

# HISTORY OF SCIENCE

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## Natural history museology: establishment and formation of its theoretical bases

***Abstract.** The article presents a brief historical outline of the formation and development of natural history museology in Europe in the 15th–19th centuries. The development of scientific knowledge at that time affects the idea of the world order and the place of man in it, and the combination of knowledge with practical experience leads to the birth of true science. It is shown that one of the most important components of the development of natural sciences, in particular biological sciences, was the collection of naturalia (i.e. objects of natural origin), the rapid surge of interest in which contributed to the Great Geographical Discoveries. In chronological order, the further historical development of museum work from private collections in Italy to the formation of a prototype of a genuine museum, which performs the main museum functions such as amassment, storage and demonstration of collections, is considered. The role of prominent naturalists and philosophers such as F. Bacon, C. Linnaeus, and J.-W. Goethe in the development of museum work is considered and little known facts about their work in this area are presented. The first works of art that show the interiors of “Kunstkamas”, which became widespread in Europe in the 17th–18th centuries, are briefly considered. According to the authors, it is on the portrait of the Belarusian educator F. Skorina, which was published in Prague in 1517–1519, that the interior of the first Renaissance “kunstkammer” collections is depicted. Separately, the development of museology in Ukraine since the time of Yuriy Kotermak (Drohobych) (1450–1494) is considered and the differentiation of the concept of “museum” in the monuments of Ukrainian literature of the period of the 16th–18th centuries is studied.*



*The authors considered the methodological foundations of natural history museology and analysed the existing classifications of various branches of science. The specificity of natural history museology in the system of museological science is shown, the issue of singling out natural history museology as an independent discipline is discussed. It is proved that the periodization of museology and museum work in certain territories in historical time can be considered correct; the author's development of the periodization of natural history museology in Europe is also given.*

**Keywords:** *history of science; Europe museology; natural history museum; collection of naturalia; development of science museum in Ukraine*

## **Introduction.**

The possibility of consideration of natural history museology as an independent branch of science with its own research objects is still a topic of discussion among researchers of the history of science. Several studies on the history of formation and establishment of science are related to this issue and such research are conducted in many countries of the world.

In her book on natural history museology, Sotnikova (Sotnikova, 2011) partly considered the beginnings of formation of natural history collections in Europe, also paying attention to the largest collections of naturalia in Russia.

Among Ukrainian researchers studying methodological issues and the history of natural history museology, works of authors (Klymyshyn, 2010; Klymyshyn & Shydlovskiy, 2010, 2017; Chernobay, 2016; Shydlovskiy, 2012; Chervonenko, 2016, 2017a) draw particular attention. Issues of formation of natural history museums are also considered in several works of other authors as well, such as (Biliashivskiy, 2012; Biliashivskiy & Rozora, 2004; Nesterovskiy, 2011; Nesterovskiy & Volkonska, 2012; Samoilenko, 2016; Shypulin & Doguzov, 2013; Chervonenko, 2017b).

Many researchers investigated the periodisation of museology (Żygulski, 1982; Waidacher, 1999; van Mensch, 1992; Mauriès, 2002; Grickevich & Guzhalovskij, 2003; Yureneva, 2002, 2003; Sotnikova, 2004, 2011; Kepin, 2005; Tomilov, 2012; Ananiev, 2013; Sapanzha, 2014; Chervonenko & Kepin, 2017). Views of European as well as American, Canadian, and Japanese scientists are generalised in V. G. Ananyev's monograph (Ananiev, 2014).

In the same time, questions related to the determination of "periodisation" in the context of natural history museology have remained beyond attention and no criteria of the term were developed. Issues related to the determination of theoretical bases of natural history museology were not considered either.

Therefore, the aim of the present article is to survey the history of formation of natural history museology in Europe, including Ukraine, as well as to determine the status of natural history museology and its place in the system of science.

## **The establishment of natural history museology.**

After the Middle Ages, in the 16<sup>th</sup> century the flourishing of culture and spiritual life of the west European society have started. On the background of unevenness and asynchrony of historical development of different regions of Europe, such countries as

Italy, France and Germany became leaders of scientific and cultural life developing cultural tendencies that arose yet in the 13–14<sup>th</sup> centuries. The development of science in those times largely influenced the view on the structure of the universe and the place of humans in it, while the combination of knowledge with practical experience led to the emergence of true science.

