

# Historical mineral collections in the silver mining town of Kongsberg, Norway

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Key words — old geological collections, silver mines, mining officers, mining academy, Kongsberg. The discovery of native silver deposits at Kongsberg, Norway, in 1623 created interest for silver specimens and mineral collecting, also among mining officers. Large collections were donated by J. Hiort, M.T. Brünnich and J. Esmark to the Mining Academy at Kongsberg. The Academy's collections were in 1814 transferred to the University of Oslo. From 1841 The Kongsberg Silver Mines built up their own collections.

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## Introduction

The Kongsberg Silver Mines were established in 1623 and the Kongsberg mining town was founded in 1624 by the Danish-Norwegian king Christian IV. The ore, dominated by native silver, was a sensation at the time. Specimens of native silver became popular collecting items. Most fine specimens, however, went to members of the royalty in Copenhagen. From the Silver Mines' annual sales lists (Berg & Nordrum, 2003a,b, 2004) it appears that officers at the Mines and the Mint also bought some, sometimes many, specimens. It might be suspected that some officers had rather large collections, but further information is unavailable, until the year 1729.

In 1727 inspectors noticed that some copper was missing from the storage room in the Royal Norwegian Mint, which was a part of the Kongsberg Silver Mines. Investigations showed that coins had been struck with insufficient silver, substituted by copper, and mint master Henrick Christoffer Meyer had retained the silver. Meyer was sentenced "to loss of honour, life and property", but the King showed him mercy by withdrawing the death penalty. Instead, he was sentenced to be whipped, branded and assigned prison work for life. The first part of the penalty was executed in public at the market place in Kongsberg at 2.00 p.m. on February 16th, 1729. He received 27 whip lashes and a thief mark was burned into his forehead, so that forever he would be shut out from normal society. Two months later he died in the darkness of his cell

(Rønning, 1986; Bancroft *et al.*, 2001). His property and belongings were auctioned later that year, and in the auction list we find a mineral collection, estimated to a value of 100 riksdaler (Danish dollars). It was sold for 135 riksdaler and 24 skilling to Johann J. Lonnicer. In the collection there were silver specimens from Kongsberg, but also specimens from other occurrences and countries.

In his diary the Swedish mining official Daniel Tilas noted from his visit in Kongsberg in 1750 the beautiful collections of bergjunker Fr. Schindel and the untidy mineral collection of Oberbergamtsforvalter "Hellsen" (Wichman, 1966, pp. 238-239). This was a reference to Michael Heltzen, who later became Oberberghauptmann and director of the Silver Mines (1756-1770). From the Silver Mines' annual sales lists we know that Heltzen bought 95 specimens in 1761, and 18 silver specimens and five gold specimens in 1762 (Berg & Nordrum, 2003a). He probably had a large private collection. Even Mrs Heltzen and Miss Heltzen are listed as buyers of specimens.

### Early mineral collections at Kongsberg

The Royal Norwegian Mining Academy (Bergseminarium) was established in Kongsberg in 1757. At the Mining Academy, geological specimens were needed for educational purposes. In the beginning, no money for the purchase of specimens was granted by the Finance Ministry in Copenhagen. The lecturers had to use their own collections or acquire the necessary specimens themselves, even after the first grant in 1770 of one thousand Danish dollars for the acquisition of specimens, with purchases spread over eight years. A fire destroyed Professor Peter Thorstensen's collection of about 3000 numbers in 1777 (Blom, 1957).

Revitalisation of the Mining Academy in the 1780s resulted in new enthusiasm for the institution. In 1786 Oberberghauptmann Jørgen Hiort donated his comprehensive collection to the Mining Academy. Later, the large collections of Oberberghauptmann M.Th. Brünnich and lecturer at the Academy and Oberbergamtsassessor Jens Esmark were also acquired.

Jørgen Hiort (1737-1804; Fig. 1) was Oberberghauptmann (director) of the Kongsberg Silver Mines from 1775 to 1791. Hiort's collection was diligently registered in two leather-bound manuscript catalogues, written in Danish and Latin. It contained more than 3550



Fig. 1. Oberberghauptmann Jørgen Hiort (1737-1804); from painting in the Geological Museum, Natural History Museum and Botanical Garden, University of Oslo.

numbers; about 2870 specimens in the main collection and *c.* 680 samples from Norwegian mines (505 from 75 different silver mines and prospects in Kongsberg). The main collection contained 189 specimens from Kongsberg, including 65 with native silver, 49 with other silver minerals and 14 with gold. The sample collection contained 59 samples with native silver, 26 with other silver minerals and seven with gold from Kongsberg. Hiort donated his collection as a gift to the Mining Academy, given "as a proof of his zeal for his native country, his devotion to the King and his love for the mining profession."

