

## **The Cabinet of Naturalia of the Royal Swedish Academy of Sciences at the End of the 18<sup>th</sup> Century**

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The theme of this conference is to compare and take an explicit historical outlook. In this paper I would like use the cabinet of naturalia of the Royal Swedish Academy of Sciences during the latter half of the 18th century as a case study. It outlines the prehistory of two national museums: the Swedish museum of natural history and the Museum of Ethnography. I will put the cabinet in a European context and describe it as something in between the older curiosity cabinet, but moving towards the more specialized collections of museums of later date. I will also argue that the combination of an astronomical observatory and cabinet of naturalia was made on purpose, and corresponded to the contemporary understanding of what a building of learning and an academy ought to contain.

The paper will also discuss contents, the accessibility of the cabinet as well as the display and order of the objects, and how and why objects were acquired. During past years, an attempt to retrieve the original objects has been made. Some of the original objects are to be found at various Swedish museums. Their way from one meaningful context to another shows the changing values of scientists and curators.

## The Cabinet at the Observatory in Stockholm

The observatory of Stockholm was inaugurated in 1753 and was built by the rather newly founded Royal Swedish academy of Sciences. It was mainly designed as an astronomical observatory, but the building also housed a workshop for an instrument-maker, archives, library, a cabinet of naturalia and living quarters for the permanent secretary, the instrument maker as well as other staff. It was later, at the end of the 18<sup>th</sup> century and especially during the 19<sup>th</sup> century that the activities more and more specialized towards pure astronomy.

The cabinet of naturalia was housed in the building for some 25 years. Already when the academy was founded, in 1739, the collection of naturalia was begun through donations. The first gifts were a mushroom, fossils, shells from Constantinople, ovaries from a rayfish, a Sumach, a pot with human remains found in a burial mound and a Thor's hammer. The variety of these objects rather well represents the contents of the cabinet, which rapidly grew. It contained a combination of natural and manmade objects.

The existing written histories and the present display in the museum, could neither explain in a satisfactory manner why the cabinet was placed at the observatory nor the mixture of ethnographic and natural objects.<sup>1</sup> The studies of the history of the observatory stressed the astronomical activities, which later became dominant, whereas the histories of the Museum of natural history were more concerned with later developments as well as rectifying recent developments within the institution. The present study was undertaken in order to clarify the early history, especially at the observatory, as a contribution to Swedish museum history, the cabinet constituting the prehistory of two national museums: the museum of natural history and the Museum of Ethnography, as well as a means to produce a new exhibit at the observatory.

Unfortunately the original drawings of the observatory are missing.<sup>2</sup> From other descriptions we know that the cabinet of naturalia was located on the ground floor to the right from the main entrance. However, in the library, located as the second room at the left, there were also naturalia, and it is probable that naturalia were preserved in several rooms on this floor.

Going through accounts and inventory lists, it is evident that the collection was substantial. Many gifts were exotic objects from China and the West Indies, as symbols of Sweden's successful trade and the Swedish East Indian Company. But there were also exotic and rare objects in another sense: human, animal or plant deformations from Sweden and elsewhere. Medical doctors sent their samples with written accounts to the academy, in hope of being published. This also suggests that the cabinet was used for teaching medicine.<sup>3</sup>

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1 Sten Lindroth, *Kungl. Svenska Vetenskapsakademiens historia 1739–1818*, 1967; Yngve Löwegren, *Naturaliekabinett i Sverige under 1700-talet*, 1952; Ed Kungl. Vetenskapsakademien, *Naturhistoriska Riksmuseets historia: Dess uppkomst och utveckling*; 1916; Jenny Beckman, *Naturens palats : nybyggnad, vetenskap och utställning vid Naturhistoriska riksmuseet 1866–1925*, 1999; Further references to the history of the observatory are found in Ed Ceclila Bergström & Inga Elmquist, *Huset närmast himlen*, 2003.

