Jan Strang

The Map Orbis Arctoi

by Anders Bure (Bureus)

Antiikki-Kirja

Introduction

What is this book about?

This book is a description of the great map of the European North that the Swedish cartographer Anders Bure[1] published in 1626 and its influence in the 17th century and especially of its importance as a map of Finland.

The map was perhaps the most significant map of Europe of the 17th century, as it mapped the last unmapped area in Europe, i.e. the northern regions and especially Finland and is surroundings. Thank to this the map of the whole of Europe started to look the Europe we know it is.

What is new?

In the book the Bure map and its later editions are analysed region by region. The different editions are compared. The main result of this comparison is that all the efforts by later mapmakers up to the middle of the 18th century to produce a better map, resulted in more or less inferior products compared to the original Bure map. If there were improvements in some parts of some editions, the maps at the same time introduced new mistakes that Bure's map did not have. The greatest of these new mistakes were the national boundaries in north-east and the placement of the Gulf of Finland.

The article analyses thoroughly the scale-bars of the map, which offer the best knowledge that exists about the lengths of the old Swedish provincial miles that were in use until the time of Bure's map. The conclusion is that the scale bars were misinterpreted by the Dutch copiers of the map.

The history of the article.

Another version of this article has been previously published in Finnish as a part of my book *Suomen kartan historia* (= *Mapping of Finland)*[2], of which this book is an edited, corrected and translated version. There are major changes specially in the discussion about which role different persons played in the making of the Hondius edition of the map and partly also in the making of the original map.

Still earlier I have treated the same theme in my article *Lappi piirretään kartalle* (= The first Maps of Lapland, 2011, in the book *Lapin taide*[3]) and in my presentation at the 25th International Conference on History of Cartography in Helsinki 2013.

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Jan Strang

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1 His name before his ennoblement was Andreas Bureus; 14 August 1571 – 4 February 1646.

2 Strang 2020.

3 Strang 2016.

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in General and as a Map of Finland

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The maps of the North by Anders Bure

Introduction

Anders Bure's maps and their significance

The first separate map of Finland was published in the early 1650s by the Dutch map publisher Joan Blaeu. In 1662 the same map appeared as part of his enormous world atlas *Atlas Maior*. Blaeu's map of Finland is almost a direct copy of part of the large map of the Nordic region, *Orbis Arctoi Nova,*#35 published in 1626 by the Swedish cartographer Anders Bure. Bure's 1626 map, and partly its predecessor, Bure's 1611 map of Lapland#123 were the first maps based on scientific measurements and therefore also the first to give a reasonably accurate picture of Norden and Finland. Earlier maps were primitive and only to a small extent accurate.

There is no researched information about the exact measurements on which the Finnish section of Bure's map – and the map in general – was based. We know that he travelled to Finland several times and spent long periods there. He took part in the border demarcation following the Treaty of Stolbovo, which lasted for several years. The fact that some places on Bure's map are clearly drawn more accurately than others allows conclusions to be made about the measurements on which the map was based. It is clear that the map must be based on several astronomical determinations of location in different parts of Finland – otherwise the map could not be as good as it is. It is also clear that someone skilled in surveying sailed along the coasts of the country as well as along several inland waterways. During these journeys he measured at least the distance travelled and made systematic compass observations. It is also possible that some measurements were taken in winter on the ice.

It seems likely that Bure himself carried out most of the measurements on which the map was based. It is also quite evident that the areas drawn more accurately than others are regions where Bure (or possibly his assistants) travelled with surveying instruments. Such notably accurate areas include the country's coasts – especially the coasts of the Gulf of Finland and the Turku archipelago – a significant part of the Saimaa water system, the southern parts of the Kokemäki (Kumo) River water system, and the northern shores of Lake Ladoga. In contrast, the Päijänne water system is drawn rather roughly, suggesting that measurements were probably not taken there. Bure probably did not have to do everything himself. Some information he may have obtained by asking local administrative officials. Individual observation tasks may also have been delegated to officers sent to different parts of the country.

Although Bure's map was good compared with everything that had come before – and even brilliant – it was only the first step in mapping Finland. It left much work for future generations. In the inland areas there remained many "blank" or unmapped regions, as well as poorly known water systems drawn only roughly. No roads were drawn on the map at all. In most parts of Finland, the accuracy and reliability of the map were not sufficient for planning the movement of military forces, for example.

In the 1650s and 1660s, the first separate maps of Finland based on Bure's map were produced in the Netherlands and France. They were accurate partial copies of Bure's map. The publishers were Blaeu and the heirs of Janssonius in Amsterdam and Sanson in Paris. These maps were reprinted until the middle of the 18th century. Bure's map image finally became outdated in 1799, when C. P. Hällström's atlas of Finland was completed.

Anders Bure and His Maps

Anders Bure's Mappings

Anders Bure's Mapping Assignment in 1603

From the 1500s, several schematic hand-drawn map sketches are known from both Sweden and Finland. They were not real maps; rather, using modern terminology, they were closer to rough sketches made "on the back of a cigarette pack." In them, the "aerial view" of an area was drawn freehand on paper or another writing surface without measurement data.

The mapping of Finland, as well as that of Sweden, truly began when the future King Charles IX – then still Duke Charles – gave Anders Bure, an official in his chancery, the task of creating a map of the kingdom. Before this, no map based on measurements existed. After receiving the assignment, Anders Bure began his work. The project lasted 23 years, and the map was completed in 1626, when it was published in printed form.

Land Surveying and Cartography in Sweden-Finland Before 1626

King Charles IX had a significant influence in many ways on the mapping of his kingdom. He ruled Sweden–Finland from 1593, first as Duke Charles – acting as regent for King Sigismund, who lived in Poland – and from 1604 as king. During his reign, scientific cartography began to emerge, along with the development of the sciences necessary for it, such as mathematics, geometry, geography, and geodesy. One of the prerequisites for land surveying was a unified system of length measurement for the kingdom, which Charles IX also established.

The first mathematical dissertations written by citizens of the Swedish realm were produced at the University of Marburg in 1593 and 1598, and both dealt with mathematics as a tool for land surveying. The University of Uppsala, which had declined during the Reformation, was revived in 1595 at the initiative of Charles IX. Teaching was then introduced in subjects related to land surveying. Professors Rudbeckius (in office from 1604) and Stenius (from 1605) lectured on mathematics, geometry, and geodesy and even created maps themselves. In 1604, Charles IX placed an iron rod beside the door of Stockholm's town hall to mark the length of the *aln*, forming the basis of the kingdom's measurement system. This rod was copied from an older measurement standard that had existed in the church of Rydaholm in Småland since the 1100s.

Charles recruited individuals skilled in mathematics, astronomy, and other sciences necessary for mapping to serve in his chancery, either permanently or temporarily. Among them were Sigfrid Aronius Forsius, Daniel Theodori Hjort, and the cousins Johannes and Anders Bureus. All of them were capable of determining geographical and astronomical positions with the instruments available at the time. Other individuals known to have participated in mapping or positional determinations include Gerdt Jostig and O. Örnehufvud. Any of these individuals may have contributed background information for Bure's map, although there is no certain evidence.

Johannes Bureus left behind notes showing that he had access to at least the following surveying instruments: a quadrant, an astrolabe, and a compass. In 1602, Johannes Bureus wrote that together with Anders Bureus and the copper engraver Abraham Lampadius, he mapped Stockholm and received an order from Duke Charles to draw maps of Tallinn and Narva. Already in the previous year, 1601, Duke Charles had sent a three-man expedition to Lapland to determine the correct geographical location of the borders. The members of the expedition were the aforementioned Sigfrid Forsius and Daniel Theodori Hjort, and the third member Hieronymus Birckholz. During the journey, which lasted until 1602, they produced several geographical coordinate determinations. These are likely the first published positional determinations in both Sweden and Finland. The latitude and longitude of at least the following places were determined: Umeå, Luleå, Tornio, Vårdø, Tromsø, Vardø, and the North Cape.

Anders Bure (Bureus)

Anders Bure was born on August 14, 1571 in Säbrå in Ångermanland, Sweden. His surname at that time was Bureus. He received the name Bure[1] *n 1624, when he was ennobled. His father Ingelbrekt Bureus was the vicar of Själevad. It is known that Anders studied mathematics, among other things, but it is not known where. However, he qualified so that he entered the service of King Charles IX in his office and received many positions of trust there, including diplomatic duties. He was a cousin of another scholar, Johannes Bureus. In 1623 he was appointed inspector of public buildings, which is why his title is sometimes mentioned as "supremus Regni Sueciae architectus"*

In 1628 Bure was appointed to the position of chief mathematician of the kingdom (general-mathematicus) with the task of training surveyors to be sent to different parts of the country. This is considered to be the origin of the Swedish and Finnish Land Surveys. Bure is considered the founder of these agencies and is called the father of Swedish cartography.

Bure visited Finland on several occasions and stayed in the country for extended periods, particularly while participating in the border demarcation following the Peace of Stolbovo as a member of the border commission. No records have survived of possible visits by him to Lapland, but it is evident that he at least traveled around the Gulf of Bothnia, meaning he visited Tornio at least. Anders Bure died in 1646.

1 Both forms of the name are used today. This book mainly uses the form Bure, because he is known as Bure in his native Sweden. (see e.g. SBL)

Image (1): Bure's map Orbis Arctoi Nova. The actual map, printed as a copper engraving in intaglio, is surrounded by a frame printed in relief. This frame consists of a title printed in large capital letters at the top and a long text running along the sides and bottom. The text describes the Kingdom of Sweden. The text sections were printed on lower-quality paper, which has browned over time. The text was also published separately as a book. 112 × 126 cm (dimensions of the map itself. (KB)

The first significant survey-based mapping project in Sweden–Finland was the demarcation of the new border with Russia according to the Treaty of Teusina (1595), carried out in 1595–1596. The border survey was conducted by three separate border commissions, each assigned its own section. Each commission, together with the corresponding Russian commission, inspected its section, marked boundary markers in the terrain, prepared official records, and drew a border map.[1]

Only the border maps drawn by the two southernmost commissions have survived in the Swedish National Archives. They are narrow scroll maps about 17 cm wide and several meters long, depicting only the immediate surroundings of the border line. In them, the border is shown from the Retusaari island (Kronstadt) in the Gulf of Finland northward to the Maanselkä boundary marker on the border of North Karelia and Kainuu. The third, northernmost commission surveyed the border from Maanselkä to Iivaara in Kuusamo, but the section of the border continuing north to Lake Inari was not surveyed at all. The northern commission is also known to have carried out mapping work, and references to its maps appear in documents. The secretary of the northern commission was the previously mentioned Dutchman Jostig. He is known to have drawn maps during several of his journeys in Lapland, and these are preserved in the Swedish National Archives. It is possible that they later served as source material for Bure when he prepared his own maps. The other members of the third commission were Mauritz Jörenson till Diula och Wii, Hans Hansson till Monicala[2] and Sven Pedersson till Väsby.[3]

Table 1 – Comparison of latitude values of Bure's maps and values given by the "Lapland Travelers" with values of modern maps

The table compares the values of the Lapland travellers mentioned in the text (Hjort, Forsius & Birckholtz) and Bure with each other and with the values according to current knowledge. The error in square brackets is in relation to the values measured from the current map.

Place	Google maps	Bure 1611	Bure 1626	Hjort, Forsius & Birckholtz
Nordkap	71° 10'	71° 31' [+ 21']	71° 29' [+ 19']	72° 30' [+ 1° 20']
Tornio/Torneå	65° 51'	65° 51' [0° 00']	65° 53' [+ 2']	67° 00' [+ 1° 9']
Umeå	63° 50'	65° 56' [+ 6']	63° 55' [+ 5']	65° 11' [+ 1° 21']

The sources of Bure's Information?

Very little information has survived about what sources Anders Bure used and how he obtained the data for his maps. However, a great deal can be inferred from the finished map itself. A map as accurate as Bure's could not have been created from random information or purely as office work in Stockholm. At least the following actions must have been taken:

1) Since the necessary information was not already available in Stockholm, the systematic collection of data had to be planned. Archives contained useful information for example about castles, parishes, and administrative districts, but told very little about their exact locations.

2) The data-collection plan had to include tasks such as:

a) Determining the location of the coastline.

b) Identifying the outlets of major lakes and the structure of inland waterways.

c) Locating cities, castles, parish churches, and other important places.

d) Determining astronomical coordinates for key locations

e) Deciding on the map projection and coordinate system.

3) Data collection must have involved Bure – or someone trained and sent by him – travelling around the country to observe, measure, and ask local people for information. The traveller needed to be skilled in using the few surveying instruments available in the royal chancery. Apart from Bure, only a few other in the Swedish realm could have been considered for the task. Most of those who might have been possible candidates already had duties of their own. It is likely that Bure himself carried out much of this fieldwork. Considering the size of the country, expeditions must have taken place over several years. Travel probably occurred in many ways: sailing along the coast, rowing along inland waterways, and travelling by horse or on foot along roads. Although researchers have not found archival evidence of these journeys, the map could not have been produced without such fieldwork.

Bure's Assistants?

Many texts discussing Bure's map speculate about whether he created it alone or used information collected by others. Some scholars have tried to identify collaborators because gathering the information for such a map seems like a task too large for one person. Unfortunately, no reliable evidence has been found. Much of the discussion about Bure's assistants remains speculation about what might have been possible. The contribution of those proposed as assistants has not been proven to be real or even probable. What is certain, is Bure's own contribution: he received the assignment, was paid for the work, delivered the finished map, and dedicated it to the king under his own name.