Morten Thrane Brünnich (1737-1827; Fig. 2) was appointed professor at the University in Copenhagen in natural history and economy in 1769, and thus also manager of the university's natural history museum and its collections. His private collections were on display when the new museum exhibition was opened in 1772 (Garboe, 1959). By a royal resolution of June 27th, 1782, his collections were purchased for 1500 riksdaler, and an annual payment of 200 riksdaler to him and his wife for the rest of their lives. His collections consisted of both geological and biological objects. For the biological collections, 800 riksdaler, and annually 100 riksdaler, were paid by the King (Den kongelige kasse), and the collections apparently went to the University's Natural History Museum (Universitetets Natural Theatre). The Mining Directorate (Bergverksdirektoriet) paid 700 riksdaler, and annually 100 riksdaler, and got the geological part,

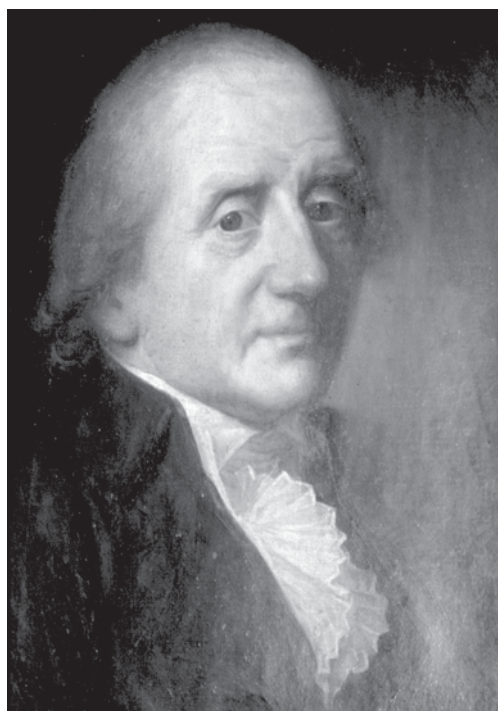


Fig. 2. Oberberghauptmann Morten Thrane Brünnich (1737-1827); from painting in the Geological Museum, Natural History Museum and Botanical Garden, University of Oslo.

which was estimated at 6000 pieces. Etatsråd Holt was charged with making a record of those minerals and rocks in Brünnich's collection that were of interest for the Mining Directorate. Holt assured the Directorate that the collection was well worth the money.

By a royal resolution of December 23rd, 1789, it was decided to send a record of the Mining Directorate's mineral collection to the Mining Academy in Kongsberg, so that the Academy could select all the specimens they needed for educational purpose. Around 1790 Professor Peter Thorstensen selected 1050 of the 1452 entries (some entries covering more than a dozen specimens) in the paperback catalogue (written in Latin) for the Academy, including 730 ore mineral specimens and ore samples and more than 100 polished slabs (Kjerulf, 1861).

Brünnich became Mining Commissioner at Kongsberg in 1789 and was Oberberghauptmann (director) of the Kongsberg Silver Mines during 1791 to 1814. Brünnich was the author of

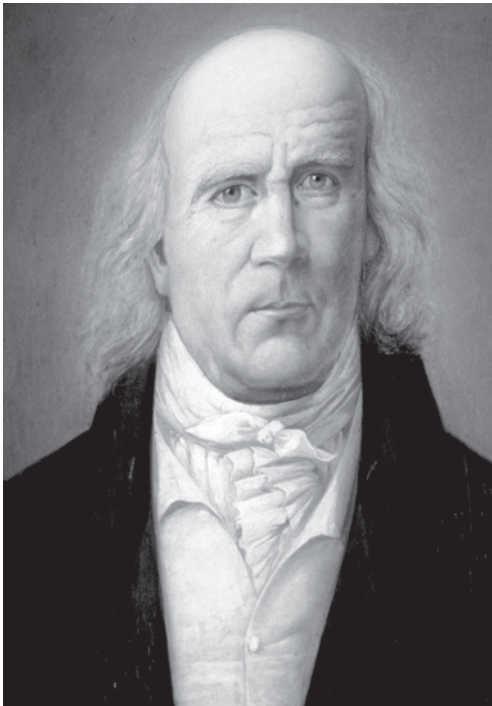


Fig. 3. Professor Jens Esmark (1762-1839); from painting in Geological Museum, Natural History Museum and Botanical Garden, University of Oslo.

*Forsøg til Mineralogie for Norge* (1777) ("Attempt at a Mineralogy of Norway"), and also of other books on natural history and mining history.