The Age of Discovery had largely effected the rapid surge of interest towards collection of naturalia, i.e. items of natural origin, which allowed introducing the fauna and flora of unknown or barely known continents such as Southeast Asia, North and South America, and Africa to the people of Europe.

The unique geographic location of Italy, where roads from South to North and West to East crossed, as well as the presence of a large number of ports, which served as places of a lively exchange of goods, contributed the best to the detection of rare specimens of unusual items. Eventually these items were included into collections and became commercial items. Italy became one of the first European countries where natural items had been collected along with pieces of art (Laurencich-Minelli, 2017; Sotnikova, 2004; Yureneva, 2002). Practical interest of physicians and apothecaries also prompted the receipt of unusual naturalia and raw materials from overseas, some of which were used as medication allowing to explore their features and influence on the human body. Accordingly, it demanded the improvement of methods of collecting, storing and processing of these materials. Italian physicians and apothecaries in the early 16<sup>th</sup> century had amassed the best collections of naturalia. The amassment of natural collections became such a popular and prestigious practice that people of the middle class, secular and spiritual authorities, as well as nature explorers had started to collect and amass naturalia in their private collections. Natural collections were also organised at universities, academies and scientific societies. Eventually the number of collections in Italy grew rapidly up to 250 (Olmi, 2019).

The transformation of collections into natural history museums was prompted by the development of natural history as a branch of science. The passion for collecting naturalia in Italy gave an enormous impulse to the renaissance of natural science. The ways nature has developed were studied in universities of Padua, Pisa and Bologna, as well as at judicial institutions, academies, pharmacological societies, private laboratories etc. As a result of using collections, new approaches to exploration of nature and research techniques, Ulisse Aldrovandi (1522–1602) and Athanasius Kircher (1602–1680) had changed the history of natural science (Mauriès, 2002, pp. 8–68).

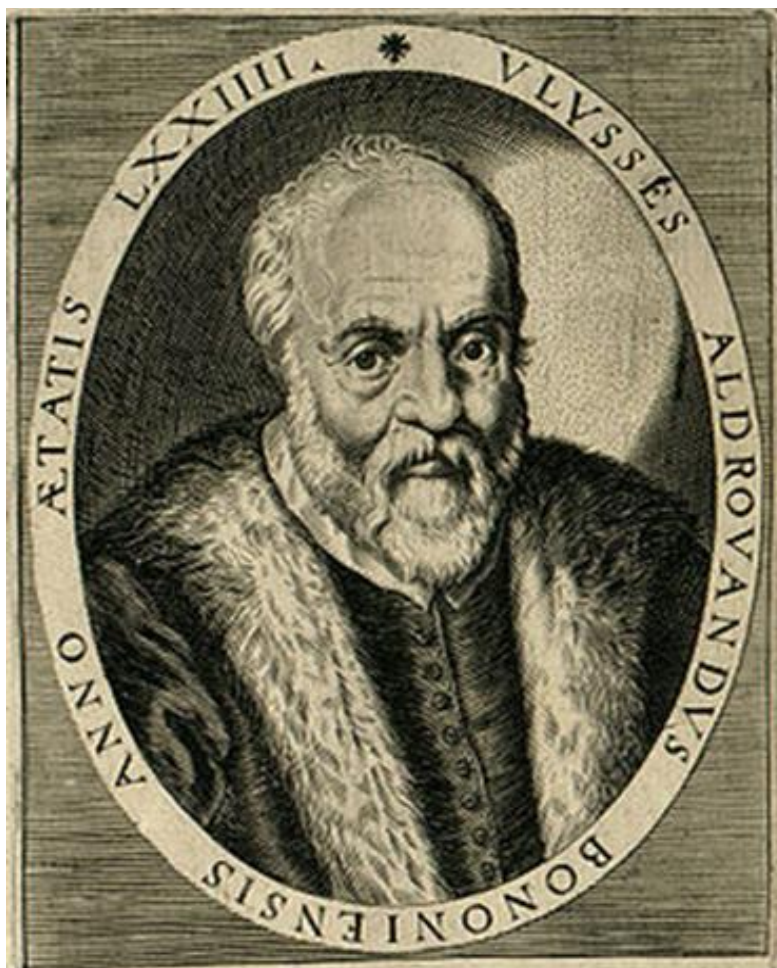
Renaissance culture most clearly manifested in various forms in Italy. Universities of Bologna and Padua had appointed the very first professors of natural philosophy. The first botanical gardens were created as well, while natural history collections had been used as educational instruments in studying of “*materia medica*” and philosophical understanding of nature (Sotnikova, 2004, p. 21; Mauriès, 2002, pp. 8–68; Aldrovandi, 1668).