Special attention has been given to Bure's information about Lapland. The sources of this information have been suggested to include the previously mentioned Johannes Bureus, Daniel Hjort, Sigfrid Forsius, and H. Birckholz, because they are known to have travelled in Lapland. This hypothesis can be tested, since the results of the positional determinations made in Lapland by the three latter gentlemen have been published, and they can therefore be compared with the coordinate values in Bure's map (see Table 1).

The latitude values recorded by the Lapland travellers are consistently more than one degree too large, whereas Bure's values are close to the correct ones and, in the Gulf of Bothnia, even very precise. A comparison of the travelers' results with one another nevertheless shows that their values are fairly accurate relative to each other. When the systematic error affecting all their values is removed, the remaining relative error is only about 9 minutes of arc, which, considering the conditions of the time, is already a remarkably good result. One can only speculate about the cause of the travelers' systematic error. Is it possible that the instruments were not used correctly, and that the same systematic error was made each time measurements were taken? Or could the explanation lie in some theory about the shape or size of the Earth, which led to an erroneous calculation? Be that as it may, it is clear that Bure did not accept their values, but instead sought other information. He must either have measured his own values himself, obtained them from some other source, or identified the theory-based error possibly contained in the travelers' figures and corrected it. It is likely that he did all of these things. What has been described above reinforces the view that Bure must have worked very independently when gathering the information for his map – not all information obtained from others could be used as such but had to be verified. This would have been difficult to accomplish otherwise than through measurements carried out by himself or at least conducted according to his own instructions.

Johannes Bureus, Anders Bure's cousin, is also often mentioned as a possible collector of the data used in Bure's map. However, those who present this assumption have little evidence to support it other than the fact that Johannes Bureus had the competence to make positional determinations and that he traveled widely in Sweden. His journeys, however, had no connection with mapping. From Johannes Bureus there survive regular diary-like notes covering several decades. These do not indicate that he carried out positional determinations during his travels. If he had conducted measurements on any significant scale, it would be reasonable to expect that at least something about them should be mention in the diaries – but there is none. On this basis, it appears that Johannes Bureus should not be credited for Anders Bure's map, unless additional evidence of his possible contribution can be uncovered.

Image (←): In the upper left corner of Bure's map#35, in a large cartouche, there are images of King Gustavus Adolphus and his wife Maria Eleanora, as well as dedications to them. These are framed by the coats of arms of Sweden and all its provinces. The accompanying image shows the right half of the cartouche, which has the coats of arms of Finland and its provinces. These images are significant because they are among the earliest pictorial representations of these coats of arms. (KB)

1 As the earliest surveying activity carried out in Finland, this border crossing deserves special attention. The event have been extensively studied at the University of Oulu, but more from the perspective of local history and border history than from the perspective of surveying or mapping history.

2 Jully Ramsay knows Monikkala family, but mentions no members with the name Hans Hansson (Ramsay 1909). Could it be the Hans Hansson, who served as the surveyor of Turku Province in the 1650s?

3 Lönborg 1901.

Bure's map of Lapland - 1611[#123]

In 1611 Anders Bure published a smaller map known as the Map of Lapland as preliminary work for his large map of the Nordic region. The map extends as far south as Vaasa and Kuopio, meaning that most of Finland appears on it. The map shows that the general shape of both Finland and Scandinavia was already known to Bure by 1611. However, the representations of Lapland differ somewhat between the 1611 map and the later 1626 map. There are particularly large differences in the depiction of the Kola Peninsula and the White Sea. In Finland, the differences are relatively small except in the depiction of borders. The latitude coordinates of Finnish locations differ by only a few minutes. The coordinates in the 1626 map are generally more accurate, although the 1611 map is still quite good – especially compared with earlier maps. The latitude of Tornio is exactly correct on the 1611 map of Lapland, i.e. slightly better than on the 1626 map, which has an error of two minutes. The map of Lapland was so accurate that it could not have been created without astronomical position measurements. The improved accuracy in the 1626 map suggests that new measurements were made between 1611 and 1626.

The borders of the kingdom were marked with dashed and dotted lines. The border between Sweden–Finland and Norway was shown running close to the Arctic Ocean so that Kautokeino, Utsjoki, and Inari parishes were on the Swedish side, as they were at the time. The border with Russia also follows a fairly accurate route from Lake Inari southward past Kuolajärvi, Kuusamo, and east of Kainuu.

According to historian Ahnlund, it is likely that Anders Bure himself had not visited Lapland before 1611 and that he relied on information from others. One of the most important sources may have been Daniel Hjort, a skilled mathematician who traveled in Lapland on the king's orders to determine borders and conduct positional measurements. The possible involvement of Johannes Bureus has also been mentioned above. Nevertheless, the exact sources of Bure's information remain unknown.

Anders Bure's Map of Lapland from 1611 was the first map ever published in the Swedish kingdom and the first map of the realm based on scientific measurements. It represented a major step forward in the cartography of the Nordic region.

Image (→): Bure's map of Lapland from 1611.#123 24×30 cm (KB)

Bure's Map – Orbis Arctoi Nova et Accurata Delineatio from the year 1626

The Great Map of the North, 1626[#65]

Bure's great map of the North *Orbis arctoi nova et accurata delineatio* was completed in 1626. The map includes all of the Nordic countries, the whole of Fennoscandia including the Kola Peninsula, the Baltic countries, north-western Russia as far as Moscow, and the southern coast of the Baltic Sea extending roughly one hundred kilometres inland. Both the Baltic Sea and the White Sea are included in their entirety. In the depiction of most of these regions, Bure's map clearly surpassed the standard of earlier maps. The only exceptions were Denmark and the southern coast of the Baltic Sea. In the cartographic representation of those areas, Bure's map did not significantly alter the established image.

Bure's map transformed the cartographic image of Europe more than any other map of the seventeenth century, and on this basis it may even be regarded as the most significant European map of its century.

Dimensions, Coordinate System, Scale and Projection

Dimensions

Bure's map of the North is a large wall map typical of its time, consisting of the map itself and an explanatory text surrounding it. The map itself consists of six separately printed copper-engraved sheets that are joined together – two sheets vertically and three horizontally. The printing plate for each map sheet was almost exactly the same size – 560×421 mm.[1] The printed map also includes a marginal border approximately 21 mm wide surrounding the map itself. Based on these measurements, the size of the entire map including margins is (2×560 mm) × (3×421 mm) = 1120×1263 mm, and without margins 1078×1221 mm. The text framing the map was printed separately in sixteen sheets using letterpress.

Different sources give different dimensions for the map depending on whether margins or the surrounding textual frame are included, or how precisely the measurements were taken.

The dimensions reported by different sources are as follows: Raid, apparently according to the Royal Library in Stockholm: 113×129 cm; Ehrensvärd: 118×133 cm and 113×126 cm; Lönborg: 150×160 cm, apparently including the textual frame. Raid gives the size of each sheet as 57×43 cm, while Ehrensvärd gives 56.5×42 cm.

The facsimile published by Mandelin[#37] in 1866 measures 1041×1214 mm when measured from the inner edge of the margin.[2] These dimensions are about six centimetres smaller than the calculated dimensions of the original map.

Coordinate System and Projection

The map is made in a conic projection. The latitudes on the map are calculated from the equator. They are drawn on the map as lines at equal degrees and more precisely in the margin at 10-minute intervals.

In the preface Bure states that he took as the zero meridian *the meridian where no magnetic deviation occurs,* which at the time was understood to pass through the island of Corvo in the Azores.[2] On the map the meridian 44° passes beside the western shore of the island of Utö, and the meridian 50° (not drawn) passes through Kaunissaari (Fagerö) in Pyhtää.

In the margins the full meridians are numbered and divided into quarters, giving a precision of fifteen minutes. The meridian lines on the map are drawn irregularly, so that the interval between them is sometimes 1°30′ and at other times 2°. For example, from the lower edge of the central sheet the following meridians are drawn: 39°, 40°30′, 42°, 44°, 45°30′, 47°, 49°, 50°30′. There are irregularities in the drawing. The spacing between meridians does not always remain exactly the same; for some reason one interval is larger than another. For example, the interval 45°–45°30′ is considerably longer than the adjacent interval 45°30′–46°. An even more serious error appears at the top of the map, where the meridians interrupted by a large cartouche continue above the figure from incorrect positions, so that the meridians at the bottom and the top of the map do not align correctly.[3]

Scale

The scale of the map was probably originally intended to be approximately 1:1,950,000. I calculated the actual scale from the facsimile printed by Lönborg with original plate by measuring an interval of 8° of longitude. The result was approximately 1:1,960,000. Since the paper has shrunk somewhat, the original scale was presumably slightly larger, approximately 1:1,950,000. In the literature the scale of the map is most often given as "about 1:2,000,000". As an approximation this is reasonable, but it is not suitable in all contexts. For example, both facsimile editions said to reproduce the map in its original size were produced exactly at the scale 1:2,000,000. As a result they are about five centimetres smaller than the original map in each direction. Richter gives the scale even more incorrectly as "roughly 1:1,000,000". This must be based either on a printing or calculation error. Nevertheless, the incorrect information has spread widely, so that e.g. the library cards of all the five copies of Buremap in the Royal Library in Stockholm is the incorrect information that scale is 1:1 000 000.

The Geodetic Accuracy of the Map

The geodetic accuracy of the map in Finland is, in many places, astonishingly good. This precision is sufficient proof that the map is based on geodetic measurements. Even with the best "lottery winner's luck," one could not produce such a high-quality map based solely on interviews and visual estimates. Many locations in Finland are positioned more correctly than the kingdom's central hubs, Stockholm and Uppsala. In relation to latitudes, the map is extremely accurate. However, in relation to longitudes, the map suffers from a systematic error, causing both Finland and Sweden to appear much "thicker" than they actually are. Another major error in longitude determination is the positioning of the entire northern end of the Gulf of Bothnia approximately one and a half degrees too far west.

Determining longitude with the tools and methods of that era was difficult, so even large errors are sometimes understandable. If one clears the systematic error from the longitude values in Bure's map, they prove to be – at least regarding Finland, with the exception of the northernmost part of the Gulf of Bothnia – remarkably correct; that is, the locations are well-positioned relative to one another.

The deviation of Bure's latitude determinations from the true values is only 1–4 minutes for Tornio, Vaasa, Turku, Hanko, Helsinki, Hamina, and Käkisalmi, meaning they are positioned significantly better than Stockholm and Uppsala. In Finland, Bure reached a positioning accuracy comparable to that of Uppsala-Stockholm even for Vyborg, Savonlinna, Lappeenranta, and Kuopio. It is probable that either Bure himself or one of his competent assistants visited the aforementioned locations to determine their positions.

Significantly worse than the aforementioned on the coast are located Kokkola, Pori and Kastelholm and as well the inland locations Kajaani, Anianpelto, Sysmä, and Hämeenlinna (Tavasetehus). It is evident that no astronomical determinations were made for these places. This must have been the method for most of the map's localities: a place was known to be located a certain number of days' or hours' journey by horse, boat, or foot from a known locality in a known direction (perhaps determined by a compass). They were placed on the map accordingly.

It is likely no coincidence that positioning measurements were made specifically at the locations found to be well-placed above. Most of them are important landmarks for the country's geography, which one can easily imagine being the first priorities for the mapmaker. Tornio, at the end of the Gulf of Bothnia, defines the position of the gulf; Hanko, at the southern tip of Finland, defines the position of Finland and the mouth of the Gulf of Finland. Turku was the country's capital, Vaasa the capital of Ostrobothnia, and Vyborg the capital of Karelia, as well as the point defining the eastern end of the Gulf of Finland. If these places were positioned correctly, the overall position of Finland was defined. Positioning coastal locations between Hanko and Vyborg, such as Helsinki and Hamina, at the correct latitude was relatively easy even if no measurements were taken there. A separate group of well-positioned localities is formed by Lappeenranta, Savonlinna, and Kuopio on the shores of the Saimaa lake system. Their positioning accuracy stands out favourably compared to inland locations in general.

The representation of Lake Saimaa also stands out favourably compared to the descriptions of the two other large water systems in Southern Finland, the Kokemäenjoki and Kymijoki systems. Astronomical positioning was hardly conducted in the latter areas. Although these water systems are described less accurately than Saimaa, even their depiction cannot be considered poor. Simply clarifying the fact that the large and confusing multitude of lakes in Southern Finland is divided into three major water systems was a demanding task, as no prior source maps or other baseline data were available. On Bure's map, the three large water systems of Southern Finland are carefully distinguished from one another and, for the most part, depicted quite correctly. However, the description of the northern headwaters of the Kokemäenjoki and Kymijoki is deficient. The description of the Kymijoki river itself is erroneous.

Table 2 – Deviations of latitude and longitude values from the correct values in Bure's 1626 and 1611 maps. "Corrected deviation in longitude" means deviation when Bure's systematic error in longitudes is eliminated.

