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The Scientist and Explorer A. E. Nordenskiöld Cartographic Collection in The National Library of Finland

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THE SCIENTIST AND EXPLORER A. E. NORDENSKIÖLD CARTOGRAPHIC COLLECTION IN THE NATIONAL LIBRARY OF FINLAND

The History of the Library

The library is Finland's oldest scientific library. It was founded 1640 as The Library of the Royal Academy of Turku. So from 1707 the library got legal deposit copies from Swedish printers. In 1809 Finland became an autonomous Grand Duchy of the Russian Empire and Helsinki became the new capital in 1812. There was a great fire in Turku 1827 and after that the university was moved to Helsinki and reopened as the Imperial Alexander University of Finland. During the time of Russian Empire the collections grow rapid because the library got legal deposit copies of all publications printed in Russia and huge book donations from St. Petersburg.

In Helsinki the new library building was opened 1845 plan by Carl Ludwig Engel. Finland became independent in 1917 and the library continued with the status of legal deposit library. The Library is responsible for the acquisition, cataloging and preservation of the national public heritage, "the memory of the nation" and research literature mainly for the humanities and the social science fields. The National Library functions as a national service and development unit for library network and the book sector, promoting national and international partnership projects. The Library builds its collections, services and expertise to serve the Information Society of the future, the library network and the scientific community. The focus is on creating Digital Library Service.

The Library is supervised by its own Library Board and led by the Director. The institution's annual funding is primarily allocated on the basis of an agreement between the University and the Ministry of Education. The personnel now is 213 permanent staff and the organization has four departments in four locations; Helsinki two, Urajärvi in southern Finland as

Deposit library of Helsinki University and Mikkeli in eastern part of Finland as The National Digitization Centre.

Collections

The National Collection, the heritage of publications printed in Finland or related to Finland, includes the following significant collections: Publications from the Swedish Era 1488-1809, National Collection 1810 - , newspapers and periodicals, ephemera collection – including leaflets, programmes, posters, picture, ex libris collections and National Sound Archive.

Library's valuable manuscript collections date back to the few valuable manuscripts saved from the Great Fire of Turku 1827. These collections, primarily obtained through donations as Manuscripts on Papyrus collection from the era 300–200 B.C., Medieval Fragments on Parchment collection, Influential Finnish scientists' manuscripts from different centuries, many Finnish composers' archives including Jean Sibelius's musical manuscripts and Manor libraries and thematic archives.

The Library has significant foreign scientific collections focusing on the arts and humanities, Russian and East-European studies, theology and history of science as well as several special collections. The Russian legal deposit collection contains approximately 11 0000 volumes and is internationally significant. The Slavonic Library has traditionally also acquired so-called Russian Émigré literature published outside Russia for its collections. After World War II, the Library's contacts with the Soviet Union improved, and the volumes of books procured grew substantially, approximately 3 000 – 4 000 annually. After the dissolution of the Soviet Union, hundreds of publishing firms of varying sizes replaced the highly centralised governmental printing agencies, and book publishing became increasingly diversified.

Special collections include The Russian Era (1820 –1917) minority collections organised by language, for example, Arabica, Armeniaca, Caucasia, Hebraica, Persica, Turcica. There are also Incunabula Collection, The Collection of Foreign, Literature printed in the 1500s, Monrepos Manor Library Collection, Japonica Collection, Brummeriana (children's books collection), Tibetan collection and The A.E. Nordenskiöld's cartographic collection, which belong to UNESCO's Memory of the World register as well as Radzwill's Archives and Niasvizh (Nieśwież) Library Collection submitted by Belarus in cooperation with Finland, Lithuania, Poland, Russian Federation and Ukraine.

Collections consist around 3 million books and serials, 670 000 microfilms and microfiches 150 000 recordings (90% of all Finnish recordings), 50 000 sheet Finnish music publications, 3 million other publications as small prints, posters and maps etc.

The scientist and explorer A. E. Nordenskiöld Cartographic Collection Man and some aspects of his career

Adolf Erik Nordenskiöld was born in Helsinki in 1832. His childhood home Alikartano Manor (Frugård) in Mäntsälä is now a museum open to the public during the summer. His father was a famous mineralogist. The family roots were in Sweden. Adolf Erik completed his studies in Helsinki and began to build a research career in chemistry and mineralogy. He did research work also in Berlin. He became involved in certain incidents which displeased the Governor General in Finland. He was forced to leave Finland as well as the University. He went to Stockholm and there he lived for the rest of his life. In the autumn of 1858 he was invited to take up the post of Director and Professor in the National Museum of Natural History in mineralogical department. He held this post until his death 1901. Although he was forced to leave his home country owing to his outspoken political opinions, new opportunities soon arose in Sweden, where he became one of his era's most renowned scientists. Nordenskiöld also influenced many aspects of societal life internationally as well as in Sweden.

