society transferred to the British Museum.
- 1783: Antonio Scarpa becomes Chair of Anatomy at the University of Pavia and remains so until 1804. Creates the Cabinet of Anatomy, the collections of which were later integrated in the University Museum.
- 1783: Hunterian Museum, University of Glasgow. William Hunter's collection; William Hunter was the brother of John Hunter, who in turn donated his collection to the Royal College of Surgeons, London (S. Mason, pers. comm. 13 September 2002).
- 1783: École des mines (Hôtel des Monnaies), Paris. The Musée was probably created at the same time and René Just Haüy (1743-1822) was its first curator.
- 1785: Anatomical Theatre (later renamed Aula Scarpa), University of Pavia. Architect: Leopoldo Pollack, inspired by the École de Chirurgie of Paris and the Josephinum in Vienna.
- 1787: The Hunterian Collection (founded by the surgeon-anatomist John Hunter) opens in Leicester Square, London.
- 1787: L'École de Dessin of Dijon (founded in 1766) opens a Muséum and a Gallery (Poulot 2001).
- 1788: Linnean Society of London founded.
- 1788: Georges-Louis Leclerc, comte de Buffon, *intendant* of the Jardin du Roi, dies after having completed 36 volumes of his monumental *Histoire naturelle générale et particulière* (Whitehead 1971).
- 1789: French Revolution.
- 1790: Musée des Monuments Français of Alexandre Lenoir in the Convent of the Petits-Augustins (today École Nationale Supérieure des Beaux-Arts). A museum bearing the same name and including part of the collection was later created at the Palais Chaillot (Sallois 1995).
- 1793: The Louvre opens to the public.
- 1793 (June): Creation of the Muséum National d'Histoire Naturelle, Paris.
- 1793: Ménagerie du Muséum (Paris). "C'est l'un des jardins zoologiques les plus anciens à exister de nos jours encore: seuls ceux de Schönbrunn et de Madrid sont de dates antérieures" (Pieters 1981: 220).

- 1793: Cabinet of Anatomy, Faculty of Medicine, University of Lyon, founded by Marc Antoine Petit (1766-1811). Transformed into Museum of Anatomy in 1877.
- 1794: Conservatoire National des Arts et Métiers, Paris. Teaching began in 1819 (Ferriot *et al.* 1998, Alexander 1979).
- 1794 (May): École Polytechnique.
- 1794 (24 December): The Convention decrees the establishment of three schools of medicine in France: Paris, Strasbourg and Montpellier, aimed at training doctors and surgeons. Furthermore, the Convention stipulated that each school should possess a 'conservatoire' encompassing a Cabinet of Anatomy with teaching collections, a collection of surgical instruments and a collection of medical natural history.
- 1795 (16 October): Opening of the Cabinet de Collections (mostly anatomy) at the École de Médecine, Paris (three rooms on the first floor). First curator: Jean-Baptiste Thillaye (Clin 1994).

### Nineteenth century:

- 1801: Berlin Botanical Garden, University of Berlin (today the Berlin-Dahlem Botanical Museum). Founder: Carl Ludwig Willdenow (professor of Alexander von Humboldt).
- 1802: University of Tartu is re-founded on orders of Tsar Alexander I of Russia.
- 1802: Zoologia Museum, University of Tartu.
- 1803 (19 April): Art Museum of the University of Tartu.
- 1803: Beginning of the construction of the Anatomical Theatre, University of Tartu; works would be finished in 1805. Further expansions during 1825-1827 and 1856-1860 (R. Mägi, *in litt.* 20 July 2005).
- 1805: Zoologisk Museum, University of Copenhagen.
- 1806: Museum of the Royal College of Surgeons – Hunterian Museum, London, mainly from John and William Hunter's collections (cf. Duggan 1964). Not to be confused with the Hunterian Museum, University of Glasgow.
- 1808: Napoleon issues a decree creating the University of Liège. The University itself, however, argues that the institutions created under Napoleon cannot be considered "établissements universitaires" (<http://www.ulg.ac.be/institution/>, consulted 19 August 2002). The University of Liège recognises King Willem I of the Netherlands as its founder in 1817.
- 1808: Beginning of the construction of the Astronomical Observatory at the University of Tartu. Works would be finished in 1810. The tower, originally domed, was rebuilt in 1825 for the Fraunhofer refractor (R. Mägi, *in litt.* 20 July 2005).
- 1810: University of Berlin.

- 1810: Zoological Museum, University of Berlin (see Ahrens 1925). The Museum opened to the public in 1814.
- 1812: Cabinet of Mineralogy, University of Wrocław. In 1880, the Cabinet would be transformed into a Museum, open to the public. Today, it is named Museum of Mineralogy of the Geology Institute and reopened in 1946, still administered by the University (Jakubowski 2001).
- 1813: Initial drawings donated by Jean François Xavier Atger to the École de Médecine of Montpellier. Until 1833, he would donate c. 1,000 drawings. Today, the collection is the Musée Atger at the Library of the Faculty of Medicine, University of Montpellier 1.
- 1814: Museum Przyrodnice (Zoology), University of Wrocław.
- 1814-1815: Museum of Zoology, University of Cambridge.
- 1815: The Netherlands, Law on Higher Education. The Universities of Leiden, Groningen and Utrecht become State universities. For support of education, each should have a Cabinet of Medicine with anatomical, physiological and pathological preparations and instruments, a Cabinet of Physics, with scientific instruments, models and apparatus, an Astronomical Observatory, with astronomical instruments, a Chemical Laboratory, a Natural History Cabinet, comprising zoology and comparative anatomy, a Cabinet of Geology and Mineralogy, and a Botanical Garden and Herbarium (S. de Clercq, *pers. comm.* 11 August 2002).
- 1816: A survey reported that many Dutch collections had been transferred to Paris during the French occupation. Leiden University managed to get some back, but the University of Utrecht lost all medical and natural history collections, while the collections of the Cabinet of Physics and the Astronomical Observatory mostly survived (S. de Clercq, *pers. comm.* 11 August 2002).
- 1816: University of Utrecht purchases the anatomical collections of Jan Bleuland (Haneveld 1978).
- 1816: Fitzwilliam Museum, University of Cambridge, by the bequest of the VIIth Viscount Fitzwilliam of Merrion.
- 1817: Merging of the universities of Halle and Wittenberg.
- 1819: Archaeological Museum, University of Pavia, founded by Pietro Vittorio Aldini.
- 1819: Cabinet of Zoology, Warsaw University. Functioned until 1953. Today, the collections are in the Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw (Jakubowski 2001).
- 1819: The Prado in Madrid opens to the public. During its early days, it also displayed natural history specimens (Lewis 1984).
- 1820: Cabinet of Engravings, University of Halle-Wittenberg.
- 1820: Botanical Garden of Edinburgh University moves to its current location.