Location	Deviation in latitude 1626 map	Longitude deviation in relation to Turku (Åbo)	Corrected deviation in longitude	Deviation in latitude 1611 map
Tornio (Torneå)	+2′	– °44′	–1°45′	0°
Oulu (Uleåborg)	+12′	–1°22′	–1°43′	+20′
Kokkola (Gamla Karleby)	+17′	–59′	–57′	+16′
Vaasa (old Vaasa)	+4′	–16′	–6′	+10′
Pori (Björneborg)	+29′	+29′	–6′	
Turku (Åbo)	+2	0°	0°	
Kastelholm	–14′	+19′	+41′	
Hanko (Hangö)	–1′	+13′	+3′	
Helsinki (old town)	0°	+12′	–21′	
Hamina (Fredrikshamn)	–4′	+1°10′	+1′	
Viipuri (Vyborg)	+8′	+1°31′	0°	
Rajajoki (Sestoretsk)	–8′	+1°11′	–30′	
Käkisalmi (Kexholm)	–3′	+1°40′	–9	
Sortavala	+11′	+2°08′	+8	
Hämeenlinna (Tavastehus)	+21′	+34′	+3′	
Savonlinna (Olofsborg)	+7′	+°39′	+5′	
Kuopio	+7′	+1°22′	+5′	+3′
Kajaani (Kajana)	+44′	+31′	–37′	+47′
Anianpelto	+24′	+41′	–4′	
Sysmä	+24′	+1°22′	+28′	
Lappeenranta (Villmanstrand)	+7′	+1°40′	+14′	
Tallinn	–12′	+21′	–10′	
Narva	–19′	+47′	–29′	
Uppsala	–8′	–16′	+40′	
Stockholm	–6′	–9′	+41′	

\+ means that Bure has placed the location too far north (latitudes) or too far east (longitudes)
– means that Bure has placed the location too far south (latitudes) or too far west (longitudes)

The table includes selected locations from the coast and inland of Finland. A couple of significant locations from neighbouring countries are also included, both to show Finland's location in relation to them and to give an idea of the level of accuracy achieved on the map in the most central locations in the country. The measurements were made from 1:1 facsimile edition of Bure's map, from the copy of the National Library in Helsinki.

Map details and depicting for the part of Finland

General

On the map, all marked localities are also named. Of the marked water bodies, only some are named. In terms of nomenclature, the map is very good. The coastal names are in the correct places relative to one another. Likewise, inland places and water bodies are correctly named and close to their real locations. No invented place names appear.

The coastline essentially determines the entire shape of Finland and can therefore be considered the most important of its elements. Geodetically it is quite good, except for the coast of the Bothnian Bay being placed too far west. The coastline drawing is not detailed everywhere, suggesting that precise local measurements were made only in some cases.

One such notable, precisely drawn detail is the Hanko Peninsula. In terms of detail, the coastline of the Gulf of Finland is better drawn than that of the Gulf of Bothnia, where unexplained extra bends appear along the coast. It seems that the mapmaker has sailed along the coast of the Gulf of Finland, as the outermost coastal islands and headlands are named at regular intervals. Such are: Porkala, Kanskog, Pentala, Mjölö, Sandhamn, Villinge, Sibbo Fagerö, Pörtö, Onas, Emsalo and Pellinge. Important straits along the inner archipelago route, Barösund and Jungfrusund, are named, but at least in the case of Barösund the map drawing suggests that the cartographer did not sail through the strait. If he had, he would probably have drawn larger islands near it. In the same way as in the Gulf of Finland, there

1 Measured in 2008, from the copy in the National Library in Helsinki, from a reprint by Lönborg in 1907, printed on good paper from the original printing plate.

2 31° to west from Greenwich; see Löneborg 1901 A p. 73.

3 See Lönborg 1901A p. 73.

Image: Southern Finland on Bure's map of 1626..#35 (KB)

are place names in the archipelago of the Gulf of Bothnia up to the latitude of Vaasa, but none between Vaasa and Oulu.

Bure must have devoted considerable attention to clarifying Finland's inland water routes. The Saimaa lake system is drawn extremely well, even up to the headwaters, and even Soisalo island is identified and named as an island as it is. The surveyor most likely traveled all the main routes by boat or on ice.

Lake Päijänne and the lakes Vesijärvi and Puulavesi flowing into it are drawn relatively well, but the cartographer clearly did not visit the waters north of Jyväskylä, nor did he travel along the Kymijoki River from Päijänne to the sea. Kymijoki is drawn by connecting the waters of Päijänne to the sea with an almost straight channel. Thus the important Kymijoki remained unmapped.

Of the Kokemäenjoki (Kumo) river system, mainly the southern waters flowing through the Lempäälä rapids into Pyhäjärvi have been clarified. The waters flowing from the Tampere area toward Nokia rapids remain unexamined, and Näsijärvi is drawn based on hearsay, incorrectly oriented and too small. The lakes that are drawn are usually named. The river itself has no name on the map.

The rivers of Ostrobothnia appear in the correct number and their mouths are located in fairly accurate positions. The rivers themselves are generally unnamed, but most can be identified from the named villages located at their mouths. Lakes at the headwaters of these rivers are marked, apparently based on interview information. Perhaps the cartographer traveled along the coastal road and asked at parsonages whether there were lakes at the headwaters of the rivers and, if so, what they were called and approximately how large they were.

Among the rivers of southern Finland, only the following are named: Aurajoki, its tributary Savijoki, Vantaanjoki, Kymijoki, Vuoksi, and Rajajoki. The lake system of Lohjanjärvi and Hiidenvesi is drawn incorrectly: the waters are shown flowing into the Espoo Bay instead of the Pohjanpitäjänlahti (Pojoviken). Together with the errors caused by leaving the Kymijoki unmapped, this is the only significant mistake in the depiction of southern Finland's water systems.

Inland settlements are placed fairly correctly relative to one another. Except for the Saimaa region, astronomical positioning in the interior was probably not carried out, and therefore the absolute positions of places may be quite inaccurate. Generally, both settlements and inland waters (except those of Saimaa) are placed too far north. This may partly result from the fact that the northern part of the map – about which there was little information – contained more empty space. When exact location data are lacking, any mapmaker is easily tempted to move places toward areas where there is room on the map and which would otherwise remain blank.

Drawings representing "mountains" and hills are marked in two places in Finland: as a long chain in Ostrobothnia representing the Suomenselkä watershed, and as a shorter chain between the Kymijoki and Saimaa.

Lapland, Karelia, and the White Sea

The greatest differences between Bure's 1611 map and the 1626 map are found in Russian Lapland. In the 1611 map headwaters of the rivers flowing into the White Sea from Finland are represented relatively well, but along the coast there is no other information than the names of the settlements at the river mouths. Probably the information about the coastline was obtained by interviewing inhabitants of the border regions.

On the 1626 map both the Kola Peninsula and the White Sea are drawn more correctly and the place names are more numerous. In the Netherlands the first maps of the White Sea had been published in the 1590s. Bure's Lapland map may in some respects have been based on them. However, on the 1626 map the White Sea is drawn more accurately than on the Dutch maps. Its location, size, and shape are better. Bure may have had access to a hand-drawn map by the Dutchman Simon van Salingen, who had sailed in the White Sea. The map is now kept in the Swedish National Archives. On that map the shape of the sea is relatively correct, although its size and position are completely erroneous. In Bure's map the location and size of the sea are almost correct, and its shape also appears better than on van Salingen's map.

Besides a raid carried out by Finnish peasants, led by Pekka Vesainen, in 1589, there is no other information about visits of the king's of Sweden subjects in the White Sea coast. As a member of the border commission following the Treaty of Stolbovo, Bure spent long periods in North Karelia, Ladoga Karelia, and East Karelia between 1617 and 1621. During this time he had the opportunity to gather information. He could have obtained knowledge by interviewing the local population, but also from the Russian members of the border commission. In the commission there were long disputes, for example about where the border between the provinces of Aunus (Olonets) and Käkisalmi (Kexholm) lay. The Russian side may have presented map drawings during the negotiations to support its position.

Bure may also have obtained information and even Russian manuscript maps through the Dutch diplomat and merchant Isaac Massa, who had lived in Russia for years and had collected information and especially copies of Russian manuscript maps. Massa had been in contact with the Swedish court at least from 1618 onwards. From December 1624 to March 1625 he was in Stockholm. In the end of this visit King Gustavus Adolphus II awarded him a Swedish nobility "*on account of his exceptional merits, which he has rendered to our kinsmen and friends, and the duties and services which he has solemnly promised to render faithfully to us and to our kingdom in the future, and to which he shall remain bound forever*".[1] Giving information about Russia might well be the very merit he got rewarded for. During the three months he was in Stockholm he had plenty of time to meet and discuss with Bure who at the time was finishing his map which was published the next year?

In Bure's map the place names along the White Sea coast differ in many respects from those on the earlier Dutch maps. Placing the sea in a relatively correct position without having visited it personally is a notable achievement.

One of the largest errors on Bure's map is found in the western part of Swedish Lapland, which has been expanded in the east–west direction to make it wider than the rest of Sweden, forming a hump on Sweden's "back" that affects the overall shape of Scandinavia.

In Lapland, and particularly in the region of Finnmark, there are signs in the map drawing that the printing plate was corrected afterwards. The old drawing can be seen through the new one. These large changes suggest that after the map had already been engraved on copper once, Bure obtained new information and the work was redone. Since we know that the engraver Trauthman began his work no earlier than 1617, Bure must have obtained his new information about Lapland only after that time.[2]

National Borders

On the map, the national borders are marked with dotted lines, but only for part of the way. The eastern border of Finland, in accordance with the Treaty of Stolbovo, is marked from Lake Ladoga up to the latitude of Kajaani. After this, the border line is missing, only to resume from Kuusamo to the north of Kuolajärvi, where the line ends again.

The border line between Sweden and Norway begins south of Sollefteå, Sweden, rising along the western side of the Ångerman River to the Kjölen Mountains, leaving Jämtland to Norway, to which it belonged at the time. Following the Kjölen range, the border line continues north and ends at the Arctic Ocean at the head of the Malangen Fjord, south of Tromsø. No other border lines have been drawn for Lapland. Consequently, the entire Finnmark region and the Norwegian Arctic coast are marked as belonging to Sweden. This is also how the first copyists of the map, Visscher and Blaeu interpreted it. They assigned the Arctic coast to Sweden.

However, Bure's drawing is not unambiguous, as in many places the national border is left unmarked. In addition to the fact that part of the border with Russia is

1 Keunig 1953 p. 72.

2 See below the section on printing the map.

Image: Northern Finland on Bure's map of 1626.#35 (KB)

unmarked, long stretches of the border with Norway are also missing from the map. The entire long southern border of Jämtland and Härjedalen is absent. The border line that ends near Sollefteå only resumes further south from the headwaters of the Västerdalälven. The incomplete marking of borders is mysterious and leaves much for the map's readers to interpret. Why were all the borders not marked? The peculiarities of the Lapland border drawing are particularly noteworthy because, on Bure's 1611 map of Lapland the border is drawn correctly. Could the King of Sweden, who financed the map, have ordered Bure to draw the border to the Arctic Ocean so he could use the map as justification to claim the area for Sweden? It is difficult to come up with an explanation other than a political one for the deficiencies in the border drawings.

East Finland on Hessel Gerritsz's 1614 Map of Russia

In 1614, the Dutch geographer Hessel Gerritsz published a new map of Russia in Amsterdam based on Russian sources. The material for it had been provided to him by his countryman Isaac Massa, who had lived in Russia for a long time. The following year, Gerritsz published an improved version of his map, which is the first map where Lake Ladoga is drawn in roughly its correct shape. It is also the first map with the Vuoksi River, the eastern part of the Saimaa water system, the Bay of Vyborg, and Lake Inari. These too being relatively correctly drawn.

Map historians have generally taken the position that Gerritsz's new information regarding Finland originated from Anders Bure. Of the novelties mentioned above, Gerritsz and Massa could have obtained Lake Inari from Bure's map of Lapland. At that time, Bure had not published any map of the Southern Finland, so it has been assumed that he had hand-drawn sketches of his great map, which he might have shown to Massa. It has been assumed that Gerritsz's information was based on data provided by Bure because those proposing the assumption could not think of anyone else from whom such information would have been available.[1]

1 Bagrow & Castner.

Bure is not the only possible source for Gerritsz's new information. In principle, the same information might also have been available from Russia. At the end of the 1500s, Swedes and Russians jointly surveyed the border of the Treaty of Teusina and mapped the border line at the same time. Did the Russian members of the border commission become familiar with the area in this context and convey the information to Gerritsz through Isaac Massa?

Although Gerritsz's map features a correctly shaped Lake Ladoga, it lacks a correctly shaped Lake Onega. Gerritsz's informant was not familiar with Lake Onega. On Bure's 1626 map, Onega is present. In 1614, Bure might not have known about Lake Onega. His knowledge of East Karelia, and with it Onega, likely increased only during the border demarcation of the Treaty of Stolbovo between 1617 and 1621. Bure's 1626 map is significantly better than Gerritsz's 1614 map regarding the presentation of all the aforementioned areas and the adjacent northern regions of Russia.

Ostrobothnia – Cajania

The nomenclature used by Bure contains some noteworthy features. The name Bothnia is reserved exclusively for the *Westrobothnia* (Wästerbotten) on the Swedish side. The *Ostrobothnia* (Österbotten) on the Finnish side is called *Cajania* or *Caiania* (in Finnish Kainuu) on both the 1626 map and the 1611 map of Lapland. The name Österbotten does not appear at all. The name Österbotten is also absent from the first foreign copies based on Bure's map.[2]

On maps based on Bure, Österbotten appears for the first time on Sanson's map of Ostrobothnia published in 1666, and thereafter on several other maps. Bure's predecessor, Olaus Magnus, used the Latin name form *Bothnia Orientalis*.