Renaissance collections were generally universal and consisted of, beside naturalia, pieces of art such as paintings, engravings, jewellery, numismatic samples, artistic textiles etc. Items of natural origin were represented by ivory products, amber,

minerals, gems, hunting trophies, as well as scientific instruments, globes, astrolabes, compasses, being stored separately but treated as a single collection (Mauriès, 2002, pp. 8-68; Grickevich, 2004, pp. 21–23).

Items to such collections were gathered either randomly or systematically, often not only considering their historical, scientific or artistic value, but also particularity. Such selection of collection items led to an amassment of low-grade materials, which caused a negative attitude towards the collection in general (Yureneva, 2002). Unlike them, collections that had been created considering scientific principles gained final recognition. Renaissance Italian “*museolo naturale*” became of great importance.

One of the earliest and most notable “*museolo naturale*” were the collections of Ulisse Aldrovandi (1522–1602) (Fig. 1,2), the first professor of natural philosophy and founder of the first botanical garden of the University of Bologna, Michele Mercati (1541–1593), papal physician and curator of the botanical garden, and Francesco Calzolari (1521–1600), apothecary of Verona, as well as the botanical collection of the physician Andrea Cesalpino (1519–1603). The cabinet of Ferrante Imperato, the apothecary of Naples, which was created in 1580, had its own catalogue “*Ritratto del museo de Ferrante Imperato*” and was considered as predecessor of a specialised natural history museum (Olimi, 2019).



**Figure 1.** Ulisse Aldrovandi (1522–1602). Photo engraving from the Museum Bologna by O. Chervonenko, 2018.





**Figure 2.** The current view of Aldrovandi’s museum in Bologna, Italy. Photo by O. Chervonenko, 2018.

Collections of naturalia were called “museum” only later. At first, rooms for the storage and demonstration of unusual or valuable items had different names. In Italy, “studiolo naturale” was the most widespread name. Italian naturalists often called their cabinets as museums, which in those times was considered a synonym of the word “collection”. Therefore, the word “museum” meant the rooms where collections of specimens of natural origin were stored and studied. In 1669, Paolo Boccone first qualified collections of naturalia as “museum” and noted the “great respect natural history museums had earned in Italy” (Olm, 2019).

Collecting became a sphere of activity of the upper class – intellectual and social elite, whose authority was risen by the presence of cabinets or botanical gardens in their estates. Collections also became a source of scientific investigations and instrument for education of students. Catalogues of natural history museums of Italy until the late 16<sup>th</sup> century alongside catalogues of libraries and observatories, as well as descriptions of workrooms, played a leading role in coordination of scientific activities. Therefore, naturalia became study objects losing their utilitarian significance, which is common for museum items.

### **The Kunstkamera genre.**

Since the Renaissance, the first pieces of art showing the interior of “kunstkameras” had appeared. Kunstkameras were widespread in Europe in the 17–18<sup>th</sup> centuries.

The view according to which anatomical theatres of the 17<sup>th</sup> century can be considered as museums appeared in some works (Levinson-Lessing, 1986, pp. 327–329 ; Ginzburg, 1953).

Pieces of art of the 17–18<sup>th</sup> centuries showing different images of “kunstkameras” can be divided into two groups. To the first group belong works of art, mainly of graphics, showing natural history and scientific collections, while the second group includes collections of works of painting and crafts. However, on some paintings we can see complex collections including both natural items, anatomical preparations, “curious” items and works of painting and crafts. The images of museum collections of ethnographic and memorial character, which can be considered as independent groups, have reached our time.