- 1820: Joseph Banks donates his herbarium, natural history library and botanical collection to the British Museum (Alexander 1979). Banks acted as naturalist on Cook's first voyage (Horwitz 2002).
- 1820: Museum Przyrodnicze (Zoology), University of Wrocław, opens to the public (Jakubowski 2001).
- 1820 (9 August): The 's Rijks Museum van Natuurlijke Historie (National Museum of Natural History) is founded in Leiden (today designated 'Naturalis'). "The Minister of Education, Anton Reinhard Falck, advised the King that rather than to have the collections scattered over the universities, there should be one central national museum, similar to those in England and France" (Holthuis 2001: 19).
- 1821: Botanical collections, University of Wrocław.
- 1823: Musée Atger, Université de Montpellier.
- 1830: Luigi Rolando establishes the Museum of Anatomy at the University of Turin (Giacobini 1993, 1997).
- 1830s: Charles Lyell (1797-1875) publishes his *Principles of Geology*. In 1863, he would publish *The Geological Evidences of the Antiquity of Man*, incorporating evolutionary theory and having a major impact on archaeology (Greene 1995).
- 1832-1836: H.M.S. Beagle's voyage around the world, with naturalist Charles Darwin on board.
- 1833: Marischal Museum, University of Aberdeen (A. Taylor, pers. comm. 3 December 2002).
- 1834: Université Libre de Bruxelles and Université de Malines (Aubert 1998).
- 1834: Astronomical Observatory, University of Helsinki.
- 1835: Musée Dupuytren, Faculty of Medicine, Paris – collections of pathological anatomy (Delmas 1995).
- 1836: Danish archaeologist Christian Jürgensen Thomsen, first Director of the Danish National Museum, proposes the Three Age System for the chronology of prehistory, i.e. Stone, Bronze and Iron. His successor, Jens Jacob Asmussen Worsaae, subdivided the Stone Age into Palaeolithic, Mesolithic and Neolithic. These classifications had a major impact on archaeology, comparable to the impact of Linnaeus' *Systema Naturae* on natural history.
- 1836: Musée de l'École des Beaux-arts, Paris. Founder: Louis Peisse (Mossière 1996).
- 1836: Botanical Garden of the University of Porto.
- 1837: University of Athens.
- 1837: National Museum of Ethnology (Volkenkunde), Leiden.
- 1837: Polytechnic Academy of Porto, predecessor of the University of Porto (created in 1911). Vocational training existed in Porto since 1762, with the creation of the *Aula Náutica*.

- 1838: Zoological Society of Amsterdam. Apart from managing a zoo, the Society had a collection of stuffed animals.
- 1840: Musée d'Anatomie, Université de Lyon, created (together with the École préparatoire de Médecine). Current name: Musée Testut-Latarjet de Médecine et d'Anatomie (Ruppli 1996). Other date for the Musée: 1854 (J.-C. Neidhart, interview 19 May 2004).
- 1841: Jardin des Plantes of Montpellier (Faculté de Médecine) opens to the public.
- 1846: Botanical Garden, University of Cambridge.
- 1847: Musée Orfila, Faculty of Medicine, Paris (comparative anatomy). The Musée Orfila was inspired by the Hunterian Museum in London (cf. Clin 1994, Delmas 1995). In 1953, the Museum moved to the rue des Saints-pères, where it is still located today (Delmas 1995).
- 1848: University of Turin – separation of the Faculty of Sciences and Mathematics from the Faculty of *Lettere* and Philosophy.
- 1851: The Musée d'Anatomie de Montpellier moves to its present location (opened to the general public only in 1945).
- 1851: University of Manchester.
- 1852: The Hermitage, St. Petersburg, opens to the public.
- 1852: Mineralogy Museum, L'viv University (Ukraine).
- 1853: Botanisches Museum, University of Wrocław, opens to the public (Jakubowski 2001).
- 1854: the Royal Museum, formerly at the University of Edinburgh and founded in 1815, becomes government-owned. Note that the National Museums of Scotland encompass other museums besides the Royal Museum.
- 1854: Istituto Tecnico Toscano, Florence. Teaching began in 1857.
- 1854: Musée Testut-Latarjet de Médecine et d'Anatomie, Université Claude Bernard de Lyon.
- 1858: Smithsonian Institution, Washington D.C.
- 1859: *On the Origin of Species* by C. Darwin published.
- 1859: Museum of Comparative Zoology, Harvard University, based on specimens collected throughout the 1840s (Kohlstedt 1988).
- 1859: Politecnico di Torino. At the time designated 'school of engineers of Torino', it became the Regio Politecnico di Torino in 1906.
- 1860: Oxford University Museum of Natural History officially created, bringing together Tradescants' geology and zoology and Christ Church's anatomical collections.
- 1862: Museo Industrial Italiano, Politecnico di Torino. Predecessor of today's Museo e Archivio del Politecnico.
- 1865: Museum of Pathological Anatomy, University of Coimbra.