Printing the Map

The engraving of Bure's large map onto copper plates was carried out by Valentin Staffansson Trauthman[3] a German engraver invited to Sweden specifically for this task. The exact location where the map was printed is not known for certain.

The text surrounding the map was printed at Christoffer Reusner's printing house in Stockholm. Reusner had also come from Germany (Rostock) in 1608. It has been speculated that he might have also printed the map itself, though this is merely a guess.[4] It is uncertain whether a book printer's equipment and skills would have been sufficient for printing from copper plates. The fact that the printing plates were initially kept with Trauthman, suggests that the printing took place in Stockholm. However, the possibility that it was printed abroad cannot be ruled out.

The copper plate used for the sheet depicting Lapland and Finnmark shows significant signs of later corrections. In some places, the old draft is visible beneath the new engraving. These corrections were technically poor; a skilled professional could usually erase the old draft almost entirely with the right tools. This suggests that the person making the corrections may have been someone less experienced than Trauthman.

There is no data on how many copies of the map were originally printed. It is assumed that new editions were produced over many decades – perhaps even for over a hundred years – as no replacement map appeared in Sweden until the 1740s.

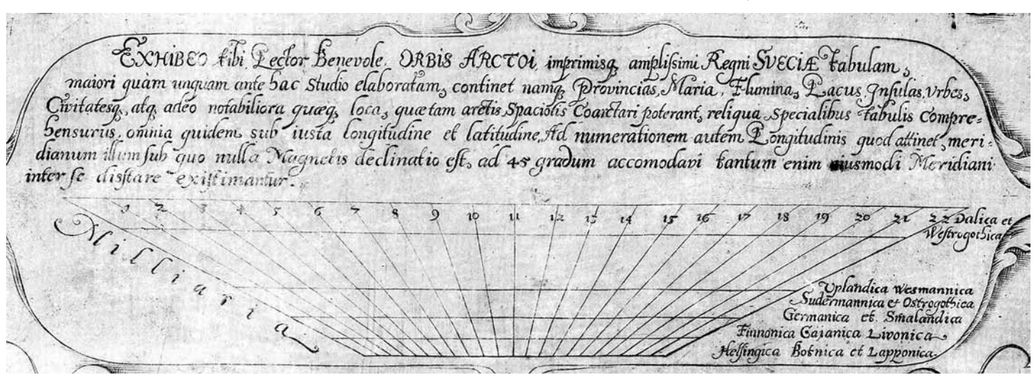
The printing plates were still stored in Stockholm as late as 1802, when most of them were destroyed in a fire. Only the plate for the bottom right corner and the portion of the top left plate containing the portraits of the King and Queen survived intact.

The text accompanying the map was later reprinted several times as a separate small book, the first time in Wittenberg in 1631.#39

2 Visscher's edition, Blaeu's edition, Hondius editions – see below.

3 Worked in Sweden from at least 1617; died in Stockholm 1629.

4 Bäärnhielm: Article on the Royal Library website; Ehrensvärd.



Copying the Bure map

The First Copies

Visscher's Reduced Copy (1630)#40

In 1630, the engraver and map publisher Claes Visscher published a reduced-size version of Bure's map under his Latinised name, Nicolaus Piscator. The title of the map is *Tabula exactissima Regnorun Sueciæ et Norvegiæ nec non Maris universi orientalis, Terrarumq, adjacentium, summo studio ab Andraea Bureo Sueco ... a Nicolao Johannis Piscatore.* (*A highly accurate map of the Kingdoms of Sweden and Norway, as well as the regions surrounding the Baltic Sea...*)" The bottom of the map credits the engraver: *Abraham Goos sculpsit 1630*.

Visscher's map is a very faithful copy of Bure's original, covering the same area. The coordinate system is identical, though drawn with even intervals and without Bure's original errors. Almost all of Bure's data, including place names, was managed into the smaller format. The cartouches were updated, and the scale bars differ in both type and content. The map includes Bure's original preface to the readers (excluding the section on coordinates) and is dedicated to King Gustavus Adolphus. This map was included in Henrik Hondius's *Appendix* atlas in 1633.[1]

Bure's scale bars and the old Finnish and Lappish miles.

In the cartouche located in the lower right corner of the map, there is a fan of lines representing the map's scales. This scale representation is interesting and historically significant, as it clarifies the lengths of the old regional long-distance units of measurement in the Swedish Realm. Duke Charles (Charles IX), who had commissioned Bure to create the map, had reformed and standardised the realm's system of linear measurement in 1605. It is evident that when Bure's map was published, the old measurements were still in use, as Bure considered it necessary to present them. Regional miles were officially abandoned in 1649, when a uniform mile of 6,000 fathoms (10,688 meters) was decreed for use throughout the realm. This essentially marked the birth of the "Old Swedish mile" (= 10,688 metres). Nowadays the Swedish mile (mil) is defined as 10 kilometres.

Many who later copied Bure's map also copied the data from his scale bars; thus, they still appear on many 18th-century maps, even though most of the mentioned miles had likely fallen completely out of use by then. From a Finnish perspective, particularly interesting measurements are the old Finnish, Cajanian, and Lappish miles, of which very little other information seems to have survived.[1]

In the map's scale cartouche, four horizontal bars are drawn inside a isosceles trapezoid that tapers steadily downward, representing the length of 22 miles in various provinces of the Swedish Realm. Viewed from a distance, the figure resembles a fan. To the left of the figure reads "Milliaria" (meaning miles). To the right of the figure, next to each bar as its explanation, is a list of the provinces where that specific mile was used. There are four such lists. The names of the provinces are not separated by commas or any other punctuation, but the Latin word "et" (meaning "and") always appears before the last name in the list.

1 I have not seen mentions of them in literature.

The lengths of the horizontal lines bounding and within the isosceles trapezoid – expressed in miles and measured in millimetres – along with the explanatory texts for each internal line, are as follows:[2]

- *Top edge of the trapezoid = 168 mm*
- *Dalica et Westrogothica (Dalarna and Västergötland) 22 = 146 mm*
- *Uplandica Wesmannica Sudermannica et Ostrogothnica (Uppland, Västmanland, Södermanland, and Östergötland) 22 = 103,5 mm*
- *Germanica et Smalandica (Germany and Småland) 22 = 83 mm*
- *Finnonica Cajanica Livonica Helsingica Botnica et Lapponica (Finland, Österbotten, Livonia, Hälsingland, Wästerbotten, and Lapland) 22 = 67.5 mm*
- *Bottom edge of the trapezoid = 55 mm*

Among the units in Bure's scale system, the German mile occupies a special position because it is the only one known by us with certainty. It is the most common and unambiguous unit of measurement appearing on 17th-century maps, representing one-fifteenth of a degree of the Earth's circumference – or four nautical miles. Expressed in meters, the value varies depending on the theory used to calculate the Earth's size. Today, there is general consensus on the matter. The commonly used value is based on the definition of a nautical mile and is 7,408 meters. In Bure's time, it was considered longer.

In Bure's scale system, the mile for Uppland, Västmanland, Södermanland, and Östergötland is 1/12° long. Many later 17th-century maps contain notations that the Swedish mile is 1/12° – the same as Bure's Uppland mile.[3] *Since this is the case, we simultaneously know Bure's conception of the length of a degree. The calculation is as follows:*

1°=12×10,688 meters (the length of a Swedish mile)=128,256 meters.

In reality, a degree is approximately 10.4 Swedish miles, or 111,120 meters. Based on this, the ratio of the length of a degree as Bure understood it to the correct length of a degree is 128,256/111,120=1.15.

Consequently, the length of the German (and Småland) mile as Bure understood it becomes: 128,256/15=8,550 m. Calculated from this, the lengths of the other miles are formed as follows:

- *The "mile" of the top edge of the trapezoid: (8,550×168/83)≈17,300 m*
- *Dalarna and Västergötland mile: (8,550×146/83)≈15,000 m*
- *Uppland, Västmanland, Södermanland, and Östergötland mile: (8,550×103.5/83)≈10,662 m*
- *Finland, Ostrobothnia, Livonia, Hälsingland, Vesterbotten, and Lapland mile: (8,550×67.5/83)≈6,950 m*
- *The "mile" of the bottom edge of the trapezoid (8 550×55/83) = ~5 670 m*

Scale bars of Bure's map of 1626t

Scale bars of Bure's map of 1611

Bure's 1611 map of Lapland has two scale bars, the text above which tells about the mile used in the region. This information contradicts the information on the 1626 map.

The information is as follows:

- *The mile of Lapland and Westrobothnia (Mille Lapponica et Bothnica) is 1/22 of a degree long.*
- *The mile of Ostrobothnia (Mille Cajanicorum) is 1/18 of a degree long.*

2 he lengths of the slanted lines in the scale system can be measured in different ways depending on whether one measures from the inner or outer corner of the intersection of the slanted lines. The difference is about 1.5 mm. Measured from the inner corner, the length of 15 German miles (one degree) becomes about 56.6 mm, which is the same as the average measured from the coordinate system. However, I measured the bars from the outer corners because the measurement could be made more accurately that way. From the bar lengths obtained this way, I subtracted the 1.5 mm difference between the outer and inner corner measurements to obtain the inner corner length. I performed the measurement from Lönborg's 1907 reprint, printed with the original plate on thick paper, copy from the National Library in Hesinki..

3 For example, the maps describing Finnish jurisdictions from the 1650s by the surveyor Hans Hansson, who was trained by Bure, mention the length of a degree as 12 Swedish miles (See Rosberg & Jäppinen pp. 32 and 33). The same information is found on many other maps..

Image (↓): Scale bars on Bure's map of 1626.#35 *(NLF)*

Blaeu's Reduced Edition, 1630's

In the early 1630s, the publishers W. & J. Blaeu released their own reduced copy titled *Svecia, Dania et Norvegia. Regna Europæ septentrionalia. Iuxta Archetypum Andreæ Burœi de Boo... (Sweden, Denmark, and Norway, the Kingdoms of Northern Europe...*#41 This was almost a direct copy of Visscher's map, suggesting Blaeu relied more on Visscher's work than on Bure's original. However, the density of information was slightly reduced; there are fewer names, and Bure's texts included by Visscher were removed.

The coordinate system matches Visscher's, but the numbering of longitudes begins exactly four degrees further east. For example, where Bure and Visscher mark the longitude of Utö as 44, Blaeu marks it as 40. This map remained unchanged in most of the Blaeu firm's atlases. Some versions exist where the longitude starts another degree further east, making Utö 39 (a numbering also used on Janssonius's map of Finland).

Following Visscher and Blaeu, many other publishers produced similar single-sheet copies of Bure's map, usually copying from the Dutch versions rather than the original. Over the years, these copies drifted further from the original source due to generalisations, removal of details, or occasionally, poorer quality of work.

Image (→): N. Visscher's map of 1630 is an diminished, exact copy of Bure's map in terms of cartographic content – the first and the best. (KBN),

Hondius edition of the Bure map, revised by Isaac Massa and Hessel Gerritsz#43

Gerritsz's Map Project 1626-1628

From archival sources from 1626-1628 we know that the Dutch engraver and cartographer Hessel Gerritsz started a project to produce a new somewhat altered edition of the Bure map.[1] According to him the Bure map was good as a map of Sweden, but especially the description of Denmark and Norway could be made better. Already in 1626 he acquired (bought) material from the map publisher Jodocus Hondius Jr and others for his projected new map. In a letter to the diplomat Theodore Rodenburg on 3 August 1628 he describes his project so: "*At present a map of Denmark, Norway and Sweden, with the surrounding countries as far as Moscow and Arkhangelsk is engraved at Amsterdam by us on 6 sheets. All that concerns Sweden is very curiously depicted by the noble Andreas Bureus, at present burgomaster at Stockholm. ... As it would be a great honour for Denmark and Norway to appear on the map as well, we would ask you for some details suitable for that purpose... The King of Denmark granted us a patent;* [i.e., exclusive rights]*; we will therefore do our best and take care that the map is ready in the spring ... Be so kind to inform the king of all this ...*"[2] The main purpose of the letter was to ask Rodenburg to assist Gerritsz in obtaining the latest information to improve the Danish and Norwegian portions for his map. The quoted passage reveals the intended schedule. According to the letter, the map was already being engraved in the summer of 1628 and was promised to be finished in the spring of 1629. Since the sender also permitted Rodenburg to inform the King of Denmark about the schedule, we may assume that the makers had a firm intention – and belief – that their map would be completed during 1629 or at least in 1630. However no map of Norden was published by Hessel Gerritsz before he died in 1632.