The first paintings of “anatomical” plot appeared in the Dutch art in the early 16<sup>th</sup> century and became widespread in the following centuries. For instance, on the painting of the Dutch painter Rembrandt Harmenszoon van Rijn (1606–1669) “Die anatomie des Doctor Tulp”, Signiert und datiert 1632, Den Haag Mauritshuis) we do not see a “museum” interior. According to art critics, the plot of the painting takes place in June–July 1632 in Professor Nicolaes Tulp’s own house in Amsterdam, who was the burgomaster of the city in that time (Driessen-van het Reve, 2015). Art critic P. Bonafoux asked suggested that the painting shows a man holding a piece of paper with a list of municipality members invited by the surgeon to an anatomy class (Bonafoux, 2002). Another art critic E. Yu. Fekher detected a volume of the work of Professor Andreas Vesalius (1514–1564), the Flemish naturalist and founder of the modern medical anatomy (Fekher, 1964). In our opinion, the painting shows the image of one of the seven books of Vesalius’ work “Andreas Vesalii Bruxellensis, scholae medicorum Pataui professoris De humani corporis fabrica libri septem, Basileae 1543”.

We suggest that the portrait, or possibly self-portrait, of the Belorussian enlightener F. Skorina (ca. 1486–1540) printed in his Bible translation “Biblia Ruska” (1517–1519), which was issued in Prague in 22 volumes, is the painting that shows the interior of the first renaissance “kunstkamera” collections. On the engraving (“Kniga Iisusa Sirakha”, that is, “Book of the All-Virtuous Wisdom of Yeshua ben Sira”) we can see F. Skorina in a room surrounded by natural history collections, scientific instruments and books (Fig. 3).

F. Skorina also was the founder of the botanical garden in Hradčany, Prague in 1535 under King Ferdinand I (Shemyakin et al., 1990).





**Figure 3.** F. Skorina’s *kunstkamera*. Self-engraving, 1517 (Snyder, 2008, p. 21).

Yureneva (Yureneva, 2003, p. 23) sees natural history museums in a number of engravings of the 15–18<sup>th</sup> centuries with images of rooms full of cupboards with bottles, flasks with labels written in Latin, and scales inside. However, we suggest that they are images of pharmacies. For instance, the first pharmacy in Kyiv, Ukraine was located in a house built in 1728 in Podilsk District. The pharmacy was founded by Johann Geiter, a German apothecary. From 1750, the pharmacy was run by Georg Friedrich Bunge (1722–1792) (Fig. 4,5) (Beziakin, Kiporenko, & Tyshchenko, 2004). Yureneva refers to exactly that type of interior.

Based on the analysis of catalogues of collections of works of art and direct exploration of the display of local history and art museums of Ukraine, we did not find images of “*kunstkamera*” collections, particularly of natural history collections. This may suggest that despite the widespread practice of keeping private collection amongst the Ukrainian *szlachta* (hetmans, Cossack officers), Polish and Lithuanian magnates of the 17–18<sup>th</sup> centuries, collections in Western Europe had a more “cameral” feature. This was manifested in the creation of art galleries, collections of paintings, pieces of decorative and applied art and small natural history collections as well

(Aleksandrovych, Bazhenova, Rahauskene, Kerkene, & Bumblauskac, 2012). However, we should also consider the possible loss of paintings with images of “kunstkamera” type of interior.



**Figure 4.** The building of the apothecary-museum in Podil, Kyiv. Courtesy of D. Kepin, 2017.



**Figure 5.** Part of exhibition. Courtesy of D. Kepin, 2017.

### **The development of natural history museology.**

The first treatises on museology in Europe appeared in the 16–17<sup>th</sup> centuries – works of S. on Kvicebergau, Munich 1565; F. Bocci, Florence 1591; C. Clement, Lyon 1635; J. Ziebmacher, Leipzig 1658; J. D. Major, Kiel 1674; and J. Reiske, Wolfenbüttel 1685 (Żygulski, 1982 ; Waidacher, 1999, p.368).

In these treatises, a museum is defined as “a collection of antique materials and items which are of particular interest for learned people and heads of schools, and items



which are collected, displayed and recorded according to scientific methods”. S. Von Kvicebergau was the first in European museology who developed the structure of an “ideal” museum consisting of eight sections, which would present the history of human culture and the natural history of a certain region of a country. The display of such kind of museum would be devoted to the achievements of the scientific thought in the study of natural and historical disciplines. The scientist practically proposed the plan of a thematic museum exhibition. In 1561, the first catalogue appeared in the history of museology – the catalogues of natural and historical collections of Leiden, the Netherlands (Kepin, 2005).