- 1869: Museum of Anthropology and Ethnology, University of Florence. The first anthropological university museum in Europe, according to the *Bulletin of the Museum of Natural History of the University of Florence*, n° 2 (April 1997), p. 1.
- 1869: American Museum of Natural History, New York.
- 1871: Cavendish Laboratory, Cambridge University. In the English-speaking world, the transition from lecture-demonstration based science teaching to practical laboratory-based science teaching reached its peak between the 1870s and the 1880s. In German-speaking universities this happened somewhat earlier, in the first decades of the 19<sup>th</sup> century (Holland 2002).
- 1872: Universitets Museet, Tromsø University, Norway.
- 1872: Cast Collection of Kaiser Wilhelm Universität, (German) University of Strasbourg, opens to the public. Today, the collection is in the University of Strasbourg Marc Bloch.
- 1873: Cast Collection of the University of Prague opens to the public.
- 1876: Geology Museum (Geology Department), University of Bristol.
- 1877: The Bayerisches Nationalmuseum in Munich purchases the collection of the Institute of Physics of the University of Würzburg (Mayring 2000).
- 1877: The *Atheneum Illustre* of Amsterdam is formally recognized as a university.
- 1879: A zoological collection is initiated at the University of Amsterdam. An agreement made during the 1880s between the University and the Zoological Society (see 1838 above), merged the two collections.
- 1878: Musée d'Ethnographie du Trocadéro, Paris (Musée de l'Homme in 1937). Founder: Paul Rivet.
- 1880-1883: The British Museum's natural history collections are transferred to the new premises at South Kensington and thereby separated from antiquities and archaeological artefacts. British Museum (Natural History) becomes officially independent in 1963.
- 1881: Museum of Mineralogy Giovanni Capellini, University of Bologna.
- 1882 (30 May): The University of Oxford accepts the offer of Pitt Rivers' Collection (Petch 1998). An annex was built on the eastern side of the natural history university museum. H.N. Moseley becomes Head of the Department of Zoology and Comparative Anatomy and E.B. Taylor is appointed Lecturer in Anthropology, the first of its kind in Britain. Note that the creation of a teaching position in Anthropology had been a demand of Pitt Rivers when donating his collection.
- 1883: Pitt Rivers Museum, Oxford University.
- 1885: Benedykt Dybowski Zoological Museum, Ivan Franko Lviv (Lvov) National University. The collections came from the Lvov Cabinet of Natural History (established 1823) (Roselaar 2003).
- 1885: Manchester Museum, University of Manchester. The collections had their origin in the Manchester Society of Natural History (1821), to which the collections of the

Manchester Geological and Mining Society were added in 1850. In 1867, the University of Manchester took responsibility for both collections and the Museum opened in 1885.

- 1889: Institut de Botanique de Montpellier (at the Jardin des Plantes), founded by Charles Flahault.
- 1889: Galerie de Zoologie, Muséum National d'Histoire Naturelle, Paris.
- 1890: Musée des Moulages, Université de Montpellier.
- 1890: Mineralogy and Geology collections of the Muséum d'Histoire naturelle de Strasbourg (town museum) transferred to the University of Strasbourg (Institut de Minéralogie et Geologie) (Leypold 1996).
- 1890: Botanical Museum, University of Groningen (today the collection is in the Groningen University Museum).
- 1891: Geological Museum of the Camborne School of Mines, University of Exeter (today named Camborne School of Mines Geological Museum and Art Gallery).
- 1893: Petrie Museum of Egyptian Archaeology, University College London (MacDonald 2002).
- 1894: Musée d'Ethnographie, Université de Bordeaux II (Mériot 1996).
- 1895-96: René Koehler, Zoology Professor, initiates the zoology collections at the Faculté de Sciences de Lyon, today in the Université Claude Bernard.
- 1896: Musée d'Histoire de la Médecine et de la Pharmacie, created by Alexandre Lacassagne. The Musée would be donated to the Faculté of Médecine of Lyon in 1913 (today part of the heritage of the Université de Lyon Claude Bernard).
- 1897: Kyoto University.
- 1898: Galerie de Paléontologie, Muséum National d'Histoire Naturelle, Paris (Eidelman & Van Praët 2000).
- 1899 (19 June): Musée des Moulages, Université de Lyon II (Mossière 1996, Etienne 1988). First curator: Henri Lechat. First location at the Faculté de Droit et des Lettres. The beginnings of the collection date from 1893 (Ruppli 1996).

#### **Twentieth century:**

- 1900: Musée de Sismologie et du Magnétisme Terrestre, Université de Strasbourg (Strasbourg being part of the German empire at the time).
- 1907: Donation to the Royal College of Surgeons of the collection of the Odontological Society of Great-Britain (now Odontological Museum).
- 1908: Anatomical Museum, University of Groningen.
- 1909: Society of 'Friends of the Fitzwilliam Museum' (University of Cambridge) formed.

- 1911: Museum and Laboratory of Mineralogy and Geology, University of Porto. Collections date back to 1885 and the Museum reopened to the public under the name Museum of Mineralogy Montenegro de Andrade in 1990.
- 1911: Museum and Laboratory of Anthropology, University of Porto. Permanent exhibition has been open to the general public since 1970. Recently, the Museum changed its name into Museum of Archaeology and Pre-History Mendes Corrêa.
- 1911: College Art Association (USA).
- 1914: Opening of the Institut de Paléontologie Humaine, Paris, at the initiative of Prince Albert I of Monaco. Human palaeontology was presented in exhibitions from the start, but this was interrupted by WW I (Hurel 2000). The Institut was finally inaugurated on 23 December 1920. Today it is linked to the MNHN and the CNRS.
- 1916: Museum and Laboratory of Zoology, University of Porto. Collections date at least back to 1885. The Museum changed its name into Museum of Mineralogy Augusto Nobre.
- 1917: Botanical Garden, University of Delft. The Garden has an interesting background story. In 1902, Prof. M.W. Beijerinck, a founder of modern microbiology, chose the young Gerrit van Ittersson as his assistant. In 1907, van Ittersson became Professor of Anatomical Microscopy at Beijerincks Laboratory. Van Ittersson gave lectures and, although anatomical microscopy was not compulsory, the lectures became very popular. In 1908, van Ittersson got his own space in the old building of the magistrates' court at Oude Delft 81. This house had a backyard and van Ittersson used it as a garden and nursery to grow plants for his lectures and research. He focused on crops of useful plants in a technical way and thus laid the fundamentals of what became to be called 'technical botany'. Soon the location at Oude Delft 81 became too small. Van Ittersson applied for a new laboratory at the Polytechnic School, as the University was called at the time. The government acquired a stretch of land, just behind the old house. The permission to create a new laboratory and an accompanying garden was delayed until 1911, in which year van Ittersson was invited to become director of the research station of the sugarcane industry at Pasoeroean on Java in the former Netherlands' East Indies. Students asked van Ittersson not to leave and persuaded him to stay as professor at the Polytechnic School of Delft. Van Ittersson agreed on the condition that he could have a new laboratory and a garden to grow plants for research and education. The Minister of Education accepted his request, but it took several years to bring the necessary funds together. During 1913-1914, the Municipality of Delft was constructing new roads in the Wippolder, southeast of the town. The Polytechnical School of Delft asked the firm who carried out the job to create the right soil conditions for the new garden in the very wet polder. The total project costs amounted to 90,000 guilders, an enormous sum at the time. The garden-floor was raised up to 40 cm and received an adequate draining system. After this the laboratory was