Adolf Erik Nordenskiöld was one of the most brilliant explorers of the 19th century. While David Livingstone and Henry Stanley were exploring the inner of Africa, Adolf Erik Nordenskiöld explored the polar regions. He did two expeditions to Greenland, five to Spitzbergen and three Northern Siberia. He tried for the North Pole. Finally he sailed for the first time in human history through the Northeast Passage along the Russian north coast to the Bering Strait.

Father of Historical Cartography

Nordenskiöld's interest in old maps began when he was planning his expeditions to places of which no better maps than the historical ones existed. Although the old maps revealed even imaginary information of the arctic regions Nordenskiöld studied the works of earlier explorers to the north carefully. He is known to have planned his expeditions in detail and studied not only old maps but also collected information from Norwegian fishermen who sailed far north in the summertime with their whaleboats without maps, relying on experiment only. This gathering of information and careful planning for the worst saved Nordenskiöld and his expeditions many times.

After the successful voyage through the Northeast Passage Nordenskiöld began to study and on large scale collect cartographical literature. His thorough and systematic research methods made him a pioneer in the history of cartography. He devoted himself completely to the study of the history of cartographical literature. He published two pioneering works, an early history of cartography, *Facsimile-atlas*. Stockholm, 1889. In that book he published reproductions of the most important maps of his collec-



Fig. 1. Explorer A. E. Nordenskiöld - Father of Historical Cartography. Wiiपुरi 1881. Phot. by A. Pietilä-Ventelä

tion up to 1600. Facsimile-atlas contained a cartographical image of the world, the history of early mapmaking as well as 170 pictures and charts including Nordenskiöld's view the most important maps of the 1400s and 1500s presented as facsimile editions.

A history of early printed charts and sailing descriptions, *Periplus* was printed in Stockholm 1897. *Periplus* contains a history of hand-engraved and printed nautical charts until the mid-1700s. The study of old, mostly hand-engraved portolans, sailing directions and charts of routes and coastlines was an extremely arduous task and it appeared the work was an unique achievement. The total number of maps and illustrations was 254.

Both works were self-published and well received immediately after they appeared. Research in the field was scarce at that time. The works are high quality in terms of their print quality and overall appearance. Facsimile-atlas and *Periplus* have retained their status as seminal works in the history of cartography. Because of these works he has been called the father of historical cartography. Those books have been published in many editions. They were translated into English the same year they were published. The printing plates of the facsimile maps are today in the possession of the National Library of Finland.

The important work from his own collection that Nordenskiöld produced is *Contribution to the Early Cartography of America*. This he had published also at his own expense in 1892. The exhibition catalogue coincided with the Chicago World's Fair's celebrations of the 400th anniversary of the discovery of America. The publication presented early maps of America, Iceland and Greenland in his collection.

He also produced a similar publication treating early Russian maps, *Samling af Gamla Kartor öfver Ryska Riket*, 1892. All that remains of this in the Nordenskiöld Collection. Title pages and table of contents reveals that Nordenskiöld treated 26 different Russia-related maps that were printed before 1600. Afterwards he describes the Russia of the late 1600's through five maps.

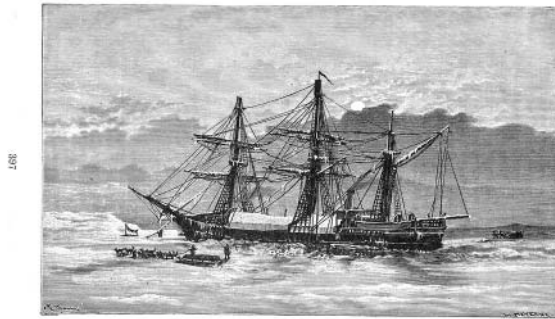
During his research in the history of cartography in a relatively short period he collected thousands of volumes, especially geographic and cartographic literature of the 15th and 16th centuries. He was a very systematic purchaser using bibliographies and catalogues of antiquarian book-dealers. He was interested only in complete editions and if possible in first editions. This explains the exceptional quality of the collection.