The English philosopher F. Bacon, who founded the experimental science of the Modern era, noted in his work “Pohvala Greiy” (1599) that any scientific establishment should have a library, a botanical garden with menagerie and a pond for fish – “a universal model of nature created privately, a cabinet of natural and artificial items, a chemical laboratory” (Sotnikova, 2004).

In another work, “The New Atlantis” published in 1627, the philosopher practically described the structure of an academy of sciences in the description of “Solomon’s House”. He proposed to display, in separate rooms, inventions and sculptures of inventors, that is, he first proposed the idea of a museum of science and technology (Bacon, 1977). In this works, Bacon also gave a description of orchards, gardens, apothecaries, parks, “reserves for animals”.

In 1621, the Danish physician Ole Worm established the first scientific natural history cabinet (Fig. 6). In 1655, he published the catalogue of his collections in Copenhagen under the title “Museum Wormianum, seu, Historia rerum rariorum: tam naturalium, quam artificiguae Hafniae Danorum in aedibus authoris servantur”. In this book, he presented a description of all private collections he was familiar with in European countries. Museum items were classified by the three kingdoms of nature (minerals, plants, and animals) and by artificialia (artificial fabricated items). In his last will and testament, Ole Worm presented his own collection to King Frederick III. Since 1670, the collection has been displayed in the wing of the Marine Arsenal in Copenhagen (Yureneva, 2002; Grickevich, 2004).

The great Czech educator John Amos Comenius in his book “Orbis Sensualium Pictus” (1658) considered the Latin word “muséum” as “...est locus, ubi Studiosus,...secretus ab hominibus, solus sedet, studiis deditus...” (...a place, where a man who studies sciences... sits alone far from people devoting himself to the job...) (Komenskiy, 1957, p. 86 ).

In the 18th century, theoretic contributions in museology increased in European countries. In 1704–1714, in Frankfurt, three volumes of “Museum Museorum...”, an encyclopaedic edition by the German physician and collector M. B. Valentini were published. In 1727, in Leipzig, the handbook “Muzeographia...” was published by C. F. Neickel, in which the first classification of museums in Europe was proposed: 1. “Schatzkammer” — collection of items made from precious metals, items of art and natural history; 2. “Galereie”; 3. “Kunstkammer” — art cabinet consisting of items of arts and crafts, ceramics, glass, as well as tin, ivory, medals, coins, scientific instruments, plaster casts and graphic arts; 4. “Antiguitatenkammer” — cabinet of

antiquities mainly of Italian origin; 5. “Studio-Museum” consisting of books, manuscripts, papyri, small plastics; 6. “Rarittatemkammer” (or “Wunderkammer”) — a cabinet of unique collection of rare or artistically made items; 7. “Naturalienkabinett” — cabinet of natural history (Żygulski, 1982, p. 34–38; Waidacher 1999, pp. 137–148).



**Figure 6.** Ole Worm's cabinet of curiosities, from *Museum Wormianum Historia*, 1655 (Richards, 2012).

A great contribution into museology was made by C. Linnaeus (1707–1778). Based on his own collection he created a natural history museum in Uppsala in the 1730s. Linnaeus was one of the few scientists who devoted great attention to the development of natural history museology terminology. In particular, in 1732 he published his treatise “*Instructio musei rerum naturalium*”, in which he defined a museum as an institute which functions include collecting, storing and scientific investigation of material testimonies of humans and natural specimens. Linnaeus was the first who began to prepare museum workers having disciples from several countries, including the Russian Empire, who had defended their theses in natural history museology (Bobrov, 1970, p. 29).

The largest figure in the German culture of the Enlightenment and Classicism J. W. von Goethe devoted great attention to the development of theoretic bases of museums and to methods of preservation of the natural and cultural heritage. In 1777, he developed a project of a museum display of a silver and copper mine in Ilmenau. Goethe proposed methodological recommendations to the conservation of natural history and anthropology collections. From 1803 until his death, he was the head of the

library, museum and natural history faculty at the University of Jena. In 1815, he was appointed state minister of the Grand Duchy of Saxe-Weimar-Eisenach becoming “head of supervision of the work of direct institutions of science and art in Weimar and Jena”. The philosopher proposed his own classification of museums: art museums (complexes); art galleries; cabinets-museums (Goethe, 1858).