2 In the Swedish Nationalmuseum some concepts by Hårleman are preserved, but they are not very detailed and do not give any indications of how the rooms were to be used. We know that drawings originally existed; at least they were mentioned in a letter by Simon Louis de Ry, who later designed the Museum Fridericanum in Kassel. As an apprentice to the responsible architect Karl Hårleman in Stockholm, he had been given the task to finish the drawings for an observatory in Stockholm. If these drawings specified the use of the different rooms is not known.

3 Information about the objects are found in: The accounts of the Royal Swedish academy of Sciences, The protocols and Printed transactions of the academy, Inventory lists of 1778 (Wargentín), 1788 (Hornstedt), 1798 (Wilcke), 1800–1806 (Qvensel) at the archives, Centre for History of Science. See also, Inga Elmquist Söderlund, "Spåren av Linné i Kungl. Vetenskapsakademiens samlingar", *Linne & Vetenskapsakademien*, 2007, p 25–45.

It is not possible from inventory lists to find any information about how the content was ordered and displayed. The donations are only listed after donor and year of their arrival. Which room the individual objects were placed in was not specified. In 1784, after the cabinet moved, an instruction for the Curator was written. It said that the Linnaean system should be used, and the specimen should be ordered after this system, but probably this would have been the aim also before since Linnaeus was the first caretaker of the cabinet and his students had been employed as demonstrators.

If the academy had a special policy to acquire things is difficult to know – and also whether they really wanted the gifts they received. But a rather odd strategy is found in one protocol – to choose as members a few rich unmarried males with no heirs, so that money and objects should be donated when they died. The success of this strategy was limited. When the academy itself paid: it was for the systematic collection of Swedish plants and insects. As to which gifts the academy appreciated, at least some substantial gifts were also acknowledged with gold medals to the donor – whereas other donated items suddenly seem to disappear and are never mentioned again (such as the thumb of a sea monster who tried to pull a farmer from his boat on a lake). Here it is possible to discern a dichotomy between the understandings of what a cabinet should contain as understood by the academy and the donors, but it was also a result of the rather meagre financial means that was at the academy's disposal. The academy herself could not have been able to buy costly rarities.

We have not yet found any visitors' book, or records of visits. But a wish to have an accessible cabinet must have been the idea already when the academy started collecting specimen. Linnaeus wrote that anyone who is interested in observing the real specimen of a goldfish he described could come and have a look at it with his own eyes at the academy.<sup>4</sup> From accounts we know that the academy employed a "demonstrator", who was on the payroll for several years, but we have not yet found a specification of his tasks or activities.<sup>5</sup> His title indicates that he was involved with the display of the cabinet.

The Royal gifts to the academy during the years of constructing the observatory show that naturalia was an integrated part of the research and public activities to be performed there. The Queen Louisa Ulrika, gave the academy an unusually large wasp's nest on the occasion of the foundation of the observatory. As a gift for the inaugurations she presented silk made by silkworms in Sweden. The King Adolph Fredrik presented the year before the inauguration some ostrich eggs and mother of pearl. Notable is that none of these gifts were related to astronomy. Obviously it seemed proper to present naturalia also on the occasion of an astronomical observatory. At the inauguration the King, was shown instruments and rarities in the observatory<sup>6</sup>, rarities to be understood as rare objects and especially naturalia.

If the information is scant concerning the cabinet during those first years, more material is extant from the 1780ies due to the complaints towards the curator, Anders Sparrman. He received a written instruction. It specified that the museum should be open on either Wednesdays or Saturdays from 10 am to 1 pm, anyone should be allowed to enter, free of charge. The demonstrator was not allowed leave the city for more than two weeks, and when he left he had to put a sign on the door with information about his return. Sparrman was charged with not fulfilling his duties. Therefore he wrote a defence. In it he specified that he had not denied anyone to enter except for some young men bringing ladies of suspicious

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4 Carl Linnaeus, "Beskrifning om Guld-fisken och Silfwer-fisken", *Kungl. Vetenskapsakademiens handlingar* I 1740 p 410.