Vega expedition through the North-east Passage

A.E. Nordenskiöld won world fame by sailing the route through the North-east Passage round Asia in 1878-1880. The expedition got great publicity in the world press. The best known is the travel account *Vegas färd kring Asien och Europa I-II*. Stockholm : F. & G. Beijers förlag, 1880-1881, that has been translated into 11 languages besides Swedish: English, Dutch, Italian, Catalan, Norwegian, French, German, Czech, Russian, Finnish, 1881-1883, as well as a facsimile edition in 1980 and a Japanese translation in 1988. The two-volume book gives a complete picture of the efforts made throughout the centuries to sail through the northern sea-routes and describes all the phases of the expedition. Only a two days journey from the Bering Strait the vessel was stuck in the ice on 28th September. The crew had to spend the winter there until 19th August the next year without any contact with the civilized world. On September 1879 *Vega* steamed into the harbour of Yokohama and on April 1880 the vessel arrived back in Stockholm. As a result of the expedition the previously impassable and difficult sea-route round Asia was opened and detailed maps could be drawn of the area.

When the *Vega* docked in Japan, Nordenskiöld acquired cultural artefacts, weapons, and bronze objects. The Japanese scientist Okuchi Masayuki, who spoke French, assisted him with his selections of Japanese literature, which eventually became a collection containing almost 1100 works from the 1600s-1800s. Nordenskiöld's objective was to form a representative library devoted to Japan. It now contains over 100 works treating history, Buddhism, poetry, and geography, as well as dictionaries, grammars, bibliographies, and other reference works.

There are two bibliographies of the works. The Orientalist Léon de Rosny prepared a bibliography that was printed in Paris in 1883. J. S. Edgren formulated a new and more precise bibliography *Catalogue of the Nordenskiöld Collection of Japanese Books in the Royal Library* (1980) that met scientific requirements. The collection is preserved in Stockholm



Vega talvintamassa.
L. Palanderin, kesällä 1879 otettua valokuvan mukaan.

Fig. 2. The Vega during the wintering period. Drawing of photograph taken by L. Palander in the spring of 1879. Phot. by A. Pietilä-Ventelä

at what is nowadays the East Asian Library, in connection with the East Asian Museum. The library has one of the most important collections of Japan-related materials in Western Europe.

Commemorative medals of Nordenskiöld and the *Vega* were also struck in Japan, France, Italy, Belgium-Holland, and Germany. In 1880, the Royal Swedish Academy of Sciences commissioned a medal, designed by Adolf Lindberg, to honour the *Vega*'s Northeast Passage expedition.

Arrival of the Collection in Finland

During his lifetime, Nordenskiöld had expressed the wish that his library of geography and the history of cartography be located in Finland and preserved intact. After Nordenskiöld's death in 1901, the unique collection was acquired for Finland. Nicholas II had reviewed the documents brought from the Finnish Senate regarding the acquisition of A.E. Nordenskiöld's collection. He authorized senate funding – covering 2/3 of the entire sale price – for the acquisition of the Nordenskiöld collection. The Imperial Alexander University of Finland and the Senate were thus authorized to draw up documents with Anna Nordenskiöld and the children.

The library arrived by sea at Hanko, Finland. There were besides books, maps, globes, the part of Nordenskiöld's personal correspondence with relates directly to the library and its collection. The conditions of sale which were agreed upon in addition to the price were as follows. First the collection was to be preserved as a whole. The disposal of any of its items was strictly forbidden. It was to be known as the Adolf Erik Nordenskiöld Library. The second is that collection was to be open to scholars from Sweden and elsewhere and not only to Finns. Printed catalogue of the library also was to be published.

The Remarkable Collection

Nordenskiöld's book and map collection related to the history of cartography is preserved at the National Library of Finland as a separate collection. Nordenskiöld was a wealthy man during last decades of his life. He spent large sums systematically buying cartographic prints: maps, atlases, other geographica and travel books. The Collection was collected by a scientist in a very systematic way and it is one of the most complete of its kind in the world.

He collected cartographic material concerning the Ptolemaic system and the geography of classical times in the 1880s. His collection of Ptolemy-editions is unique. Ptolemy was Greek mathematician, astronomer and geographer who lived in Alexandria in the second century AD. *Geographia* was preserved and circulated until the 15th century and was translated into Latin. Nordenskiöld managed to acquire more printed editions of the work than perhaps any other known collection. Of the 54 atlases of Ptolemy printed before 1800, Nordenskiöld's library contains 49 different editions, 53 works in all and, in addition, a manuscript of the work from the 15th century. *Geographia*, a manuscript containing instructions for a description of the globe and the making of maps by Ptolemy.