In European museology, Goethe was one of the firsts asking the question “On what auditorium should be exhibitions oriented?” According to him, a museum display should consider the interests of different age groups. Goethe distinguished the methods of creating natural history exhibitions: by braches of knowledge or by a systematic and comparative-typological principle.

Goethe was also concerned about the architecture and artistic decisions on the museum display. Later in his work “Theory of Colours” (1810), he first discovered the relations between colour impressions and the mental state of people (Goethe, 1957).

On the page of his journal “On Art and Antiquity” in 1816 Goethe proposed the term “Museumskunde”, that is “museology” (Goethe, 1858).

### **The establishment of museology in Ukraine.**

In Ukraine, the original antique understanding of “museum”, prevailing in the era of the Byzantine Empire, as a “sanctuary”, “treasury”, “temple” was widespread unlike the Renaissance understanding of “museum” in its Italian variant as a place of amassment of systematised and described items for their preservation, investigation and for education (with no cultic function).

The hypothesis that the term “museum” was introduced into the science in Ukraine by Yuriy Drohobych-Kotermak (1450–1494), an outstanding figure of the Renaissance, doctor of arts and medicine, rector of the University of Bologna, was proposed by the Ukrainian museologist Yu. A. Omelchenko (Omelchenko, 1999; Omelchenko & Danilova, 1999), although without referring to any original source. In Omelchenko’s opinion, Ukrainian scientists and cultural figures used the term “museum” in the 16–18<sup>th</sup> centuries in the same understanding as in the Italian Renaissance (Omelchenko, 1999).

Therefore, we consider the differentiation of the term “museum” in monuments of the Ukrainian literature of the 16–18<sup>th</sup> centuries.

Four scientific works and two letters of Yu. Drohobych-Kotermak have reached our days. They are written in Latin and the word “museum” is absent in them. Based on the analysis of the scientist’s works we can assume that he could have his own botanical collection – a herbarium (Drohobych, 2001) (Fig. 7).

In the ancient Slavonic literature, the word “treasury” in the meaning of “museum” (in the understanding of ancient Greeks) is used in the collection of works “Knyzhka...” [Book...] (late 16<sup>th</sup> century) by I. Vishenskiy (Vishenskiy, 1955 ).

The term “museum” in monuments of Ukrainian literature was not used before the late 16<sup>th</sup> century and in the 17–18<sup>th</sup> centuries the word had several meanings. For example, in the “Latin Lexicon” created by Ye. Slavynetskyi in 1642 and widely known in those times, the word “museum” is defined as “a place for studying” (Nimchuk; Tsiluiko, 1973).





**Figure 7.** Monument to Yuri Drohobych-Kotermak in Drohobych (Lviv region). Sculptor Theodosius Brugge (1999). Photo by D. Kepin, 2014.

In the “Treatise on the Soul” (1625) written in Old Polish by the rector of Kyiv Brotherhood School (1620–1624) K. Sakovych, the Temple of Apollo in Delphi is considered in a multifunctional meaning as both “sanctuary” and “treasury”. There is a similar understanding of “museum” and “the Muses” in the famous philosophical dialogues of H. Skovoroda (1722–1794).