5 Eric Tuvén, who had been one of Linnaeus students, was employed as demonstrator in 1757. The Linnean disciple Osbeck applied for a position, but was not employed. In 1778 Anders Sparrman, also disciple of Linnaeus, was employed. Yngve Löwegren, *Naturaliekabinett i Sverige under 1700-talet*, 1952, p. 278.

6 Henrik Alm, "Stockholms observatorium: en byggnadshistorisk undersökning", *Samfundet St Eriks årsbok*, 1930.

appearance wanting to see foetuses.<sup>7</sup> Where inventories show an unsentimental attitude towards human remains, this statement proves showing them was another matter. The academy also ordered a wooden coffin as well as a lock from a locksmith for an embalmed child.<sup>8</sup> A lock would only have been ordered if intended to be used, so I presume it would have been shown by special permission only – or as another alternative, as an exclusive and dramatic culmination during a demonstration of the cabinet.

Even if the objects I have mentioned seem very disparate, the collection and their display was still moving towards the specialization of more modern standards. There was one specific piece of furniture for insects, one for minerals and one for coins, where similar objects were placed next to each other instead of dissimilarities juxtaposed.<sup>9</sup> The idea was no longer to have one piece of furniture comprising everything, like the Kunstshrank of Gustavus Adolphus by Philip Hainhofer preserved at museum Gustavianum in Uppsala. However, mankind, his biology, as well as his cultural activities were all considered appropriate as a subject of study in the cabinet of naturalia. In the transactions of the academy, the financial gain that could benefit the Swedish nation, by learning the customs of other cultures, their fauna, flora and minerals, and learning to apply it to Swedish use, is described as the goal. All this work was motivated to serve the good of the nation.

## The European Context

I would like to put the cabinet in a brief historical and European perspective. I would like to do this in order to elucidate which other activities – besides observing with a telescope – were understood to be performed at an 18<sup>th</sup> century observatory.

Building an observatory in Sweden, it is not probable that the Tycho's Uraniborg at Vhen (which became Swedish during the 17<sup>th</sup> century) was unknown to the architect. Even if Uraniborg was already a ruin, it was an observatory, which was famous due to the fact that it had been published extensively. Tycho had named his main building Uraniborg after the muse of astronomy. So actually we could call the whole building a museum in its' classical meaning, dedicated to the arts.<sup>10</sup> More specifically, the southern rotunda Tycho called his museum, where he kept his most precious devices, artworks and books. Tycho's building was a building of multiple purposes: an astronomical observatory, an alchemical laboratory, for collections, for entertaining and teaching as well as living quarters. To combine the keeping of collections in an observatory was however not a peculiarity to Uraniborg, but was normal to 17<sup>th</sup> century observatories, which were most often built in a learned context, where astronomy was not isolated, but studied in connection to other sciences.<sup>11</sup>

Important role models for the observatory in Stockholm were the already existing observatories and other buildings erected by academies in other countries. The observatories in Paris, London and Berlin were specifically important. Geographically closer was the Kunstkamera in St Petersburg. It was constructed on the initiative of Peter the Great for the academy of sciences and was to contain museum collections, a library, anatomical theatre and an observatory. Unfortunately it was partially destroyed by fire in 1747, just as the observatory in Stockholm was prepared. The design was however well known through

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7 "några unga herrar som med natural cabinettets visande velar obligeras sina bekanta fruntimmer af mycken misstänkt frägd, vilka de proponerat bese foetus."

8 KVA Verifikation No 120 1759: "Et magcin af eketrä med låss och beslag till et litet balsamerat barn a 42 Dkmt"

9 For the collection of coins, see Ed Cecilia Bergström, *För Efterkommande: Vetenskapsakademiens medaljer 1747–2003*, Atlantis 2008 (in publishing). On the display of dissimilar objects next to each other, see Lorraine Daston and Katharine Park, *Wonders and the order of nature 1150–1750*, 1998 p 267 f.