The Hondius Map of 1635

The oldest and only known six-sheet 17th century reprint of Bure's map dates from 1635. It was published by Henrik Hondius in Amsterdam. Its relation to the Gerritsz's project mentioned above can be established because of the text on the map. The map has a notification to the reader by Hondius in which he says: "*Here you have, kind reader, a most accurate map of the Arctic world, and especially of the Kingdom of Sweden, recently drawn by the learned man Dr. Andreas Bureus, but afterward completely revised by Hessel Gerritsz and Isaac Massa, most skilled men, and now carefully engraved in copper at my expense, altered and enlarged in many places*." The map has also another version of its history on it. The dedication to queen Christina of Sweden, contains the following text: "*This most accurate map of the Arctic world, and especially of the Kingdom of Sweden, recently drawn by the very learned man Dr. A. Bureus, but now enlarged and corrected in many places by Isaac Massa, is most humbly offered and dedicated by Henricus Hondius.*"

The map published by Hondius does not appear to have any connection with the King of Denmark, whose granted "patent" was referred to in the letter mentioned above. Instead the map was dedicated to the 9 years old Queen Cristina of Sweden. For the dedication Hondius received a considerable gratification (200 Riksdaler) and an amount of copper (maybe for the copperplates?) from the Swedish treasury. I would interpret this so that the Gerritsz's original project with Denmark failed but was revived after his death by Henric Hondius and Isaac Massa as a new project this time with Sweden.

The available sources tell nothing about how Massa contributed to the map that in the beginning was a project of Hessel Gerritsz. According to Günter Schilder[3] the Hondius map is primarily a product of Gerritsz. He describes Massa as one of those who supplied new material mainly about Russia for Gerritsz. This implies that the map was essentially ready when Gerritsz died 1632 and that Hondius got either from Gerritsz himself or his heirs a finished map which he printed without any alterations of importance. I share this view based on what I will explain here below:

On the map both Massa an Gerritsz are mentioned in the notification to the reader, but Massa is named also in the text of the dedication to the queen. Shouldn't we consider him as a more central contributor? He surely had contributed to the map project in a decisive way, but maybe the most important of his merits, from the point of view of the publisher, were related to the financing of the map. He may be and probably was the very person who brought Hondius in contact with the Swedish court, which secured the financial success of the project. In 1634, a year before the publication of the map Massa had been in Stockholm and had got from the queen a letter of nomination to an envoy (minister). Already earlier he had had many contacts with the de facto ruler of Sweden, chancellor Axel Oxenstierna.[4] Massa's name in the dedication on the map can be seen as an written confirmation of his obvious role as the contact person between the Royal family of Sweden and Hondius.

There is no doubt that he contributed also to the contents of the maps. As I have

Claes Visscher (Nic. Piscator)

The Amsterdam-based engraver, printer, publisher, and cartographer Claes Janszon Visscher (b. 1587, d. June 19, 1652) used the name Nicolas Piscator when publishing Latin-language maps. Approximately 200 of his engravings are known, including maps, landscapes, and portraits. His earliest major works date back to 1608. Most of his works depict Holland or Germany. The publishing house founded by Visscher remained active until the 18th century.

Isaac Massa

Isaac Massa (born 7 October 1586 in Haarlem, died 1643) was a Dutch merchant, traveller and diplomat. From 1601 onwards he made numerous trips to Russia and stayed there for long periods both as a merchant and as Dutch ambassador. He published several books describing conditions in Russia. His description of Siberia, published in 1614, includes a map of the Russian Arctic coast. The book was published by Hessel Gerritsz. In the 1630s, the publishers Blaeu and Janssonius published a total of four maps of Russia attributed to Massa. They were the best of their time. Massa also had relations with Sweden, for which King Gustav II Adolf awarded him a Swedish nobility. (more about Massa on page 14)

Hessel Gerritsz

Hessel Gerritsz (born c. 1581, died 4 September 1632) was a Dutch engraver, cartographer and publisher. He is considered one of the best Dutch mapmakers of his time. He also engraved for other publishers such as Blaeu and Janssonius. He acquired his own printing press in 1610. From 1617 he worked as a cartographer for the Dutch East India Company. Regarding the northern regions, he published his history of Spitsbergen in 1613. In the same year he published a map of Russia said to have been made by the Russian hereditary prince Feodor.

Henrik Hondius

Henrik Hondius (b. 1597, d. 16.8.1651) was the son of Jodocus Hondius. He continued map publishing business after his father, initially with his brother Jodocus II and later with his brother-in-law Jan Janssonius.

1 Keunig 1949 and Schilder 2013.

2 Keuning 1949 p. 53. Original in: Verslaag van een onderszoek in Zweden: Noorwegen en Denemarken, belagrijk voor de Geschiedesnis van Nederlang. s' Gravenhage 1903. 281 - 1628 mo 101.

3 Schilder 2013.

4 See page 14.

Visscher's Interpretation of Bure's Scale Bars

Bure's fan-like presentation of the scale bars from 1626 is not clear. There are six bars, but only four explanatory texts. Furthermore, the information provided contradicts the data from the 1611 map; in the latter, the miles of Wästerbotten (Bothnica) and Lapland (Lapponica) are separate units, but according to the 1626 map's text, there was only one mile for the northern regions. The data from the two maps cannot be combined without doing "violence" to one or the other. One can only guess the reason for this contradiction.

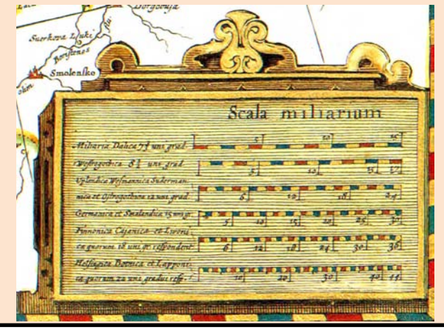
Shortly after the map was published, the ambiguous scale fan was misinterpreted in Holland. In the first Dutch copies of Bure's work, the scale system was redesigned, and simultaneously, some of the units of measurement were given entirely new meanings. I call this interpretation found on Dutch maps "Visscher's Interpretation," as it first appears in the earliest known copy of Bure's map, published by C.J. Visscher in 1630.

Visscher concluded that there were six bars in Bure's scale system. He reached this number by also including the top and bottom edges of the framing isosceles trapezoid. He obtained explanations for these "new" bars by splitting Bure's topmost and bottommost explanatory texts in two. The top row was named the Dalarna mile, and the bottom row became the mile for Hälsingland, Westrobothnia, and Lapland. At least one obvious reason for this misinterpretation is the contradiction between the mile data on Bure's two maps. Visscher perhaps tried to reconcile the information on the Map of Lapland with the scale bar of the 1626 map. From the Map of Lapland, he took the data regarding the lengths of the realm's northern measurements in degrees. He did this even though Bure's bars on the 1626 map do not support the data from the Map of Lapland.

The bars and explanations in Visscher's edition are:

Scala miliarium:

- *◊ Miliaria Dalica 7 1/3 uni grad [line mm] 0… 9.*
- *◊ Westrogothica 8½ uni grad [line mm] 0 … 10.*
- *◊ Uplandica Wesmannica Sudermannica et Ostrogothica 12 uni grad [line mm] 0 … 14.*
- *◊ Germanica et Smalandica 15 uni grad [line mm] 0 … 18.*
- *◊ Finnonica Cajanica et Livonica quorum 18 uni gr. respondent [line mm] 0 … 20.*
- *◊ Helsingica Botnica et Lapponica quorum 22 uni gradui resp. [line mm] 0 … 25.*



The corresponding bars and explanations, copied word-for-word, are also found in the original-sized Hondius edition edited by H. Gerritsz and I. Massa. Visscher's interpretation then passed – either directly from him or through Gerritsz and Massa – to all later maps published in Holland and elsewhere that presented Swedish linear measurements in their scale bars.

We know that during the era of Sweden's old provincial laws, Västergötland's law was applied in Dalarna, which provides a natural explanation for the existence of a common unit of length. Similarly, we know that in Finland (including Ostrobothnia, i.e., Cajania), Westrobothnia, and Lapland, the Law of Hälsingland was applied; thus, there is a natural explanation for a common unit of length here as well. No such explanation can be found for the separate Westrobothnia/Lapland and Ostrobothnia miles appearing on Bure's Map of Lapland.

mentioned above[1] he probably furnished information already to Bure in 1625 and may have given information and material to Gerritsz as well while in Amsterdam.

I do not believe that Massa had any important role in the finishing of the map, because of the mistakes in the northern and eastern boundaries of Sweden.[2] The border between Sweden-Finland and Norway are drawn in favour of Denmark-Norway – enemy of Sweden at that time. It is out of question that any Swede knowing the real situation in the Lapland, would make this kind of changes to Bures original, and extremely unlikely that Massa as an envoy of Sweden would either do it. The material for these changes must have its origin in Gerritsz cooperation with the Danes.

It is obvious that those Swedes[3] who made the decision to support the project economically had not seen the map and had no knowledge of how the northern border of Sweden was drawn. The original was in Amsterdam and I believe that Axel Oxenstierna had such a confidence to Isaac Massa that he had delegated the "censorship" of the contents of the map to him. That seems to have been a mistake. Either Massa had not controlled the northern border at all or he as specialist only of the Russian geography did not know the geography of Lapland at all.

For the mistake in the eastern border of Finland I can imagine two possible reasons: 1) Maybe the north eastern plate of the map was not finished by Gerritsz when he died. He had drawn two alternative borders of which the other was meant to be taken of before the map was to be published. However those who printed the map did not make any alterations. 2) The erroneous eastern variant of the border, which gave Sweden the northern part of the Russian province of Olonets, was added to please the Swedes, maybe by Massa who worked for Sweden. The problem however is that Massa was not working only for Sweden, but also had been en envoy for Russia. Making knowingly an error of this kind would probably destroy his contacts to Russia. We also know that in the classic map of Russia of 1635 by Massa the Russo-Swedish border was correctly drawn in the way it was in Bure's original map. So Massa new, how the border ought to be drawn. I find it more likely that the erroneous eastern border was a result of errors of Gerritsz in his original drawing. These errors were not corrected, meaning also that the map was not properly proofread by Massa or anybody else before the map was printed.

Some writings have suggested[4], that Anders Bure himself participated in editing the Hondius edition of his map. There is no evidence for this, and I do not find it credible. The new edition contains so many degradations compared to Bure's original map that Bure – who was best acquainted with the true geographical facts – could not have approved them.

1 See page 14.

2 See page 22.

3 Axel Oxenstierna and others.

4 See e.g. Ehrensvärd.

Changes in the Hondius Edition Compared to Bure's Original

The Hondius edition contains many diverse changes relative to Bure's original map. In literature, particular attention has been paid to the improved shape of Skåne and the southern coast of Norway, as well as the updated depiction of Russia. Changes occurring in Finland have remained overlooked, as has the alteration of the map's entire geodesy. The map has often been regarded as an improvement over Bure's map. However, a closer inspection reveals that this superiority is highly questionable – alongside the improvements, at least as many degradations were made. Below, the Hondius map is compared to the original Bure map:

Geodesy and Coordinate System

In both Bure's original and the Hondius edition, the longitude coordinate 34 passes approximately through Malmö; thus, it is presumed that both used the same prime meridian of Corvo Island.

The latitudes and relative longitudes of locations do not align perfectly. Scandinavia has been slightly "stretched" in both north-south and east-west directions. Since Scandinavia was already slightly too long north-to-south and significantly too wide east-to-west in Bure's version, Massa and Gerritsz did not correct these errors but rather increased them. Though the changes are not massive, they are clearly observable. In the south-north direction, nearly all of Finland is 5–12 minutes too far north. This discrepancy is clearly

visible at Tornio, which Bure had placed almost perfectly.[1] On Bure's original map, Tornio is clearly south of the 66th parallel. In the Hondius edition, the town is located exactly at the 66th parallel. This serves as a simple aid for distinguishing maps based on Bure's original from those based on the Hondius edition. The coordinate differences between these two maps are compared in Tables 3–5.

Changes in Finland

Regarding Finland, the Hondius edition introduced four types of changes. The coordinate shifts have been described above.

A primarily decorative change was the appearance of mountain illustrations in areas that Bure had left blank.

The most significant substantive change is the alteration of Finland's northern and eastern borders. In both cases, the borders were rendered either erroneous or ambiguous. This ambiguity later led to incorrect interpretations when the map was used as source material.

A peculiar change is the addition of new place names in the Savo region and along the Oulujoki river: Weixenzip, Hipsedorp, Auylavala, Wislax, Ronitavesi, Zauishous, Mahatam, Insalm, Hattala, Naslam, Nyslax, etc. Of these, only Insalmi (referring to Iisalmi) would have been necessary. Wislax can be identified as Visulahti in Mikkeli. Determining the background of the other names would require further research. It is unknown from which source these new names originated.

The Border Between Finland and Norway in Lapland

On Bure's 1626 map, the national border in the north is not marked as the Norwegian Finnmark has been given to Sweden. In Bure's 1611 map it is on its correct place. In the Hondius edition, the borders throughout the Lapland region have been shifted southward to Norway's advantage. Kautokeino, Utsjoki, and Inari (Enare) have been annexed to Norway. Further south, along the Scandes mountains, the border has also been moved in Norway's favour.

Crucially, while the borderlines were moved, the toponymic labels were not. Consequently, the name for Torne Lappmark (belonging to Sweden) extends across the border into the Norwegian side.

These border changes in the Hondius edition may result from Gerritsz's collaboration with the Danes and material he potentially received from Denmark. The depiction on Bure's 1626 map, where the border ended at the Arctic Ocean, was likely not to the liking of the Danish King. The new boundary drawing might have been politically justifiable from a Danish perspective, but it did not correspond to the prevailing reality and was therefore cartographically unsound. Because the border lines and the text were inconsistent, the map invited multiple interpretations. Unfortunately, foreign cartographers who later copied the map misinterpreted it; they removed the contradiction but made the correction in the wrong direction. Thus, on the Lapland maps of Sanson and de Wit, Torne Lappmark is moved further south, and the area of Inari Lappmark (marked as Norwegian) is labelled as the Province of Vardøhus and/or Norwegian Lapland.