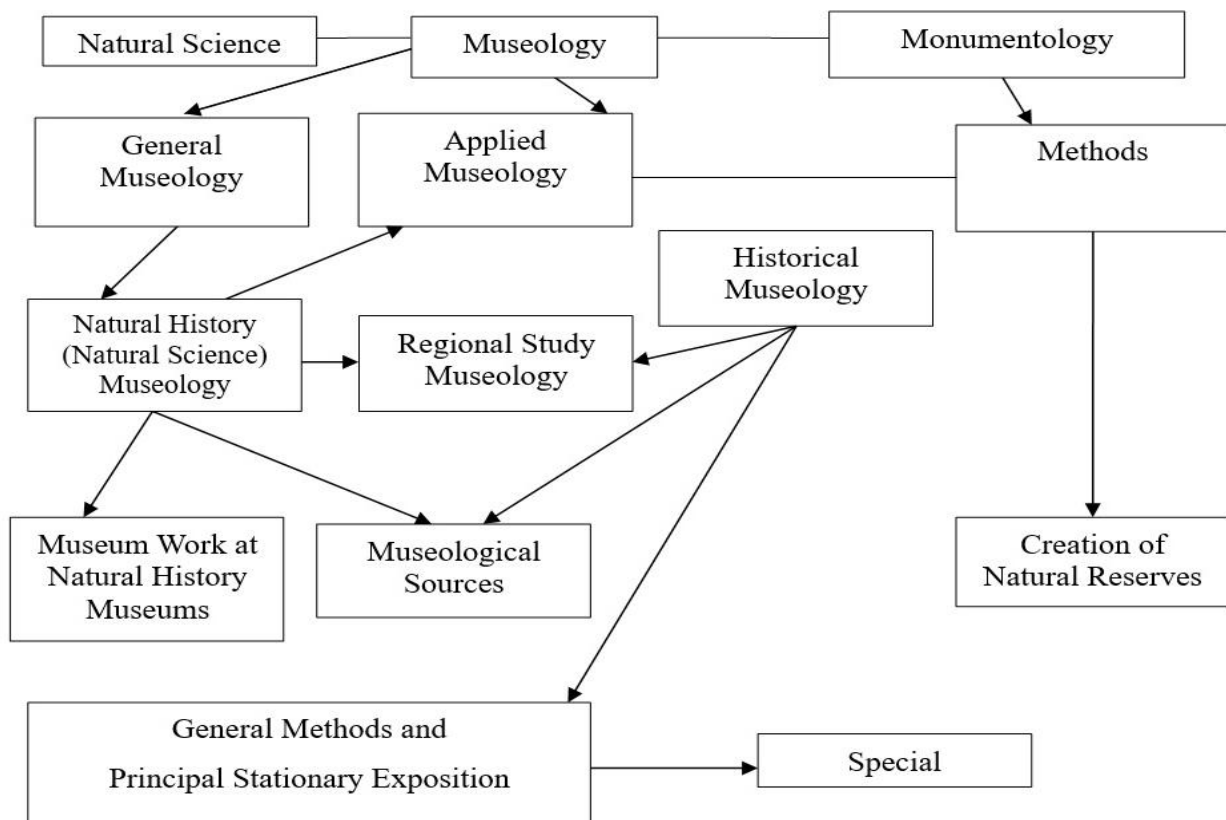
The spread of the Renaissance understanding of “museum” in the territory of Ukraine we associate with F. Skorina’s educational activities.

The further development of museology in Ukraine took place in the late 18<sup>th</sup> – early 19<sup>th</sup> centuries, which is related to the studying of antique remains in the Northern Black Sea Region, to the organisation of higher educational establishments (universities, scientific communities) and to differentiation of sciences, foremost of archaeology, ethnography, geology, botany, and mineralogy. In the early 19<sup>th</sup> century, the first historical and archaeological museums were organised in the Black Sea Region. At the University of Kharkiv, a cabinet of rarities and a mineralogical museum was established in 1807, while later, in 1835, also a Museum of Fine Arts. In the late 1800s, a zoological cabinet was created at the Kremenets Gymnasium of then Volyn Governorate, which became a basis for a similar cabinet at St. Volodymyr University of Kyiv (1834). In 1934, the cabinet became a zoological museum in the structure of the university. By the initiative of M. A. Maksymovych, the first rector of

St. Volodymyr University of Kyiv and an outstanding botanist and historian, an archaeological museum was created in 1835, in which natural history collections were also stored. At the University of Lviv, a mineralogical museum was established in 1852, although the first collections originate from 1661. In 1919, by one of the very first decrees of the Ukrainian Academy of Sciences a zoological museum was organised, which since 1966 has been part of the National Museum of Natural History at the National Academy of Sciences of Ukraine, the leading natural history museum of Ukraine, one of the largest natural history museums of Europe.

**The place of natural history museology among the branches of science.**

Determination of stages in the development of natural history museology is closely related to the history of nature science and it needs a brief overview of classification of sciences in general. Gnoseologists divide science into three large branches such as natural, technical and social sciences (Kedrov & Yudin, 2001). In such sense, natural history museology should be determined as an interdisciplinary science, which is part of museology and focuses on the axiological relation of people to nature. The research objects of natural history museology are monuments of natural origin (both objects of natural landscapes and specimens (naturalia) stored in museums). The subject of natural history museology is to display the history of life on Earth and of development of nature science (see the scheme in Figure 8).