build. In the summer of 1917, the garden was planted and it opened in October 1917 (B. Ursem, pers. comm. 13 August 2002).

- 1919: A substantial collection of numismatics and Greek and Egyptian antiquities is transferred from the Art Museum at the University of Tartu to the Soviet Union. The collection is still today at the Art Museum of Voronezh.
- 1920: Scott Polar Research Institute Museum, University of Cambridge, named in memory of Captain R.F. Scott.
- 1922: The University of Florence is re-created.
- 1924: Roland Bonaparte (1858-1924) dies and his daughter donates his herbarium to the Faculté de Sciences de Lyon, together with the cabinets and library. Two years later, another important herbarium, by Michel Gandoger, would be donated to the Université de Lyon Claude Bernard, making it one of the most important in France.
- 1925: Museum of the History of Science, University of Oxford opens to the public as the Lewis Evans Collection on the top floor of the Old Ashmolean Building. It would be only officially created in 26 February 1935. First Curator: Robert T. Gunther, who had been listing and collecting instruments at the university at least since 1916 (Bennett 1997).
- 1921: Official opening of the Musée de l'Histoire de la Médecine, Paris (Clin 1994). The Guide de l'OCIM (Ruppli 1996) states that this museum was created in 1769 (supposedly under a different name) and re-opened to the public, completely restored, in 1994.
- 1926: Museum of Anthropology and Ethnography, University of Turin.
- 1928: Utrecht University Museum Foundation is created. A substantial collection of physics (c. 1000) had been found in one of the attics of the University in 1918 and this Foundation was formed to organise a museum. The Museum would only be officially founded in 1936 in the sequence of the commemorations of the 300 years of the University of Utrecht (S. de Clercq, pers. comm. 11 August 2002).
- 1930: Courtauld Institute of Art, University of London. Provenance: donation by Samuel Courtauld (Boylan 1999). The Institute would later become autonomous from the University and a higher education institution in its own right.
- 1930: Istituto e Museo di Storia della Scienza (IMSS), Florence. The Cabinet of Physics, founded at the University of Florence in 1775 (together with the Natural History Cabinet) by Pietro Leopoldo of Lorraine is 'given' to the IMSS (M. Miniatti, *in litt.* 2 November 2003).
- 1931: Boerhaave Museum (National Museum of the History of Science and Medicine), Leiden.
- 1932: University Museum, University of Pavia.
- 1933: Museum of the History of Medicine Maximiano de Lemos, University of Porto.
- 1934: University Museum, University of Groningen.

- 1934: Museum of Sketches for Public Art (Skissernas Museum), University of Lund. The main idea behind the creation of this art museum was to collect sketches and models for art in architecture to document the creative process, or what its founder, Ragnar Josephson (1891-1966), Professor in Art History, called 'the birth of the work of art'. After renovation, the Skissernas Museum re-opened in 2005.
- 1934: Geiseltal Museum (Geology and Palaeontology), Martin-Luther University of Halle-Wittenberg.
- 1936: University Museum, University of Utrecht, is officially established.
- 1937: Creation of the Palais de la Découverte, Paris, originally integrated in the University of Paris. Later, the institute became autonomous, but remained under the Ministère de l'Éducation nationale. Founder: Jean Perrin.
- 1938: Museum of Physics, University of Coimbra.
- 1939: As the Zoological Society of Amsterdam nears bankruptcy, the Municipality of Amsterdam and the Province of North-Holland together bought all its possessions. The zoological collection and library became part of the University of Amsterdam.
- 1941: Part of the Museum of the Royal College of Surgeons destroyed by bombing (Kirkup 1993).
- 1944 (4 November): Whipple Museum, University of Cambridge, created. In the beginning, the collection was stored in Fitzwilliam's basement, but on 5 May 1951 the Museum opened its doors at the present location and, curiously, became known as the 'Newton Museum' (Bennett 1997). The original donation by Robert Whipple included nearly 2,000 antique instruments and books.
- 1945: The curatorship of the Sedgwick Museum becomes attached to a university lectureship (Price 1989a).
- 1946: The old Botanical Garden and Museum of Humboldt University are integrated in Freie Universität Berlin (Weber 2002).
- 1946: Agricultural Museum, Lackham College, UK.
- 1947: University of British Columbia Museum of Anthropology, Canada.
- 1947: Musée Préhistorique de Penmarch, University of Rennes (France). The Museum existed already since 1919 (private association), but it was donated to the University of Rennes in 25 August 1947.
- 1948: University of Bergen. Upon its foundation, the university incorporated the natural history collections of Bergen's City Museum, which in turn had been founded in 1825 (Roselaar 2003).
- 1950: Musée national de l'Éducation, Rouen.
- 1950 (March): Museum of the History of Medicine, University of Louvain – moved to Louvain-en-Woluwe when the university was divided into French and Dutch sections.

Today, the museum is closed to the public and is considered “une réserve assez heteroclite, faute de budget et de personnel” (Aubert 1998: 367).