Further south, the border between Sweden and Norway was not changed – nor was it completed where parts were missing. Gerritsz did not add the southern border of Jämtland to their map, leaving it to be interpreted by colourists or readers.

The Eastern Border of Finland

The alteration of the Norwegian border also reflected on Finland's eastern border. On Bure's 1626 map, the eastern border is only partially drawn, whereas on his 1611 map, the border is correctly drawn running south from Lake Inari.

Since in the Hondius map the entire Lake Inari was annexed to Norway, the Finnish eastern border could no longer be drawn starting from the lake. In Lapland, the border was shifted slightly westward, and the border between Norway and Russia was interpreted as following the Ivalo River. Sweden's losses to Norway in the Hondius map were "compensated" by shifting the Russian border further east. At the latitude of Kuusamo, the area surrounding Lake Pääjärvi was taken from Russia and annexed to Kemi Lappmark, which belonged to Sweden.

On the north-easternmost sheet of the Hondius map, there are two different, equally marked dashed border lines drawn. The western line follows roughly the correct line, but do not connect with the border lines on the neighbouring sheets. The eastern alternative line follows approximately the border line between Russian governments of Olonets and Arkhangelsk in south ending in Pudozh on the eastern shore of Lake Onega. This line connect in north with the border line marked on the neighbouring sheet.

As the eastern alternative is the only line that connects the border lines on neighbouring sheets, it is natural to interpret it as the national boundary of Sweden-Finland, implying the Swedish Realm extended all the way to the eastern shore of Lake Onega. The map was also soon interpreted this way, first by Henric Hondius himself in his single-sheet map of Norden from 1638. Others followed. Consequently, in many maps of Norden and Sweden-Finland based on the Hondius edition the Russian Olonets government, north of Petrozavodsk is included as part of Finland.

The White Sea

On Bure's map, the White Sea was depicted significantly more accurately than on any previous map. However, in the Hondius version, Massa and Gerritsz revised the entire coastline of the sea. Visually, the Hondius edition's coastline is more accurate on the northern shore of the White Sea; specifically, the shape of the northern bay ending in Kandalaksha is improved. Conversely, the southern shore is better drawn on Bure's map; the Onega Peninsula is larger and more correctly shaped.

An examination of the coordinates of three locations reveals that the latitude values on both Bure's original and the Hondius edition are so close to the truth that someone skilled must have visited the sites to determine the solar altitude. Comparing longitudes, the difference between Kandalaksha and Arkhangelsk is very similar on both maps and close to the correct value. On both maps, Kem is placed too far west relative to Kandalaksha. Interestingly, the coastline drawing in the Hondius edition differs more from Bure's drawing than their coordinate values do. The coastal town of Kem ended up far inland in the Hondius edition – perhaps (maybe because the authors wanted to keep it at its previous coordinates even though they moved the shoreline elsewhere?). Both Arkhangelsk and Kem are placed slightly more correctly in the south-north direction in the Hondius edition than in Bure's. The difference, however, is not great. Of the creators of the Hondius edition, only Isaac Massa is known for certain to have acquired Russian cartographic material. On this basis, one might expect his data for the Russian region to be superior to Bure's. Thus, it remains unexplained why Bure's map is superior to the Massa-Gerritsz revision regarding the southern shore of the White Sea.

Livonia and the Gulf of Finland

In the 17th century, the Swedish Realm included present-day Estonia and the northern part of present-day Latvia, known collectively as Livonia (Livland). Administratively, the area was divided into two provinces: Estonia and Livonia. The southern part of present-day Latvia, Courland, did not belong to Sweden but was part of the old Baltic German cultural sphere and the broader concept of Livonia.

Bure's map represented significant progress in the cartography of Estonia and Latvia, though its impact was not as total as in Finland. In the Baltics, the Hondius edition largely follows Bure's original, though small individual changes were made. Islands and a few place names were added to the coasts, likely based on Dutch sea charts. Bure only named Hogland among the outer islands of the Gulf of Finland; the Hondius edition includes about ten islands, relatively correctly named. In the Baltic interior, changes mainly concern lakes, which were reshaped – representing a step backward. The most significant difference is seen in the shape of the large Lake Võrtsjärv, which is much more accurately depicted as spindle-shaped by Bure, whereas his revisers made it angular.

1 Error only two minutes.

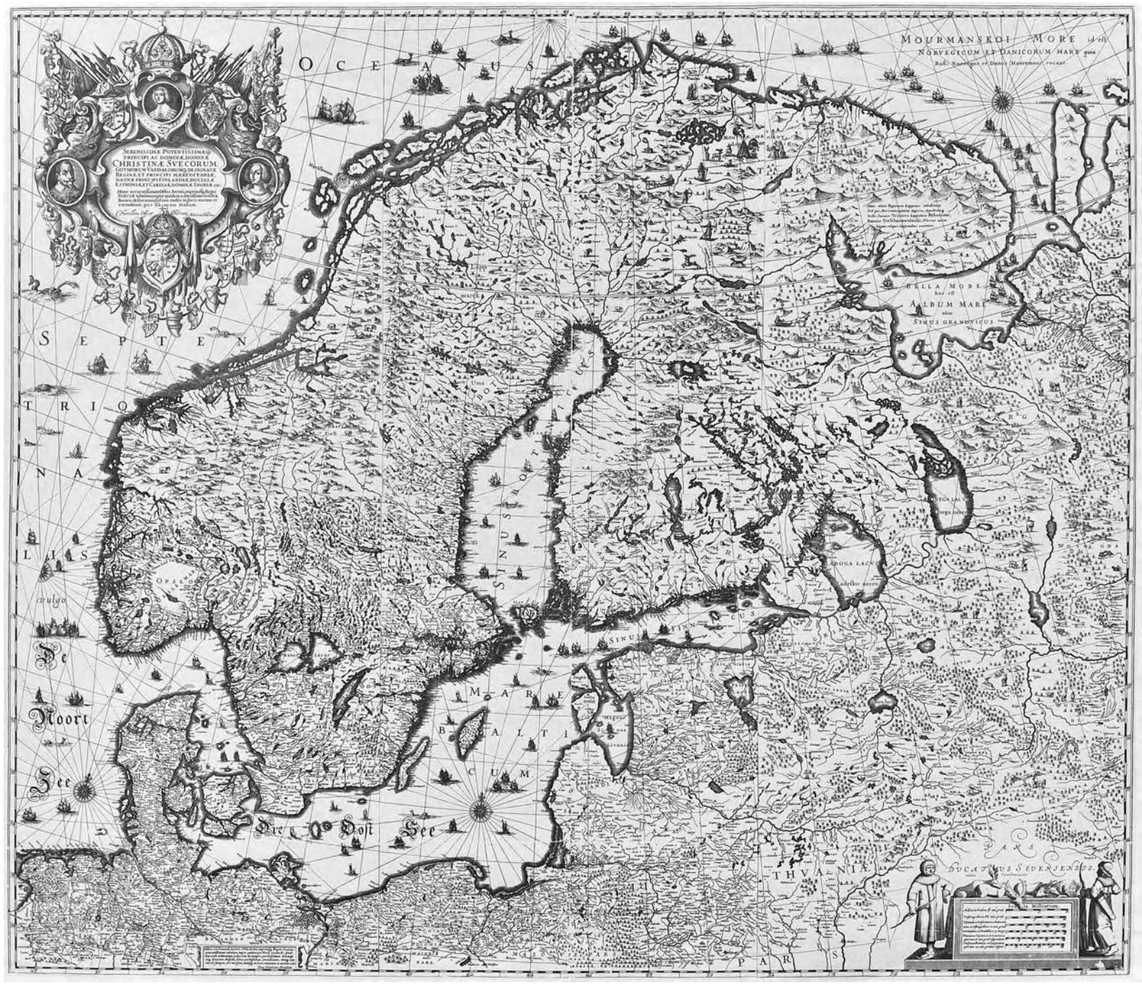


Image (↑): Hondius edition of Bure's map from 1635.[#43] *The title line at the top and the texts on the sides and bottom that framed the original are not included here. 106×124 cm (faks #51)*

The Southern Tip of Scandinavia and Southern Norway

When Bure's map was published, the southern tip and west coast of present-day Sweden belonged to Denmark, Sweden's enemy at the time. Since Bure and other Swedish surveyors were barred from Danish territories, Bure had to rely on inferior data for these areas. Much remained to be improved in the depiction of the southern coasts of Denmark and Norway. Because these areas were near the European heartland and vital for maritime trade, they received far more attention in the European discussion than remote Finland. There were many more experts capable of judging the quality of these regions than there were people who could say whether Bure's map of Finland and Lapland was correct.

The Hondius edition is most successful in these very areas. The shape of Skåne is quite good, based primarily – according to Bramsen – on Waghenaer's sea charts.[1] The depiction of the southern coast of Norway is also better than Bure's. Notably, the southern tip of Norway, which had an erroneously pointed shape, became more rounded. The area outside the Oslo Fjord also improved. However, much remained to be corrected even after this; the shape of the southern tip and the Oslo Fjord entrance were still not quite right, and the courses of major rivers were incorrectly depicted.

Summary of Changes

In the biographies of Massa and Gerritsz, J. Keuning praises their revision of the Bure edition.[2] I can only partially agree with his assessment. The Massa and Gerritsz map is superior regarding Skåne, the southern coast of Norway, and the northern shore of the White Sea. On the other hand, the interpretations of Finland's northern and eastern borders caused considerable confusion and represented a step backward. The southern shore of the White Sea, the Baltic inland waters, and the entire geodesy are inferior in the Hondius edition. Furthermore, the Swedish linear measures are incorrectly stated.

Thus, the scales are evenly balanced. Overall, the edition revised by Massa and Gerritsz appears to be a typical "foreign-made" revision based on incidental information – the map was updated using unreliable data, and for every improvement, an equal number of degradations were introduced.

Later editions of the Hondius version from 1646–1737

Later new editions of the map were printed in the Netherlands using the same plates. A Complete description of those can be found in Günter Schilder's biography of Gerritsz.[3] Here is my much shorter description of those edition.

1 Bramsen p. 78.

2 *"[the new map] is in many respect superior to that of 1626 edition"* (Keuning: Massa p. 79) and "is *a corrected edition of the … map of … 1626*" (Keuning: Gerr p. 53).

3 Gerritsz 2013.

Image (↑): "The dedication cartouche to the future Queen Christina of Sweden in the 1635 Hondius edition of Bure's map.[#43] *(DKB)*

2nd and 3rd editions published by J. Blaeu in 1646 and 1665[#44]

From Hondius the plates were acquired by Joan Blaeu. In his edition of the map from c. 1646 (2dn ed.) he did not make changes to the map itself. However, he altered the cartouche and somewhat the surrounding area. The images of the Swedish royal family and the dedication to Queen Christina of Sweden were removed from the cartouche. In their place, the map's title was added. Under the introductory text addressed to the reader, Blaeu replaced the name Henrik Hondius with his own.[1] The printed explanatory text surrounding the map is the same as in Hondius's version – that is, it was printed by Hondius and bears his name. This suggests that Blaeu, along with the plates, also purchased already printed sheets of the text from Hondius and had enough of them that he did not need to print more.

In c. 1665 Blaeu made a new edition of the map (3rd ed). In it there were minor changes in the contents and according to Schilder new plates were engraved for sheets 1, 3 and 6.

1 See the bibliographic description in the end of the book.

4th edition by F. de Wit, c. 1680[#45]

From hairs of Joan Blaeu the plates were bought by the map published by Frederik de Wit. He made alterations to the map mainly by adding new names and changing the location of old names. The notification to the reader was completely removed. On the top he added a large decorative title strip and on both sides columns of town views making the whole the largest version ever published.[1]

5th and 6th editions by Pieter Mortier, around 1710[#46]

From De Wit the plates were acquired by the map publisher Pieter Mortier.[2]

Significant modifications was made to the plates before printing. The most notable change is that the plates were reduced in size both at the bottom and the top. The decorative scale cartouche that had previously been in the lower right corner was replaced with a newly drawn, simplified box-shaped cartouche.

7th edition by Covens & Mortier after 1720[#47]

From Pieter Mortier, the plates passed to the firm Covens & Mortier, which Mortier's son Cornelius Mortier founded together with his brother-in-law Johannes Covens in 1721.

They produced new printings of the map in which Pieter Mortier's name was replaced by Covens & Mortier. The map was still being sold as late as 1737.

At least for the new city St. Petersburg, the map has also been renewed in terms of content.

Table 3 Comparison of latitude values of Bure's original map and its Hondius edition

The table compares the latitude values of seven different locations on the original Bure map and its Hondius edition. In five cases, the Bure value is better. In one case, there is no difference and only in Trelleborg in Skåne are the values in the Hondius edition closer to the truth. The number in square brackets indicates the deviation from the current correct value given by Google Earth.