Jens Esmark (1762-1839; Fig. 3) was Oberbergamtsassessor from 1797, and also lecturer and collection manager at the Mining Academy. In 1814 he became the first professor of geoscience at the University of Christiania (Oslo). His personal mineral collection of 1658 specimens was registered in a five-volume catalogue with metal screws, written by himself. The collection was registered after Werner's system of mineral classification; 1st Class, Earthy fossils (that is minerals), 1064 numbers; 2nd Class, Salty fossils, 18 numbers; 3rd Class, Inflammable fossils, 46 numbers; and 4th Class, Metallic fossils, 530 numbers.

These three donations and also the information that Professor Thorstensen lost his large collection in a fire in 1777, as well as the indications about Schindel and Heltzen, show that high-ranking mining officers in Kongsberg often

owned large collections of geological specimens from many countries and a large number of occurrences. How did they acquire the specimens from abroad? During the 18th century, knowledgeable young men who were chosen to become mining officers were given travel scholarships to visit leading mines and mining schools around Europe. Usually they spent some years abroad. These postgraduate students or experienced miners had a great opportunity to collect and acquire geological specimens during these years of travel.

Hiort, Brünnich and Esmark had all received travel scholarships, as did Schindel and Heltzen, and their collections reflect their travel routes in Europe, besides the mines and occurrences they had worked at or surveyed at home. Only a limited number of specimens originate from other localities and countries, and were probably obtained through contact with other colleagues.

Hiort's grand tour lasted more than three years, from July 1763 to September 1766. He visited a number of mines and schools in Denmark, Saxony, Czechia, Slovakia, Rumania, Hungary, and Austria, although in some instances the names of the countries at that time differed from the present ones. Brünnich was on his grand tour from July 1765 to October 1769, 4 years and 3 months, visiting The Netherlands, England, France, Italy, Slovenia, Austria, Hungary, Czechia, Slovakia, Rumania, Saxony and Harz. Esmark was on his journey from 1791 to 1797, about 6 years, visiting Saxony,



Fig. 4. The main building of the Mining Academy in Kongsberg, built 1786 (photograph P.H. Sælebakke).

Czechia, Slovakia, Austria, Hungary, Rumania, Poland and Silesia (Esmark, 2003). He had long stays in Freiberg, as he was a great admirer of Abraham Gottlob Werner. All the three men wrote travel reports.

In September 1811 it was decided to establish Norway's first university at Kongsberg because the Mining Academy was already situated there (Fig. 4). This was overruled in January 1812 and the university was located at Christiania (Oslo). The Mining Academy was abandoned in 1814, and the collections and catalogues transferred to the university. The Academy's mineral collections became the nucleus of the present-day collections in the Geological Museum at the University of Oslo.

#### **The Kongsberg Silver Mines' mineral collection (1841-1958)**

After the Mining Academy collections were removed from the town, the mining officers at Kongsberg felt the need for geological specimens and scientific literature. Discoveries of very rich silver ores around 1830 improved the economic situation. The board of directors approached the Finance Ministry requesting the establishment of collections of minerals and books. This was approved by a royal resolution of March 15th, 1841.

The man behind the demand was probably director Karl Friedrich Böbert (1804-1869). Böbert was born in Hettstedt near Mansfeld, Germany, and was director of the Kongsberg Silver Mines 1840-1869. After they were established, the Kongsberg Silver Mines' Collections were gradually increased by gifts, exchange, purchases and collecting. The Silver Mines participated in many exhibitions, showing their fabulous silver specimens, such as most of the "world fairs" during the 19th century, including the first in Crystal Palace in London in 1851. The collections were open to the public in the silver smeltery building at regular intervals from about 1880.

The period 1912-1914 saw new collecting activity as preparations were made for the large national fair in Christiania (Oslo) in 1914, celebrating the first hundred years of the Norwegian constitution. On February 28th, 1938, a decision to build a larger "Silver Mines' Museum" was made, initiating another search for exhibit items. New exhibitions opened in 1945.

The Kongsberg Silver Mines' mineral collection was, when mining was abandoned in 1958, a pure Kongsberg collection. Although specimens of other ore and vein minerals are present, the collection is focused on one mineral (native silver), crystallized by one geological process under the same environmental conditions and deposited in one restricted area. The specimens had been chosen and the collection kept by non-professionals (in the curatorial and mineralogical sense). Impressive silver specimens from major pocket finds after 1840 are present, as are also silver specimens of a great morphological variety of wires, crystals, plate crystals and arborescent forms. Vein minerals have obviously been of minor interest to the custodians, as most high quality specimens of these minerals disappeared to other museums and private collections. Some top silvers were also taken out of the collection over the years. They were sold or given away as gifts, e.g., to high-ranking mining officers when they retired.

The collection today contains about 1000 silver specimens, of which 330 pieces are on display in the "silver mineral chamber." The collection is valued as a national silver treasure. Together with the collections of objects, tools and products it is still exhibited in the old silver smeltery, and is a part of the entire national mining heritage monument at Kongsberg. The collections are in the custody of the Norwegian Mining Museum.

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