- 1951: Theatre Museum, University of Bristol.
- 1955: Donation of the Albert Couvreur history of pharmacy collection to the Université Catholique de Louvain (Faculty of Pharmacy). After the divide of 1968, the Couvreur Collection came under the French section (campus de Louvain-en-Woluwe).
- 1961: Korean Association of University Museums (KAUM).
- 1960: Robert Koch Museum, Institute of Microbiology, Humboldt University Berlin. The Museum was founded to mark the 50<sup>th</sup> anniversary of the death of Robert Koch. However, the Museum had to wait 22 years – the 100<sup>th</sup> anniversary of the discovery of tuberculosis – to be provided with an adequate display space (albeit still minimal).
- 1968: Ethnographic Museum Gerardus van der Leeuw, University of Groningen.
- 1968: The University of Louvain is divided into the Université Catholique de Louvain and the Katholieke Universiteit van Leuven, triggering a divide of heritage, books, archives and collections (Aubert 1998).
- 1968: The collections of antiquities and natural history of the Royal Norwegian Scientific Society (1767) enter the Norwegian University of Science and Technology at Trondheim to form the Vitenskapsmuseet of the university (designated Museum of Natural History and Archaeology in the English language section of their website). The collections had first been assembled in 1760 by Gerhard Schøning and Peter Friderich Suhm at the former Trondhjemske Selskab (Trondheim Society).
- 1969: School of Conservation Sciences Collection, University of Bournemouth, UK. The collection relates to the activities of the Centre for the History of Defence Technology (CHiDE) and the archives generated by consultancy and students’ work. It includes archaeology, natural history, artefacts related to the history of the CHiDE (radios, transmitters, etc) and archives (Arnold-Foster & Weeks 1999).
- 1970: Collection de Minéraux, Université Pierre et Marie Curie, Paris, opens to the public at its current location. The beginnings of the collection date from 1809, when the Chair of Mineralogy was created at the University of Paris (Ruppli 1996).
- 1972: Sacred Art Museum, University of Coimbra.
- 1972: Musée de la Pharmacie ‘Albert Ciurana’, University of Montpellier I.
- 1973: Natural History Museum of the Institute of Biology, Copernic University of Toruń, Poland (Jakubowski 2001).
- 1974: At the occasion of its 75<sup>th</sup> anniversary, the École de Médecine de Lyon decides to create a Museum (open in 1978). Today the Musée Dentaire, Université de Lyon Claude Bernard.
- 1975: Donation of the house and collection of Prof. Abel Salazar to the University of Porto. In 1990, the House-Museum Abel Salazar opened to the public (historic house).

- 1976: Natural History Museum, University of Worcester, opens to the public. The beginnings of the collection date from the 19<sup>th</sup> century Zoologisches and Botanisches museums (Jakubowski 2001).
- 1976: Museum of Tartu University History.
- 1978: Vrolik Museum, University of Amsterdam. Willem Vrolik jr. died in 1863 and, knowing that his widow wanted to sell the collection, the director of the Zoological Society of Amsterdam collected money and purchased Vrolik's collection in 1865. In 1939, the Society's collections, including the Zoological Museum, were incorporated by the University of Amsterdam and the Vrolik collection went to the Anatomical Laboratory. In 1978, the human specimens of Vrolik's collection became the Vrolik Museum at the Academic Medical Center (Nespoli 1999).
- 1978: Helsinki University Museum (history of the University of Helsinki). The Museum opened to the public in 1983; it was renovated in 2003 when it expanded its collections and moved into a new site.
- 1978: Sainsbury Centre for the Visual Arts, University of East Anglia, UK. The Centre resulted from a donation made to the University in 1973.
- 1978: Hunt Museum of Decorative Art, Limerick University, Ireland.
- 1979: Musée Dentaire, Université de Lyon (Ruppli 1996).
- 1979: Musée de Louvain-la-Neuve, Université Catholique de Louvain.
- 1979: Salle Allende, Université Libre de Bruxelles (art gallery & collection).
- 1979: Museo d'Astronomia della Specola, University of Bologna.
- 1980: Association of College and University Museums and Galleries (ACUMG), USA.
- 1982: The Museum of Physics, University of Bologna, is recognised by the Department. G. Dragoni collected instruments at the University throughout the 1970s (G. Dragoni, *pers. comm.* 12 March 2003).
- 1983: Museum of Physics, University of Naples Federico II. The Museum had been closed to the public, but was renovated and opened in January 2005.
- 1985: Creation of the Museum of Science of the University of Lisbon. Opened to the public in March 1993.
- 1985 (27 September): Jardin des Plantes Médicinales, Faculté de Médecine, Université Catholique de Louvain (campus de Louvain-en-Woluwe) inaugurated.
- 1986: Hortus Botanicus Amsterdam becomes a private foundation, independent from the University although still receiving an annual subsidy (Ursem 1994).
- 1986: Cité des sciences et de l'industrie, Paris.
- 1987: Athens University Museum.
- 1987: University Museums Group (UMG), UK.
- 1988: *Magna Charta of Universities*; 250 rectors of European universities sign the Charta, in which the cultural relevance of universities is explicitly mentioned.