Location	Google Lat	Bure Lat [error]	Hondius Lat [error]	Error of Hondius version larger than Bure's
Nordkap	71°10'	71°29' [+19']	71°34' [+24']	+5'
Inari (Enare)	68°54'	69°23' [+29']	69°35' [+41']	+12'
Tornio (Torneå)	65°51'	65°53' [+2']	66°00' [+9']	+7'
Vaasa (Vasa)	63°4'	63°8' [+4']	63°14' [+10']	+6'
Turku (Åbo)	60°27'	60°29' [+2']	60°31' [+4']	+2'
Kalmar	56°30'	56°44'[+14']	56°44' [+14']	0'
Trelleborg	55°22'	55°32' [+10']	55°29' [+7']	–3'

Table 4 – Comparison of longitude values of Bure's original map and its Hondius edition

The table compares the longitude values of the maps at four different locations. The table shows how the Northern Europe has bulged further in the Hondius edition compared to the already overly plump shape given to it by Bure. In relation to Gothenburg, Stockholm has moved 8 minutes east, and Turku and Vyborg 16 minutes east..

Location	Bure 1626	Hondius-edition 1635	Difference between the values of Hondius edition and Bure's original	Change in relation to the location of Gothenburg
Göteborg	32°24	32°58'	+34'	0
Stockholm	40°22	41° 4'	+42'	+8'
Turku (Åbo)	44°44	45°33'	+49'	+16'
Viipuri (Vyborg)	52°35	53°25'	+50'	+16'

1 Schilder 2013.

2 Schilder 2013.

Table 5 – Comparison of the coordinate values of the original Bure map and its Hondius edition with the coordinate values according to current knowledge on the shores of the White Sea

The actual values according to current data have been obtained from Google Earth. The values of the original Bure map have been measured from the facsimile published by Richter in 1936. The values of the Hondius edition have been measured from the facsimile published by Lönborg in 1907.

Location	True latitude (Google)	Bure latitude [difference to the true value]	Hondius latitude [difference to the true value]	Difference between Hondius and Bure latitudes	True longitude [difference to the previous value]	Bure longitude [difference to the previous value]	Hondius longitude [difference to the previous]	Difference between Hondius and Bure longitudes
Kandalaksha	67° 09'	67°30' [+21']	67°31' [+22']	+ 1'	32° 25'	53°39'	59°00'	+5°21'
Kem	64° 57'	64°46' [–11']	64°55' [–2']	+9'	34° 35' [2°10']	54°12' [33']	59°12' [12']	+5°00'
Archangelsk	64° 32'	64°53' [+21']	64°39' [+7']	– 14'	40° 35' [6°]	61°41' [7°29']	67°18' [8°6']	+5°37'
Longitude difference Kandalaksha-Archangelsk					8°10'	8°2'	8°18'	

Attempts to improve Bure's map in 17th-century Sweden

Gedda's Baltic Sea Atlas

In the 1690s, several publishers began serious attempts to update the map image created by Bure, which by then was already more than 60 years old. These attempts were still largely based on Bure's original map or its Hondius version, but efforts were made to supplement and improve the information using data from other sources. Most of these attempts were unsuccessful. Corrections might be made in one place, but at the same time the map would become worse elsewhere. The most important new source material used in these efforts was the first Swedish Baltic Sea atlas, published in 1695 by Peter Gedda, titled *General hydrographisk Chart-book öfwer Östersiön, och Katte-Gatt*. Gedda's sea charts contained many changes compared with Bure's map: The coasts of Finland were depicted in a substantially different way and new place names also appeared along the coasts.

Gedda's charts represented a significant step forward in Baltic hydrographic mapping. Earlier nautical charts used in the region had largely been Dutch charts based on Lucas Waghenaer's 16th-century sea charts. The quality of these Dutch charts varied. For example: the southern coast of the Gulf of Finland was depicted reasonably well but the Finnish coastline was represented extremely poorly. Improving upon them in this respect was therefore not difficult. However, when compared with Bure's map, Gedda's charts unfortunately do not perform as well. In many respects Gedda's work is actually inferior to Bure's.

Image (←): The eastern shore of the Gulf of Bothnia on Gedda's chart of the Gulf of Bothnia from 1695. There are more names than on Bure's map. (NLF)

Image (↓): "The northern coast of the Gulf of Finland on Gedda's chart of the Gulf of Finland from 1695. The coastline is drawn considerably more crudely than on Bure's map and is placed about 50 km farther north than on Bure's map, which in this respect was drawn correctly. (NLF)

Gedda's atlas was based on Bure's map, but the information was supplemented with measurements carried out along the Baltic coast by the Swedish navy, information obtained from the Swedish Land Survey Office and apparently also with erroneous data from Dutch sea charts. Coastal maps produced by local surveyors were probably an important source as well.

The greatest error in Gedda's depiction of Finland is that the Gulf of Finland is shifted almost half a degree northward – about 50 kilometres from the correct north–south position given by Bure. There are two possible explanations for this error: 1) Someone incapable of performing the task may have attempted to measure latitude on site, and their incorrect results were accepted, 2) The position of the Gulf of Finland may have been taken from Dutch nautical charts, where the same error already existed. The latter explanation is supported by the fact that Gedda's coastline drawing for the Gulf of Finland is consistently worse than Bure's, especially around Cape Hanko and resembles somehow the Dutch model. It appears that no reliable measurements were used as the basis for Gedda's map in these waters. It also seems that Gedda and the others involved in producing the atlas did not understand how accurate Bure's measurements had been. As a result, they did not trust Bure's map and began making corrections without verification measurements, altering features that should not have been changed.

Possible parties responsible include: The authors Gedda and Werner von Rosenfeldt, the Swedish Admiralty and the director of the Swedish Land Survey, Carl Gripenhjelm, whose map from 1688 already contained the same error before Gedda.

Gedda's depiction of the Gulf of Bothnia is based on measurements conducted by Admiral Sjöhjelm between 1654 and 1656. Visually assessed, the shape of the Gulf of Bothnia in Gedda's charts is not improved compared with Bure's map, though it is not worse either. However, more correct place names were added along the coast. For this reason the depiction of the Gulf of Bothnia can still be considered an improvement.

Gripenhjelm's Map

One probable source for Gedda's charts was a small hand-drawn map of the entire Swedish realm, created in 1688 at the Swedish Land Survey Office. This map was significant because it was the first attempt after Bure to produce a new general map of the whole kingdom. It was drawn by the director of the Land Survey Office, Carl Gripenhjelm. Compared with Bure's map, Gripenhjelm's map contains the same features as Gedda's charts: the Gulf of Finland is placed half a degree too far north and the Gulf of Bothnia is drawn essentially the same way as in Gedda's charts.

Gripenhjelm's map also shows inland waterways. In this respect it includes some improvements but also many deteriorations compared with Bure's map. Surveyors had been working in Finland since the 1630s, sending regional maps to Stockholm. Information from these maps was incorporated into Gripenhjelm's map. For example: The waters above Tampere in the Kokemäki River system are drawn much more accurately than in Bure's map. However: The Päijänne and Saimaa lake systems are depicted worse than in Bure's map, a major new error appears: Lake Päijänne is shown as flowing into Lake Saimaa and the large Kymi River appears only as a small stream – perhaps even as a second outlet river? Furthermore Lake Onega and the large Svir River, which flows from Onega into Lake Ladoga, are completely missing. Lake Onega may have been omitted because it was considered too far east to fit on the map, but the Svir River would have fit. There are many place names along the coasts, but fewer inland names than on Bure's map.

One merit of Gripenhjelm's map is that it corrects Bure's systematic longitude error. As a result, the east–west width of the Nordic region becomes closer to reality. This correction, together with the incorrect position of the Gulf of Finland, can be seen in Table 7.

Gripenhjelm's map has been widely discussed in the Swedish literature about the history of cartography, even though it was small, never printed and it had little influence on the development of cartography. The attention given to the map probably stems from the intriguing story associated with it. The map was stolen, and because of this it became a topic of discussion very early on.[1]

Image (↑): Gripenhjelm's hand-drawn map of Sweden-Finland from 1688. 78×54 cm (KB)

1 See page 40.

Table 6: Comparison of Gripenhjelm's map and Bure's map

Location	Gripenhjelm latitudes	Gripenhjelm longitude	Bure latitude	True latitude	Gripenhjelm error	Bure error
Turku (Åbo)		45° 47'				
Hanko (Hangö)	60° 9'		59° 47'	59° 48'	+21'	–1'
Viipuri (Vyborg)	61° 11'	51° 53'	60° 50'	60° 43'	+28'	+5'

Longitude difference between Turku and Vyborg: Gripenhjelm 6°6', Bure 7°58', actually 6°27'.
Longitude error between Turku and Vyborg: Gripenhjelm –21', Bure 1°31'.

Latitude difference between Hanko and Vyborg Gripenhjelm 1°2', Bure 1°3',

Peter Gedda

Peter Gedda (born 31 December 1661, died 19 July 1697) was a Swedish marine cartographer and surveyor. He qualified as a surveyor in 1680. Career: Admiralty conductor (map draftsman) in 1681, surveyor in 1684, director of the Admiralty's masters corps in 1687. Under his leadership, Sweden's first Baltic sea atlas was completed in 1695, and he also published a naval masters manual.

Carl Gripenhjelm

Carl Gripenhjelm (b. 1655, d. 12.9.1694) was the first actual director of the Swedish Land Survey since 1683. Before that, the land surveyors had worked under the Chamber College (Kammarkollegiet). Gripenhjelm did a great deal of work to organise land surveying in the country

Bure maps by J. Blaeu

Bure Maps in J. Blaeu's Atlas Maior of 1662

The Maps: Publication and Sources

The 1660s were the era of the great atlases. Never before or since have such extensive and ostentatious world atlases been published. The finest of these was Joan Blaeu's 12-volume Atlas Maior. It is expansive, its maps are visually striking, and they are of high cartographic quality. The Atlas Maior includes 12 maps based primarily on the map by Bure. Ten of these depict the Realm of Sweden or its parts, and two depict Norway. The maps are: The Nordic Countries (a reduced edition of Bure's large map), Sweden (with Finland), Götaland, Uppland, Svealand, Norrland, Lapland, Finland, Ingria, Livonia, Norway, and Finnmark.

The scale of the maps varies. They are included in Volume 2 of the atlas, the title page of which bears the year 1662. However, the maps likely originally appeared in the 1650s. Blaeu, like other map publishers, produced maps gradually. Individual maps were sold either separately or bound into atlases. An atlas could only be published once all the maps intended for it were completed. Maps sold separately have mostly been worn out through use, whereas those bound into atlases have survived to the present day in quite large numbers.

The oldest of the Sweden-Finland maps in the Atlas Maior is the map of the Nordic Countries. It was already included in the Novus Atlas published by Blaeu in 1634. The maps of Götaland, Uppland, and Livonia also date back to the 1630s; their first versions were included in the Appendix atlas published in 1638.[1] The 1630s versions differ slightly from the corresponding maps included in the 1662 Atlas Maior.

Maps corresponding to Blaeu's 1638 maps of Götaland and Uppland are also included in Janssonius's Novus Atlas, published in the same year. On those, Henrik Hondius is listed as the publisher. Except for the coordinate system, cartouches, and title information, the maps are identical to Blaeu's. They were, however, printed from different plates. We do not know if one publisher copied the other, or if they collaborated by simultaneously ordering maps from the same engraver based on the same originals, thereby gaining the benefits of a sort of serial production. Nevertheless, both wanted their own coordinate system on their maps – Blaeu's based on Bure's original map, and Hondius's based on the edition by Massa and Gerritsz that he had previously published.

The primary source for Blaeu's maps was Bure's original map. With few exceptions, the maps are copies of its various sections. In a few cases, information from the original map has been supplemented to a small extent with data obtained from other sources. In the maps of Götaland and Finland at least, supplementary information was taken from the Hondius version of the map. The maps of Lapland and Finnmark were supplemented with data from Bure's 1611 map of Lapland. Blaeu used his supplementary sources skilfully. He knew how to select only accurate information – discarding the incorrect information that would also have been available. The high quality of Blaeu's corrections is likely based, at least in part, on the cooperation he had with the leadership of the Swedish Realm around 1650.

The coordinate system of all maps in Blaeu's atlas depicting areas belonging to Sweden is consistent with Bure's coordinates, with the caveat that Blaeu's prime meridian is exactly 4° further east. Consequently, the longitude values in Blaeu are exactly 4° smaller. The latitude values are the same for both. The same coordinate system and Bure's geodesy are also used on the two maps of Norway in Blaeu's atlas. On Blaeu's maps, the coordinate lines for longitude are drawn at intervals of exactly two degrees.

On all the aforementioned maps of the Swedish Realm and on Bure's general map, Anders Bure is credited as the mapmaker. No such attribution exists on other maps in Blaeu's atlas based on Bure's map, such as those depicting Norway or its parts.

Dedication Cartouches of the Maps

Six of the aforementioned maps have a separate cartouche containing a dedication to some prominent Swedish figure of the mid-17th century. Additionally, the map of Lapland has a corresponding cartouche that has been left blank. The dedications and informations about the persons involved are listed in Table No. 7.

All the individuals who received a dedication were already deceased by the time Blaeu's atlas was published in 1662 – in many cases, several years prior. The only year in which everyone was still alive and held the titles mentioned in the dedications is 1651. Blaeu would hardly have had reason to engrave dedications to Swedish politicians and military commanders who had been dead for years. Therefore, the table suggests that the maps were made in the early 1650s, perhaps specifically in 1651 – rather than in 1662, the year the atlas was published. It is evident that the dedications were somehow agreed upon with the individuals concerned. They may have supported Blaeu's project either financially or through services. If they paid to have their names on the maps, I find it probable that they did not wait ten years and face potential death to see the finished product, but rather expected faster delivery. The completion of the maps as early as the 1650s is also strongly indicated by the fact that the areas conquered by Sweden from Denmark in 1658 are marked as belonging to Denmark on the maps.