10 John Robert Christianson, *On Tycho's island: Tycho Brahe and his assistants, 1570–1601*, 2000 p. 99 ff.

11 More often existing rooftops or towers were used as observatories.

published drawings. The building can as best be described as a palace for the arts and sciences.

Although the observatory in Stockholm shows no direct architectural likeness to either Uraniborg or Kunstkamera, a different style being fashionable, there is another likeness that I would like to point out. It is the multifunctionality. These buildings represent the ideal buildings of learning, where the disciplines of different sciences and arts co-exist.

If we look at some other observatories, which were constructed at about the same time as the Stockholm observatory, we will see that multifunctionality was common. The mathematical tower of Kremsmünster in Austria was planned as an astronomical observatory, museum of naturalia and artifacts as well as a place of religious cult, as it was constructed by the Benedictine order and part of a monastery.<sup>12</sup> The Museum Fridericanum in Kassel should also be mentioned. The observatory was included by building a tower on top of an already existing medieval tower. There were also extensive collections of the arts and sciences, a library, anatomical theatre, laboratories, workshops and rooms for meetings. The architect Simon Louis du Ry had actually been involved in the conception of the observatory of Stockholm.<sup>13</sup>

Other combined museum/observatories from this period are the observatory in Richmond, England, the Palazzo della Specola in Florence, Italy, Teylers Stichting in the Netherlands, the observatory of Armagh, Ireland.<sup>14</sup> These examples show that the combination of a museum/observatory was in no sense singular or peculiar at the time. On the contrary collections of different objects, naturalia or artifacts, were expected to be found in a contemporary astronomical observatory. To include a collection of natural history would not have been a consideration of saving space or money. In an observatory, as an expression of contemporary collected scientific knowledge, you could expect to perform studies of as well as receiving information about objects from distant countries as well as distant celestial bodies.

During the 18<sup>th</sup> century, Swedish natural scientists were trying to keep up with the development of the rest of Europe. The observatory became an important architectural feature in Stockholm. It was the first scientific building to be seen from afar. Its' prominent appearance on contemporary maps and drawings might be somewhat exaggerated. But the activities taking place there were of interest to the inhabitants. Now Sweden and Swedes – here to say the middle aged Swedish educated male as the norm for normal – were no longer exotic objects to study by foreigners. Now Swedes themselves were studying other natures and cultures – on a par with the rest of the educated world.

## Towards a Swedish Museum of Natural History and the Dispersion of the Collections

Soon the premises at the observatory were too small for the growing collection. The need for new premises was voiced. It is also possible that the observatory, located on a steep hill, was considered inaccessible. Already in 1769 an account states that the cabinet had become cramped and unorganised. One of the members described it, due to the difficulty to show the objects, as a "buried treasure". The permanent secretary, the astronomer Pehr Wargentin, did

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12 Johann-Christian Klamt, *Sternwarte und Museum im Zeitalter der Aufklärung: der Mathematische Turm zu Kremsmünster (174 1758)*, 1999. This book also contains useful information about many of the other observatories mentioned here.

13 Henrik Alm, "Stockholms observatorium: en byggnadshistorisk undersökning", *Samfundet St Eriks årsbok*, 1930, p 120.

14 I would like to thank Jim Bennett and Jane Wess for useful advice. Eg the observatory of Armagh was initially described as build as a museum and observatory. What specifically is meant by museum not quite clear, but it probably meant naturalia and curiosities, see Bennett p 17 ff.

not seem to value the naturalia much. This could indicate that he was either afraid that he would be held economically liable for any missing specimen or that the activities of the cabinet disturbed the astronomical work.<sup>15</sup> Whatever the reason for his disinterest in the naturalia, the academy refurbished more spacious rooms for exhibitions as well as living quarters for the demonstrator Anders Sparrman at new premises, centrally located in Gamla Stan at Stora Nygatan after 1778.<sup>16</sup>

In 1819 the Swedish Museum of Natural History was established, and state financing secured. The museum was still under the auspices of the academy. At the end of the 18th and especially at the beginning of the 19th century it was no longer fashionable to house collections of such universal claims. Instead collections were specialized and museums for different disciplines were conceived. To construct and define the borders of disciplines became increasingly important. The ongoing development of specialization is evident in the history of the museum of natural history, where more and more departments developed, with specified fields of research and collecting.