- 1988: Design Study Collection, Arts Institute, Bournemouth, UK.
- 1989: The position of Director of the *Zoologisches Forschungsinstitut und Museum Alexander Koenig* in Bonn becomes attached to the newly created Chair of Systematic Zoology at the University of Bonn. The Alexander Koenig Museum is a federal museum (North Rhine-Westphalia) with collections of national and international significance, partly dating from the 19th century.
- 1989: Ecomusée du Viroin-Treignes, Université Libre de Bruxelles.
- 1990: Academic Museum, University of Coimbra.
- 1990: Museo di Storia della Fisica, University of Padua.
- 1991: Archivio Scientifico e Tecnologico, University of Turin.
- 1991: Osservatorio Brera Collection (Istituto di Fisica Applicata), University of Milan.
- 1992: Council of Australian University Museums and Collections (CAUMAC).
- 1993: University Hospital Museum, University of Groningen.
- 1993: Astronomical Observatory, University of Coimbra, established; the collections date from the 18<sup>th</sup> century (original 18<sup>th</sup> century building demolished in the 1950s).
- 1994: Geology Museum of the Institute of Marine Sciences, University of Szczecin, Poland (Jakubowski 2001).
- 1994: Grande Galerie de l'Evolution, Muséum national d'Histoire naturelle (Paris).
- 1994: Centre de Culture Scientifique de l'Université Libre de Bruxelles (CCS) à Charleroi-Parentville.
- 1994 (20 December): Musée de la Médecine, Université Libre de Bruxelles.
- 1995: Museum of Science, University of Porto.
- 1996: Forum of Brazilian University Museums is created.
- 1996: Utrecht University Museum is renovated and re-opens in a new site lead adjacent to the Old Botanical Garden.
- 1997: Stichting Academisch Erfgoed (SAE), Dutch Foundation for Academic Heritage.
- 1997: Bill Douglas Centre for the History of Cinema and Popular Culture, University of Exeter opens to the public after a donation made to the University in 1994.
- 1997: Museum Gustavianum, Uppsala University.
- 1997 (11 November): Museo e Archivio del Politecnico (Turin).
- 1997: Kyoto University Museum (on the occasion of the centennial of Kyoto University).
- 1997: Botanical Garden of the University of Padua designated World Heritage Site by UNESCO.
- 1998: University Museums in Scotland (UMiS).
- 1998: The Council of Europe issues a Recommendation aiming at the protection of 'incidental collections', i.e. those owned by institutions whose main purpose is not collecting and caring for collections (Recommendation # 1375).

- 1999 (September): The Italian Conference of Rectors (CRUI) creates a special Commission for University Museums and Collections (the *Commissione Musei*) (Garuccio 2005).
- 1999: Natural History Museum of the Faculty of Biology, University of Bialystok, Poland (Jakubowski 2001).
- 1999: The Council of Europe initiates a European Project (jointly coordinated by its Cultural Heritage Committee and Higher Education and Research Committee) on university heritage. The project would last until 2001 and result in a publication (Sanz & Bergan 2002) and a Draft Recommendation on university heritage.
- 2000: Geology Museum of the Faculty of Biology and Earth Sciences, University of Lodz, Poland (Jakubowski 2001).

### Twenty-first century:

- 2000: Declaration of Halle and the establishment of UNIVERSEUM.
- 2000: Museo Palazzo Poggi, University of Bologna.
- 2000 (10 April): Inauguration of the renovated Musée des Arts et Métiers, CNAM. The Musée had been founded in 1794 but had undergone considerable stagnation during the 20<sup>th</sup> century (on the renovation, see e.g. Ferriot *et al.* 1998, Ferriot 2000a,b, Jacomy 2000).
- 2000 (10 May): Permanent exhibition *Simmetria, giochi di specchi* opens to the public, Department of Mathematics, University of Milan.
- 2001 (July): First meeting in Barcelona of ICOM's International Committee for University Museums and Collections (UMAC).
- 2001: *Experimentarium*, Université de Bourgogne, Dijon.
- 2002: Asociación de Museos y Colecciones Universitarios Españoles (AMCUE).
- 2003: Helsinki University Museum moves to the historic Arppeanum building, integrating other museums at Helsinki University: the Museum of Medical History, the Museum of the History of Veterinary Medicine, the Museum of the History of Dentistry and the Collections of Craft Science.
- 2003 (July): Renovated Museum of Manchester, University of Manchester, opens to the public.
- 2004: The final Draft Recommendation on the Governance and Management of the University Heritage is approved by the CDESR and the CDPAT of the Council of Europe. It is hoped the Recommendation will be signed by ministers of education in 2005.
- 2004 (June): Renovated courtyard at the Fitzwilliam Museum, University of Cambridge.
- 2004 (3 December): Greek University Museums and Collections Working Group, within the auspices of ICOM-Greece (Theologi-Gouti 2005).

- 2004 (2 June): Renovated Groningen University Museum.
- 2005 [January]: Museum of Physics, University of Naples Federico II.
- 2005 [February]: Museum of Evolution, University of Uppsala.
- 2005 [February]: Renovated Hunterian Museum at the Royal College of Surgeons of England (London).
- 2005 [May]: The Petrie Museum of Egyptian Archaeology (University College London) receives the UK's Heritage Award for Excellence "for its ability to remain relevant after 103 years" (London Net, in <http://www.londonnet.co.uk/In/talk/news/headlines.html>, accessed 2 June 2005).
- 2005: Helsinki University Museum is awarded the Museum Achievement of the Year Prize by the Finnish National Committee of ICOM. The reasons cited for the award were the following: "the Museum has succeeded in merging the many small collections of the University into one interesting and coherent whole" (K. Hëinamies, *in litt.* 25 May 2005).
- 2005: Lewis Glucksman Gallery, University College, Cork was designated 'Best Public Building' in Ireland.
- 2005: Declaration of the Council of Europe on University Heritage is to be signed by ministers of education from the countries represented in the CoE.
- 2005: New building for Museum of Musical Instruments, University of Leipzig.
- 2005 [July]: Renovated Museum at the Royal College of Surgeons of Edinburgh.
- 2005 [July]: New building for the Museum of English Rural Life, University of Reading (UK).
- 2005 [Autumn]: Renovated and expanded Sainsbury Centre for Visual Arts, University of East Anglia, UK.
- 2005 [September]: Renovated Museum of Human Anatomy, University of Turin.
- 2005 [10 September]: Museum of the North, University of Alaska.
- 2007: UniSA Art Museum (new building), University of South Australia.
- 2008: Panopticon, University College London.

## References

- Abecasis, M.I.B., 1999. A família real e o gosto pela natureza: o Jardim Botânico e o Museu de História Natural. In: C. Castel-Branco (ed.), *Jardim Botânico da Ajuda*, pp. 123-140. Jardim Botânico da Ajuda, Lisboa.
- Ahrens, T.G., 1925. The ornithological collection of the Berlin Museum. *Auk*, **42**: 241-245.
- Aubert, G., 1998. L'histoire de la médecine à l'université de Louvain. *Louvain Med.*, **117**: 359-373.
- Alexander, E.P., 1979. *Museums in motion*. American Association for State and Local History, Nashville.