The collection's catalogue lists 3 870 publications, 80 of which are early works of treating America. Greenland is main theme in 24 publications. The number of scientific periodicals, yearbooks, magazines and series exceeds 200. There are over 100 bibliographies, around 500 atlases and 400 separate maps. The Collection contains about 24 000 maps printed before the year 1800 in either atlases or as sheets.

Seventy-one publications are written by Nordenskiöld himself or about him. The collection has ten manuscripts and 123 incunabula, works printed before 1501. There is Persian manuscript as well as three editions of *La Sphera* by Italians Leonardo and Gregorio Dati (1360–1425). One of the *La Sphera* works is bound with the only Claudius Ptolemy manuscript in the collection.

Besides atlases and maps there are also books as seven later printings of Olaus Magnus *Historia de gentibus septentrionalibus* as well as the 1555 edition, the voyages of the Dutch sailor Willem Barents to the north in 1594, 1595, 1596 and William Coxe's Account of the Russian discoveries between Asia and America 1780. The following examples of books indicate the direction of Nordenskiöld's interest at that time: William Coxe, *Account of the Russian Discoveries between Asia and America*. London 1780, Otto von Kotzebue, *Entdeckungs-Reise in die Süd-See und nach der Berings-Strasse*. 1 – 3. Weimar 1821 or A. Fr. Prevoot, *Histoire générale de voyages*. 1 – 17. Paris & Amsterdam 1746 – 1761. There are also several early astronomical works.

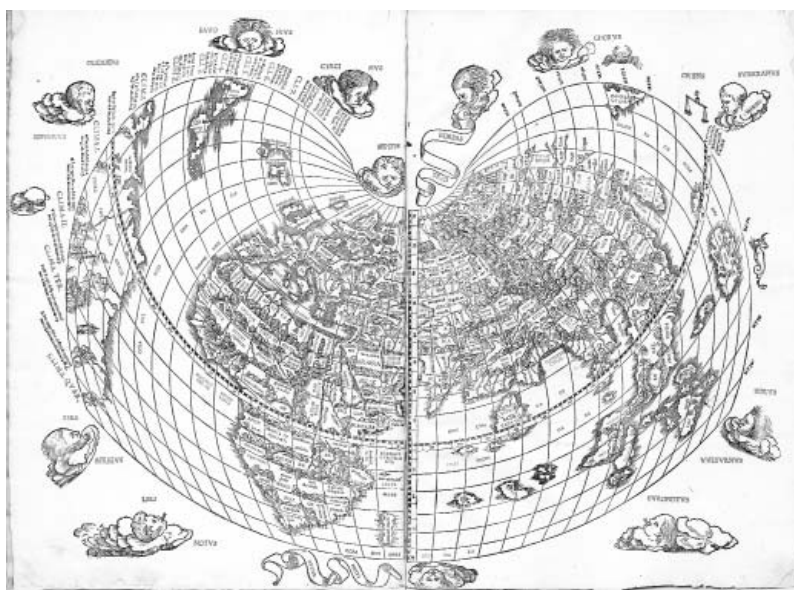


Fig. 3. The World - [Mundus] in Claudii Ptholemaei Alexandrini liber geographiae cum tabulis et universali figura. Venice 1511. Phot. by A. Pietilä-Ventelä

Atlas – treasures and rarities

The collection as whole gives a splendid average picture of European map production from the 15th century to the 19th century. All the famous cartographers are represented. Ptolemaeus, Bartolomeo da li Sonetti, Johannes de Sacrobosco are some of the 15th century cartographers in the collection. From 16th century the collection hold works of Abraham Ortelius, Peter Apian, Pietro Bertelli, Benetto Bordone, Jacob Ziegler, Olaus Magnus and many others. From the 17th century there are works of Willem Janszoon and Joan Blaeu, Marco Boschini, Philip Cluver, Vincenzo Coronelli etc. The Nordenskiöld Collection is a representative cross-section of cartographical publishing in Europe.