Most of the objects in the collections of the academy were transferred to the Museum of natural history. What was once a small and united collection is now vast: about 9 million objects and divided between several departments. Some departments, such as the department of mineralogy has very good knowledge of its' history, we have with their help traced 200 specimen, which were once preserved at the observatory.<sup>17</sup> Other departments have problems in identifying the provenance of their specimen. Although some specimen have been identified, the large part of the inventory lists of the cabinet of the academy remains unidentified<sup>18</sup> This is probably the result of the fact that the provenance of the collection was not the kind of information that was considered important. What did matter was to have as many, and if possible as complete range of species as possible. Therefore doublets of specimen were exchanged, or if a newer and better looking specimen was found, it was replaced. The kind of objects, which has been identified, are those related to famous persons such as Linnaeus or types of species.

The collections also contained anatomical models and instruments. These objects did not become part of the museum of natural history. In the academy's collections several models and instruments that correspond to the descriptions are preserved. It is highly probable that some of these models and instruments are those that were once in the cabinet at the observatory. However a record of provenance is missing, and further research is needed to find out the history the individual objects. In 1759, a teacher called Wilcke was employed. He used the demonstration instruments to teach science. It is probable that he took instruments from the cabinet and library of the academy to fulfil his teaching duties. These models and

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15 Since long, Linnaeus was the authority of natural history within the academy. Wargentin seems to have left all considerations of such matters to him. His comment in the inventory of 1778 that the naturalia were worthless: "En hop i Glas-flaskor och Spiritu vini förvarade Naturalier samt andra curiositeter, uti et eget skåp. Alla skänkta, på olika tider och af differenta personer. Af intet invärtes värde." Several herbals and insects were also noted as eaten by moth. This inventory is odd because it lists only part of the objects that were in the academy's possession (e.g. the coffin for the embalmed child, but not the child, and the shelf for the magnet, but not the magnet etc). It was probably made to make an inventory of all expenses that the academy had had before the move to Stora Nygatan. Hence the value of the donated objects was not considered. If they were really of no economical or scientific value the decision to employ a demonstrator and to refurbish new and larger premises makes no sense.

16 In 1778 the academy bought the "Feburska huset" at Stora Nygatan. New representative rooms for meetings, cabinet of naturalia, cabinet of physics, library, office of almanacs and living quarters for staff were decorated. The cabinet remained there until larger premises were bought, "Westmanska palatset" at Drottninggatan. The museum moved to its' present location in Frescati in 1915.

17 I would like to thank Jörgen Langhof for his assistance.

18 I would like to thank Erik Åhlander and Torbjörn Kronstedt for their assistance.

demonstration instruments were probably later transferred to “The cabinet of physics”, which became a separate collection of instruments used for teaching and demonstration.

The collection contained many artefacts from foreign countries. These objects are often peculiar in that they are so well described in inventories. Therefore they are easier to identify. Most of these objects have ended up in the Museum of Ethnography. In 1841 a vertebrate department of the Museum of natural history was established. The main part of what was considered ethnographic collections were consigned to this department. At the end of the 1860ies a need for a separate ethnographic museum was discussed in public. The idea, brought forth by B.E. Hildebrand and Hjalmar Stolpe, was to combine the collections of the academy of sciences and the academy of letters. The aim was to create a source for the studies of the cultural development of mankind. The process was slow. In 1900, an own ethnographic department within the museum of natural history was created. The ethnographic material was not exhibited together with the rest of the museum of natural history, and in 1935 the Museum of Ethnography (Statens etnografiska museum) was created, still under the supervision of the academy of sciences, and affiliated to the university. The relationship with the academy and the museum of natural history was finally terminated in 1966, it was finally decided that it should constitute a separate institution.<sup>19</sup> In 1999 the Museum of Ethnography was reorganized, and put together with some other museums into a new organisation, the National Museums of World Culture. These objects now have their place within this organization due to their foreign origin as well as bearers of foreign cultural history, since this organization deals with "cultural history that has its source outside Sweden". The goal is stated as part of a democratisation process: "to contribute to a societal progress marked by equality, respect and tolerance, one where variety is seen and utilised as a positive force".<sup>20</sup> These objects are still used to define the other. But from defining the other as not being the educated middle-aged Swede, now the outright other is the immigrant.<sup>21</sup>