- Arnold-Forster, K. & J. Weeks, 1999. *Minerals and magic lanterns. The university and college collections of the south west*. South West Museums Council, Somerset.
- Bateman, J.A., 1975. The functions of museums in Biology. *Museums Journal*, **74**: 159-164.
- Bennett, J.A., 1997a. Museums and the establishment of the history of science at Oxford and Cambridge. *British Journal for the History of Science*, **30**: 29-46.
- Bourgat, R., 2002. L'ouverture sociale du museum de Perpignan. *La Lettre de l'OCIM*, **79**: 21-23.
- Boylan, P.J., 1999. Universities and museums: past, present and future. *Museum Management and Curatorship*, **18**: 43-56.
- Carvalho, R. de, 1996. *História do ensino em Portugal desde a fundação da nacionalidade até ao fim do regime de Salazar Caetano*. Second edition, Fundação Calouste Gulbenkian Lisboa.
- Clercq, P. de, 1997. *The Leiden Cabinet of Physics. A Descriptive Catalogue*. Boerhaave Museum, Leiden.
- Clin, M.V., 1994. *Le Musée d'Histoire de la Médecine de Paris*. Musée d'Histoire de la Médecine, Paris.
- Cristofolini, G., U. Mossetti & C. Bonfiglioli, 1993. Pre-linnea herbaria in Bologna: some newly discovered collections from the time of Ulisse Aldrovandi. *Webbia*, **48**: 555-565.
- Delmas, A., 1995. Le Musée Orfila et le Musée Rouvière. *Journal of Clinical Anatomy [Surgical and Radiology Anatomy]*, **17**: 289-293.
- Duggan, A., 1964. The functions of a modern medical teaching museum. *Museums Journal*, **63**: 282-288.
- Eidelman, J. & M. Van-Praët (ed.), 2000. *La muséologie des sciences et ses publics: Regards croisés sur la Grande Galerie de l'Évolution du Muséum national d'histoire naturelle*. Presses Universitaires de France, Paris.
- Etienne, R., 1998. Le nouveau Musée de Moulages de l'Université de Lyon II. In: *Le Moulage. Actes du Colloque International, 10-12 avril 1987*, pp.223-227. La Documentation Française, Paris.
- Fernandes, A., 1986. Historia da botânica em Portugal até finais do século XIX. *História e desenvolvimento da ciência em Portugal*, **2**: 851-916. Academia das Ciências de Lisboa.
- Ferriot, D., B. Jacomy & L. André, 1998. *Le Musée des Arts et Métiers*. Réunion des musées nationaux & Fondation Paribas, Paris.
- Fontana, E. & Heise, B., 1998. *Pleasures for both eye and ear*. Verlag des Musikinstrumenten-Museums der Universität Leipzig & Verlag Janos Stekovics, Halle (Saale).
- Foster, K.P., 1999. The earliest zoos and gardens. *Scientific American*, **281** (1): 64-71.
- Garuccio, A., 2005. *Rapporti tra università-musei-scuola*. Unpublished paper presented at the session 'Musei Scientifici: patrimonio da valorizzare' [public session to launch the creation of the Italian Observatory for Scientific Museums], Rome 15 June 2005.
- R. Gattermann & V. Neumann, 2003. Die Geschichte der Zoologie in Halle (Saale). *Mitteilungen der Deutschen Zoologischen Gesellschaft* **95** (3): 5-26.
- Giacobini, G., 1997. Wax model collection at the Museum of Human Anatomy of the University of Turin. *It. J. Anat. Embryol.* **102**, (2): 121-32.
- Greene, K., 1995. *Archaeology. An introduction*. Third edition. Routledge, London.
- Hamm, E.P., 2001. Unpacking Goethe's collections: the public and the private in natural-history collecting. *British Journal of the History of Science*, **34**: 275-300.

- Haneveld, G.T., 1978. Pathologische anatomie in Utrecht, circa 1800 – 1850 (*'Pathological anatomy in Utrecht circa 1800-1850'*). Unpublished Ph.D thesis, University of Amsterdam.
- Holland, J., 2002. *Scientific instrument makers in an institutional context*. Unpublished paper presented at the XXI Scientific Instrument Symposium, 12 September 2002, Athens, Greece.
- Holthuis, L.B., 2001. National Museum of Natural History/Naturalis. In J. van der Land (ed), *The history of natural history in Leiden*, pp. 19-26. National Museum of Natural History, Leiden.
- Hurel, A., 2000. L'Institut de Paléontologie Humaine. *La Revue pour l'histoire du CNRS*, 3: 88-93.
- Jakubowski, K.J., 2001. Les tendances dans le développement des musées d'Histoire naturelle en Pologne. *La Lettre de l'OCIM*, 76: 38-53.
- Jasiuk, J., 2001. Les musées scientifiques et techniques en Pologne. *La Lettre de l'OCIM*, 76: 71-79.
- Kirkup, J., 1993. The historic instrument collection at the Royal College of Surgeons of England. *Journal of Medical Biography*, 1: 52-58.
- Kohlstedt, S.G., 1988. Curiosities and cabinets: natural history museums and education on the antebellum campus. *Isis*, 79: 405-426.
- Laurencich-Minelli, L., 2001. Museography and ethnographic collections in Bologna during the sixteenth and seventeenth centuries. In: O. Impey & A. MacGregor (eds.), *The origins of museums: the cabinet of curiosities in sixteenth- and seventeenth-century Europe*, second edition, pp. 19-27. House of Stratus, London.
- Le Minor, J.-M., 2002. *Les sciences morphologiques médicales à Strasbourg du XVe au XXe siècle*. Presses Universitaires de Strasbourg.
- Lewis, G.D., 1984. Collections, collectors and museums: a brief world survey. In: J.M.A. Thompson (ed.), *Manual of Curatorship*, pp. 7-22. Butterworths & Museums Association, London.
- Leybold, D., 1996. Richesse du patrimoine universitaire strasbourgeois. Le musée de minéralogie. *Bulletin de l'Association Philomatique d'Alsace et de Lorraine*, 32: 69-81.
- MacDonald, S., 2002. An experiment in access. *Museologia*, 2: 101-108.
- MacGregor, A., 2001. *The Ashmolean Museum. A brief history of the museum and its collections*. Ashmolean Museum & Jonathan Horne Publications, London.
- Mauriès, P., 2002. *Cabinets of curiosities*. Thames & Hudson, London.
- Mayring, E.A., 2000. Munich's technology collections. *Technology and Culture*, 41: 521-524.
- Mériot, C., 1996. Méconnu mais vivant... Le Musée d'Ethnographie de l'Université de Bordeaux II. *La Lettre de l'OCIM*, 44: 16-19.
- Monteiro, A.A., C. Castel-Branco & L.L. da Fonseca, 1999. Restauro e manutenção: Apogeu e declínio de um jardim. In: C. Castel-Branco (ed.), *Jardim Botânico da Ajuda*, pp. 143-169. Jardim Botânico da Ajuda, Lisboa.
- Mossière, J.-C., 1996. Les musées des moulages. *La Lettre de l'OCIM*, 44: 10-13.
- Nespoli, T., 1999. *De collectie Vrolijk, van voor het leven tot na de dood*. Zoölogisch Museum, Universiteit van Amsterdam.
- Olmi, G., 2001. Science-Honour-Metaphor: Italian cabinets of the sixteenth and seventeenth centuries. In: O. Impey & A. MacGregor (eds.), *The origins of museums: the cabinet of curiosities in sixteenth- and seventeenth-century Europe*, second edition, pp. 1-17. House of Stratus, London.