One of the atlases is Antonio Lafreri, *Geografia tavole moderne di geografia de la maggior parte del mondo...* Roma 1550-1772. Totally there are 74 maps, which are printed in Italy by Antonio Lafreri. Atlas also includes Olaus Magnus's Carta marina of 1539 reduced version on copper plate. Carta marina is the first map of the Swedish Catholic bishop Olaus Magnus. Brothers Johannes and Olaus Magnus lived for awhile in Poland when they eventually sought refuge in Catholic-friendly southern Europe. Map is one of the remarkable maps of the 16th century embracing the Scandinavian areas.

A.E. Nordenskiöld marked nine books rrr-mark – res, res rarissimus, is likely to remain a mystery forever. What is the significance of these works today, no one is able to clearly compare the values. The fact is that the acquisition of the world one of the foremost scholars of old maps and collectors considered them res rarissima, very rare.

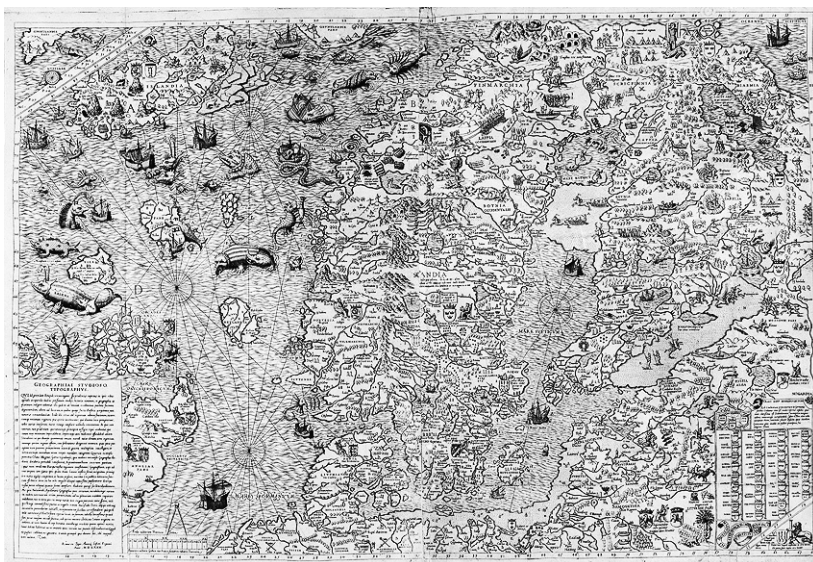


Fig. 4. Carta marina. Overview in Lafreri, Antonio : Geografia tavole moderne di geografia de la maggior parte del mondo. Roma : A. Lafreri, 1550-1572. Phot. by A. Pietilä-Ventelä

One of these very rare is *Mappa mundi ad globum inducendum Lustrum tertio seculi xvi. In lignum incisa.* 1525. Nordenskiöld was very excited to receive over this wood engraved globe in 1883. He found that his knowledge of this map had not been mentioned previously in the scientific literature. The globe was glued to the back side of Ptolemy's 1525 map of Switzerland nro 46. He bought the Ptolemy in 1883 Rome. Afterwards he wrote that only two other specimens of this map were found and they are from the collection of a Lichtenstein prince and the Bibliotheca Nationale in Paris.

UNESCO Memory of the World

The significance of the collection is born out by the fact that when UNESCO established Memory of the World Register to preserve and protect the world's documentary heritage, the A. E. Nordenskiöld Collection was among the first sites chosen for the list in 1997.