Already before the final separation of the museum of Ethnography and the academy, the dispersion of items that were not considered to be within the purview of the natural sciences begun. During the 19<sup>th</sup> century books in literature and the arts were donated to the Royal library, paintings with motives that were not related to science were donated to Gripsholms castle and antique Egyptian objects were given to the Royal coin cabinet. To trace these objects is tedious work and many objects remain to be identified.<sup>22</sup>

## What is the Lure of the Early Cabinets?

The curiosity cabinet, *Kunstkammer* and the early cabinet of naturalia have inspired many exhibitions and retrieving projects during recent years. Contemporary artist have also shown considerable interest in the subject.<sup>23</sup> What is the lure of this phenomenon?

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19 I would like to thank Anne Murray, who let me read an article under publishing. For the history of the Museum of Ethnography, see also *Etnografiska museet: Med världen i kappsäcken: Samlingarnas väg till Etnografiska museet*, 2002. I would also like to thank Anita Utter for help in identifying objects in the collections.

20 <http://www.smvk.se/smvk/jsp/polopoly.jsp?d=148&a=116> (Assignment and responsibility)

21 “Internationalisation has increased, creating for us a more globalised world. At the same time the once so culturally and ethnically rather homogenous Sweden has become more diverse culturally through immigration. Our task is to use this international cultural heritage to debate and provide perspective on the world in order to assist peoples orientation during this transition” quoted from <http://www.smvk.se/smvk/jsp/polopoly.jsp?d=148&a=120> (Background)

22 One of the mummies, which belonged to the academy, has been identified at the museum of the Mediterranean in Stockholm. I would like to thank Fredrik Helander and Geoffrey Metz for helping to identify the mummy.

23 A thread that might be fruitful is to follow the subject of the Venice biennale of 1986 “*Wunderkammer*”. A more recent example is the reconstruction of Ole Worms museum made by Rosamond Purcell in the

In the exhibition catalogue of the Getty museums exhibition “Devices of wonder” Barbara Maria Stafford makes an analogy between the curiosity cabinet and our modern computers where we can access all kinds of information in different ways, which offers a multitude of interpretations, as well as in the contemporary “goal of embracing the cosmos in one big picture” such as in the realm of the ultrasmall, in research in molecular chemistry or the DNA-strand.<sup>24</sup> In that sense perhaps we could say that the curiosity cabinet as an attempt to explain everything is modern.

These cabinets seem to bridge the gap between art, sciences and technology that the specialization of the sciences has created. This specialization leaves many people with the sense that present scientific explanations are so fragmentized that it does not make comprehensible explanations.

The interest in early cabinets could also be a longing to be allowed to express feelings of wonder, horror, amazement or even a laugh in front of nature’s diverse forms and extraordinary artifacts produced by man.<sup>25</sup> I cannot provide a definite answer, only suggest some possible readings.

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exhibition “Two Rooms”, the Santa Monica Museum of Art 2003. This exhibition was also shown in another context, “Bringing nature inside”, Science Center Harvard University Cambridge, 2005.

24 Barbara Maria Stafford, *Devices of wonder: from the world in a box to images on a screen*, 2002 p 3.

25 Compare Lorraine Daston and Katharine Park, *Wonders and the order of nature 1150–1750*, 1998.