- Paiva, J.A.R., 1981. Jardins botânicos: sua origem e importância. *Munda*, **2**: 35-43.
- Peruzzi, G. & S. Talas (eds), 2004. *Bagliori nel vuoto. Dall'uovo elettrico ai raggi X: un percorso tra elettricità e pneumatica dal Seicento a oggi*. Ed. Canova/Museo di Storia della Fisica dell'Università degli studi di Padova, Padova.
- Petch, A., 1998. 'Man as he was and man as he is'. General Pitt Rivers's Collections. *Journal of the History of Collections*, **10**: 75-85.
- Pieters, F.F.J.M., 1981. "La menagerie du Muséum National d'Histoire Naturelle" par Lacépède, Cuvier & Geoffroy: Historique de l'impression et description bibliographique des éditions françaises in-folio. *Bijdragen tot de Dierkunde*, **51**: 219-249.
- Poulot, D., 2001. *Patrimoine et musées – l'institution de la culture*. Hachette, Paris.
- Price, D., 1989. A life of dedication: A.G. Brighton (1900-1988) and the Sedgwick Museum, Cambridge. *Geological Curator*, **5**: 95-99.
- Rawson, H., 2004. 'I observed nothing remarkable': the presentation of, and responses of visitors to, objects of significance at the University of St Andrews, from 1677. Unpublished paper presented at the UMiS Conference, 12 November 2004, Edinburgh.
- Ray, C.E., 2001. Prodrromus. In: C.E. Ray & D.J. Bohaska (eds.), *Geology and paleontology of the Lee Creek Mine, North Carolina*, III, pp. 1-20. Smithsonian Contributions to Paleobiology, **90**.
- Rheeden, H. van, 2001. The rise and fall of the plaster-cast collection at The Hague Academy of Fine Arts (1920-1960). A personal enterprise of the Dutch dilettante and classicist, Constant Lunsingh Scheurleer (1881-1941). *Journal of the History of Collections*, **13**: 215-229.
- Rooseboom, M., 1958. The history of science and the Dutch collections. *Museums Journal*, **58**: 199-208.
- Roselaar, C.S., 2003. An inventory of major European bird collections. *Bulletin of the British Ornithologists' Club*, **123A**: 253-337.
- Ruppli C., (ed.), 1996. *Les muséums de France et les musées de l'Éducation nationale – Guide*. OCIM/Éditions Faton, Dijon.
- Sallois, J., 1995. *Les musées de France. "Que sais-je?"*. Presses Universitaires de France, Paris.
- Sanz, N. & S. Bergan (eds.), 2002. *The heritage of European universities*. Council of Europe Publishing, Strasbourg.
- Schepelern, H.D., 2001. Natural philosophers and princely collectors: Worm, Paludanus, and the Gottorp and Copenhagen collections. In: O. Impey & A. MacGregor (eds.), *The origins of museums: the cabinet of curiosities in sixteenth- and seventeenth-century Europe*, second edition, pp. 167-176. House of Stratus, London.
- Siraisi, N., 1996. A Faculdade de Medicina. In: H. de Ridder-Symoens (ed.), *Uma história da universidade na Europa. Vol. 1 – As universidades na Idade Média*, pp. 361-88. Imprensa Nacional-Casa da Moeda, Lisbon.
- Soldano, A., 2000. *L'erbario di Ulisse Aldrovandi*. Istituto Veneto di Scienza, Lettere ed Arti, Venice.
- Theologi-Gouti, P., 2005. Meeting of the Greek University Museums and Collections. *UMAC Newsletter*, (January): 4.
- Ursem, B., 1994. *The golden age of the Hortus Botanicus of Amsterdam*. Stichting Interimbeheer Hortus Botanicus, Amsterdam.

- Verger, J., 1996. Modelos. In: H. de Ridder-Symoens (ed.), *Uma história da universidade na Europa. Vol. 1 – As universidades na Idade Média*, pp. 33-71. Imprensa Nacional-Casa da Moeda, Lisbon.
- Weber, C., 2002. From independent university collections to a *Wissenstheatre*: an ambitious project at the Humboldt University of Berlin. *Museologia*, 2: 81-88.
- Whitehead, P.J.P., 1970. Museums in the history of zoology. Part 1. *Museums Journal*, 70: 50-57.
- Woolley, L. & P.R.S. Moorey, 1982. *Ur 'of the Chaldees'*: Cornell University Press, Ithaca NY.