**Figure 8.** Scheme. Structure of Natural History Museology.

The periodisation of natural history museology, in our opinion, should be based on research of its development and specifics with the consideration of changes in the

social and cultural life of the society. Therefore, it is obvious that *periodisation of museology can be correct only for a particular territory in a particular historical time.*

### **Conclusions.**

Summing it all up, we can conclude that the emergence of natural history museums was promoted by the cultural and scientific development of the society. The first natural history museums were not successors of some pro-museums such as princely or monasterial treasuries, cabinets of naturalia, kunstkameras but appeared as a reaction for social needs reflecting the worldview of that particular society. We argue that in historical studies the terms “pre-museum”, “proto-museum” collecting, “pro-museums” are temporal characteristics, while the terms “meso-”, “paleo-” and “neo-museum” epochs need further semantic clarifications. Considering the above arguments, we propose the following periodisation of natural history museum development for Europe:

#### **I. Pre-scientific stage:**

**I-1.** Primeval era – development of world perception and formation of natural knowledge of ancient humans

**I-2.** Greek-Roman era – appearance of the first written data on nature monuments of Europe;

**I-3.** Middle Ages – appearance of the first natural history collections of museum importance in the 16<sup>th</sup> century

#### **II. Scientific stage:**

**II-1.** Renaissance and Enlightenment – the emergence of museology as science and formation of museums in the 15–17<sup>th</sup> centuries;

**II-2.** 18<sup>th</sup> century – first half of the 19<sup>th</sup> century – the emergence of natural history museology and formation of awareness of objects of nature as those that require scientific research and possible preservation for future generations;

**II-3.** Second half of the 19<sup>th</sup> century – first half of the 20<sup>th</sup> century – development of scientific concepts of natural history collections display;

**II-4.** Second half of the 20<sup>th</sup> century – establishment of scientific schools of museology and scientific disciplines.

The formation of natural history museology in Ukraine took place in the second half of the 19<sup>th</sup> century to the 1920–1930s. Methodological bases for exposition, preservation and census of natural items were developed during this very period.

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### **Conflicts of interest.**

The authors declare no conflict of interest.



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## **Природнича музеологія: історія становлення та формування теоретичних засад**

*Анотація.* У статті представлено короткий історичний нарис формування та розвитку природничої музеології у Європі XV–XIX ст. Розвиток наукових знань у той час дозволяє впливати на уявлення про світобудову та місце людини у ній, а поєднання знань з практичним досвідом призводить до народження справжньої науки. Показано, що однією із найважливіших складових для розвитку природознавства, зокрема біологічних наук, стали

колекції натуралій – предметів природничого походження, бурхливому сплеску інтересу до яких сприяли Великі географічні відкриття. В хронологічній послідовності розглянуто подальший історичний розвиток музейної справи від приватних колекцій в Італії до формування прообразу справжнього музею, який виконує основні музейні функції: збирання, збереження та демонстрацію. Розглядається роль видатних дослідників природи та філософів Ф. Бекона, К. Ліннея, Й.-В. Гете у розвитку музейної справи та надаються маловідомі факти про їх роботи у цій царині. Коротко оглянуті перші художні твори, на яких зображено інтерери “кунсткамер”, що набули поширення у Європі у XVII–XVIII ст. На думку авторів, сааме на портреті білоруського просвятителя Ф. Скорини, що вийшов з друку у Празі у 1517–1519 рр., зображено інтер’єр перших ренесансних кунсткамерних зібрань. Окремо розглянуто становлення музеології в Україні від часів Юрія Котермака (Дрогобич) (1450–1494) та досліджена диференціація поняття “музей” у пам’ятках української писемності періоду XVI–XVIII ст. Автори розглянули методологічні основи природничої музеології та проаналізували існуючі у наукознавстві класифікації наук. Показана специфіка природничого музеєзнавства у системі музеологічного знання, дискутується питання про виділення природничої музеології як самостійної дисципліни. Доведено, що коректною може вважатись періодизація музеології та музейництва на певних територіях у окреслений історичний час, наприкінці наведена авторська розробка періодизації природничої музеології у Європі.

**Ключові слова:** історія науки; європейська музеологія; природничий музей; колекції натуралій; розвиток наукових музеїв України

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