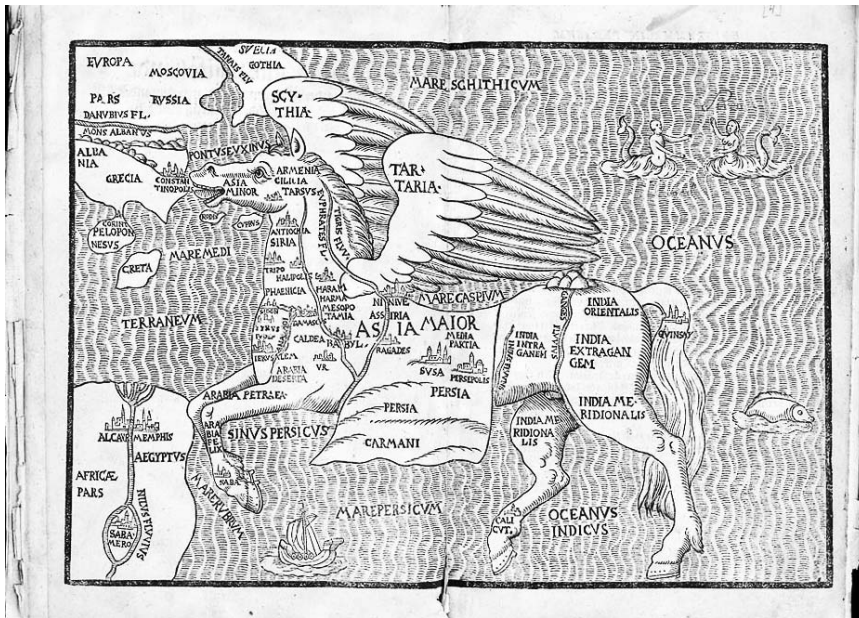


Fig. 5. Asia... lijknat wiðh een flygande Häst, hwilken Poëterne kalla Pegasus in Bunting, Heinrich, Itinerarium sacrae scripturae, Thet är: Een Reesebook, Öffuer then helighe Schrifft... Stockholm 1595 : Vol. I : map 4. Phot. by A. Pietilä-Ventelä

The Library was asked to complete the forms required for the possible inclusion of the Nordenskiöld collection in the register. Assessments were based on the seven criteria in the UNESCO Memory of the World programme that the collection had to satisfy: effect, time, place, people, subject/theme, form/style, and social value. Secondary criteria included rarity, integrity, and threat. The Helsinki University Library (now the National Library of Finland) had to designate an impartial expert who thoroughly understood the uniqueness and value of the collection. The Swedish Professor Ulla Ehrensward from Stockholm was invited to undertake this expert task. The Library received a certificate of honour that is preserved with the A.E. Nordenskiöld collection.

Within the context of Renaissance-era's cartographic literature, Nordenskiöld's collection is unique because the scientist assembled it systematically. The collection also depicts the effects of the voyages of exploration on trade, navigation technology, and politics from Antiquity to the present day, with particular emphasis on the discovery of America and the history of the northern regions. The collection's basic themes focus on the spreading of knowledge about the known world, as well as innovations in cartography and navigation.

The works' typography and print quality also depict the development of European printing techniques from the 1400s to the 1800s. In particular, the skills of the Italian, Dutch, German and French printing houses are clearly visible in the collection's treasures. The collection has social value with respect to discovery and the acquisition of new knowledge. Travel accounts, natural-scientific and educationally historical researches, atlases, and detached maps provide an inexhaustible source for researchers specialised in different historical areas. Besides being an invaluable part of Europe's cultural heritage, the works reveal the shaping of western science and an emerging world view through the centuries.

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Zdigitalizowane mapy ze zbioru Nordenskiölda:[Digitized maps from Nordenskiöld collection:] <http://www.doria.fi/handle/10024/97216>

Anna-Maija Pietilä-Ventelä

The Scientist and Explorer A. E. Nordenskiöld Cartographic Collection in The National Library of Finland

Summary

The National Library of Finland is the oldest and largest academic library in Finland.

It is responsible for the acquisition, description, preservation and accessibility of Finland's printed national heritage and the unique collections under its care. The National Library also promotes national and international cooperation in the field.

The most prominent collections and services are historic, Antiquity and Mediaeval studies, Russian and Eastern European studies, educational and bibliographic history and the history of cartography, art studies, and philosophy.

The National Library of Finland's A. E. Nordenskiöld collection is one of the world's most significant collections of antique maps. In 1997 the collection was included into UNESCO's Memory of the World register. Nordenskiöld's collection vividly depicts the development of Western countries' geographical knowledge. The maps and literature depict all continents, with a particular emphasis on Arctic areas. There is an almost complete series of Geographica, the classic cartographic work by Claudius Ptolemy, as well as a considerable number of works related to the discovery of America.

Adolf Erik Nordenskiöld received his university education in Helsinki, where he gained his doctorate in 1855. He then began his researcher career in Finland. He was an explorer, a multidisciplinary natural scientist and also a notable historian of cartography.

Nordenskiöld gained his worldwide fame as a result of his expeditions to the arctic regions. He made ten research expeditions to the Arctic Ocean, and in 1878–1879 he was the first explorer to sail through the Northeast Passage on a continuous trip. After preparing for his expeditions by studying old maps and travel accounts, Nordenskiöld became interested in cartographic history and was later a world famous pioneer in that field. He published two basic works on the history of cartography, which are still used.

Keywords: National Library of Finland, cartographic collection, Adolf Erik Nordenskiöld