Blaeu's Connection to the Queen and the Privy Council of Sweden

In 1649, Joan Blaeu contacted Queen Christina of Sweden and proposed a collaboration for the preparation of the Swedish section of his atlas. The minutes of the Privy Council (Riksrådet) dated July 23, 1649, describe the event as follows:

Her Royal Majesty proposed that he who has published the Atlas (Blaeu) wishes to publish [in his atlas] Sweden with its provinces, as well as portraits of all the kings and a description of what Sweden is. Her Majesty felt it would be a beautiful work and would depict the country in the manner customary for other nations.

Lord Gustaf Horn: It should be considered that in this way, the country would be exposed.

Her Majesty was of the opinion that it would not be harmful; other countries have done the same and noticed no disadvantage. He [Blaeu] has offered himself [for the task] and intends thereby to do Her Majesty a service. His plan is as follows: 1. He will prepare a general map, 2. special maps of all the provinces, 3. portraits of all the Swedish kings of the House of Vasa and short histories of them.

Her Majesty: Regarding the biographical information of the kings, he could obtain information from the archives. He is also prepared to include information about Her Majesty's actions, although Her Majesty said there is no need to describe Her Majesty's life while the sovereign is still alive.

Her Majesty thereafter ordered Lord Seved Båth to deliver to Her Majesty all copies of the maps of Sweden and its provinces, to be forwarded to him, Blaeu.

...On July 23 [1649], Her Majesty was in council with the following Privy Councillors: Lord Gustaf Horn, Lord Erik Rynning, Lord Knut Posse, Lord Thure Sparre, Lord Seved Båth, Lord Bengt Skytt, and Lord Åke Hanson Ulfsparre.

About 100 years later, Jacob Faggot wrote about the event in a manner very different from the minutes quoted above. Faggot's story is so different that it lacks credibility and casts a poor light on Faggot's reliability as a source. Since later writers have used Faggot as their source, a critical examination of his text is necessary. Faggot's description is as follows: "It became known abroad that Mr. Bure h*ad prepared special maps pertaining to the geography of Sweden... and as foreign geographers had utilised [Bure's 1626 map], they also wished to acquire Bure's last-mentioned works; consequently, in 1649, the brothers Wilhelm and Joan Blaeu from Amsterdam made a petition to the Royal Senate of Sweden to obtain a portion of said special maps, so they could engrave them and include them in the great atlas they were then preparing. When this was considered in the Council, Privy Councillor Count Per Brahe stood firmly against the publication of the maps: he claimed the Senate had previously forbidden it and that handing them over would be questionable due to the information regarding our country's location that our neighbours would thus obtain... The majority of the Council decided that Bure's maps would be handed over, and Privy Councillor Seved Båth was asked to collect and report all of Bure's provincial maps to the Blaeus.*"

Faggot is correct that the matter was handled in 1649 and that Seved Båth received the assignment. However, *Per Brahe*, whom Faggot describes as a fierce opponent of the handover, was not present at the meeting. The project was deemed questionable by *Gustaf Horn*, whom Faggot apparently confused with Per Brahe – they did, after all, have in common that both lords served in Finland at some point in their lives. The contact could not have been made by the *brothers Wilhelm and Joan Blaeu*, as Wilhelm was Joan's father, not his brother, and had died as early as 1638. Joan's brother Cornelius had also died in 1645.[1] According to the minutes, the decision was not made by a majority of the council, but by Queen Christina, who was also an active initiator in the matter. It appears Faggot put to paper memories of what he had heard – perhaps a century-old oral tradition. He describes events more broadly than the facts support. His text also contains a patriotic pathos not fully evident in this brief excerpt.

In light of Faggot's unreliability, the story of *special maps prepared by Bure remaining in the archives* cannot be considered trustworthy either. No other source confirms the existence of special maps specifically made by Bure. The provincial maps in Blaeu's atlas do not contain the kind of detailed information that Blaeu could have drawn from such maps. Blaeu's maps are copies of Bure's 1626 map, with the exceptions mentioned previously. It is evident that he received no other useful map material from Sweden than Bure's 1611 map of Lapland and information (and perhaps maps) regarding the border between Sweden and Norway in Jämtland. He needed no other material to make the improvements to Bure's original map found in the Atlas Maior.

The aforementioned dedications to Swedish nobles in the Atlas Maior were likely agreed upon following this 1649 contact – perhaps between 1649 and 1651. Blaeu's contact person to Queen Christina may have been Michael le Blon, an art dealer and Swedish ambassador to London. Blaeu had dedicated the original 1638 edition of his map of Uppland to him. As a Swedish envoy, le Blon had access to Queen Christina and is known to have advised her on art matters.[2]

1 See Koeman I p. 116.

1 Koeman I p. 68.

2 Wikipedia March 7, 2008, biography of artist Johan Bockhorst.

*Table 7: Persons to whom the maps of Sweden-Finland in Blaeu's 1662 Atlas Maior were **dedicated, their dates of death, the years they held the offices mentioned in the dedications, and** the most probable completion dates of the maps.*

Map	To whom dedicated	Year when the person got the title he have in the dedication	Dead or left the **office mentioned** in the dedication	Probable timing for the map
Sweden-Finland (Sueciæ)	Crown Prince Carl Gustav	Elected as crown prince 1649	to king 1654; dead 13.2.1660	1649–1654
Gothia	Lennart Torstenson	Count of Oratala 1647; Governor General of Westrogthia. 1648	dead 7.4.1651	1648–1651
Upland	Jakob De la Gardie	Count 1615	dead 12.8.1652	1615–1652
Sueonia	Axel Oxenstierna	Count of Södermöre 1645	dead 28.8.1654	1645–1654
Norlandia	Gabriel Bengtson Oxenstierna	Count of Mustasaari 1651	dead 12.12.1656	1651–1656
Finland	Gustav Horn	Count of Björneborg 1651	dead 10.5.1657	1651–1657

Image (↑): Map of Sweden-Finland by Blaeu 1645.#42 43×49 cm (VMC)

Willhem, Joan & Cornelius Blaeu

Blaeu's map publishing house was perhaps the most significant actor during the Golden Age of Dutch cartography in the 17th century. It was founded by Wilhelm Janszon Blaeu (b. 1571, d. Oct. 21, 1638). He had studied mathematics and astronomy, among others under the famous Danish astronomer Tycho Brahe. He qualified as a maker of instruments and globes. Wilhelm Blaeu began publishing maps in his hometown of Alkmaar, but in 1599 he moved to Amsterdam. After W. Blaeu's death, the business passed to his two sons, Joan (b. Sept. 23, 1596 – d. Dec. 21, 1673) and Cornelius (b. 1610 – d, 1642). From the 1620s onward, the firm published atlases, the most renowned of which is the 12-volume monumental work "Atlas Major", produced under the direction of Joan Blaeu – perhaps the finest cartographic work ever published.

Map of Finland by J. Blaeu 1651[#55]

Blaeu's Magnus Ducatus Finlandiæ – 1:2,000,000[#55]

The first separate printed map of Finland was published around 1651 by the famous Dutch map publisher Joan Blaeu. The map is included in the second volume of his giant Atlas Maior. The publication year for that volume is marked as 1662 on its title page. However, the map of Finland was apparently completed earlier, as stated above.

The map of Finland is based on Anders Bure's 1626 map of the Nordic Countries, from which it – like the other maps of the Swedish Realm in Blaeu's atlas – is almost directly copied. Like the maps of the Atlas Maior in general, the map of Finland is beautiful and well-proportioned.

The drawing of waterways, settlements, and almost all nomenclature and its placement are practically taken as-is from Bure. In addition to the nomenclature of Bure's original map, Blaeu added to his map of Finland the strange and unnecessary names marked in the Savo and Oulujoki regions in the Hondius edition; this addition weakens rather than improves the reliability and quality of the map. The outer islands of the eastern Gulf of Finland are depicted according to the Hondius edition, which in turn improves the map. Mountain range drawings are in the locations given to them by Bure. The ships sailing the Baltic Sea and the Gulf of Bothnia on Bure's map, as well as the small drawings depicting the life of the Sámi people in Lapland, are missing from Blaeu's map. In the upper right corner of the map is a beautiful large cartouche decorated with the coats of arms of Finland and its provinces. In most copies I have seen, the coats of arms are beautifully coloured with vibrant hues. In the coat of arms of Karelia, the hand on the right does not hold a sabre, as is usual and as seen on Bure's original map, but an arrow.

The upper left corner of the map is decorated with a smaller cartouche containing the coat of arms of the Horn family and beneath it a dedication to Field Marshal Gustaf Horn.[1]

Image (→):Blaeu's map of Finland from around 1651 – the world's first separate map of Finland.[#55] *42×51 cm (JS)*

1 Gustaf Horn (b. Oct 22, 1592, d. May 10, 1557) was a hero of the Thirty Years' War and subsequent wars, Count of Pori (Björneborg) in 1651, Baron of Marienborg in 1652, Marshal of the Realm and President of the War College in 1653. Sources: Kansallinen elämäkerrasto, K.R. Melander's writing on Gustaf Horn; Koeman I p. 67, 207.

Map of Finland by Janssonius' heirs from 1660s

Magnus Ducatus Finlandiæ (1:2,000,000) by the Heirs of Janssonius #58–60

A bit later or roughly at the same time when the Blaeu map of Finland, described above, appeared in Amsterdam another map of Finland#58 It was issued by the publishing house the Heirs of Janssonius.

The Janssonius map is very similar to Blaeu's map: They are exactly the same size and drawn identically even in small details. All texts are engraved in precisely the same locations and in nearly identical sizes and styles of lettering.

Closer inspection of the details, however, shows that the maps were printed from different copper plates.

The cartouches of the maps differ, although they are placed in the same locations and follow the same thematic idea. The coordinate grid of the maps is the same, but the numerical values marked for the longitudes are different. The values on Janssonius's map are one degree smaller than those on Blaeu's map. Janssonius values correspond to those on the Hondius edition of Bure's map mentioned earlier.

It is difficult to find any explanation for the similarity other than that one map is a copy of the other. It is also possible that Blaeu and Janssonius agreed to have their maps engraved simultaneously by the same engraver.[1]

In the cartouche in the upper left corner of the map there is a dedication to *the "son of distinguished parents, young man, Mr. Jacob Schütz"*. No information has been found about who this Schütz was or who his parents were. The dedication text lists no titles for him, which suggests that the young man did not yet hold any official rank and that the dedication may have been financed by Jacob Schütz's parents. However, the sponsor of the dedication cannot have been poor. In mid-17th-century Sweden there were individuals named Schütz: Hans Ludwig Schütz, a wholesale merchant in Stockholm and Jacob Schütz, a saddler belonging to the burghers of Gothenburg. No connection is known between these individuals and the Jacob Schütz mentioned on the map.[2]

The map of Finland first appeared in editions of Janssonius's atlas *Novus Atlas* whose title page gives the publication year 1658. However, it was common practice to print atlas title pages in advance for stock and then use them in atlases assembled several years later. Since the Finland map lists "the Heirs of Janssonius" as the publisher, it cannot have been produced before the death of Jan Janssonius in 1664. The exact year of publication is unknown, but it is likely that the map was produced in the second half of the 1660s.

In the first half of the 17th century, Janssonius competed successfully with the Blaeu publishing house for the position of the leading map publisher in Amsterdam, the Netherlands, and effectively the world. After Jan Janssonius's death, the business continued for some time under the name "the Heirs of Janssonius." Later, the company's activities were continued by Johannes Janssonius van Waesbergen, Jan Janssonius's brother-in-law. He collaborated with the English map publisher Moses Pitt (d. 1696). Through their efforts, a new, almost unchanged version of the Finland map (#59) was printed. It was included in Pitt's atlas The English Atlas, published between 1680 and 1683.

After this, the printing plate of the Finland map – together with many other plates from the Novus Atlas – passed to the publishing house Valk & Schenk, which issued reprints of the map in the late 17th century and/or the 18th century#60

1 In the earliest known copies of Janssonius's map, the publisher is listed as Janssonius's heirs, which means they must have been produced after Janssonius's death in 1664. Janssonius's map could only be the same age as Blaeu's map if it turned out that earlier copies had been made, which have not survived to later generations.

2 Thimon 1982. Elgenstierna: Rosenschütz 2138.

Image (↑): Map of Finland of the Janssonius heirs. The map content is the same as Blaeu's map - the differences can be found in the title and the dedication cartouches in the upper corners and the values of the longitude coordinates.#59
41×50 cm (NLF)

Jan (Johannes) Janssonius

Jan Janssonius (b. 1588, d. 1664) was, along with Blaeu, the second most important map publisher in the Netherlands in the early and mid-17th century. The business had branches in several European cities. Janssonius was the son-in-law of the map publisher Jodocus Hondius. In 1616 he began as an independent map publisher in Amsterdam and from 1630, together with his brother-in-law Henrik Hondius, continued the operations of his father-in-law's map publishing house. In 1646, the business was completely transferred to Janssonius. After Jan Janssonius' death, the business was continued by his son-in-law Janssonius-Waesberg (d. 1681)..

Map of Finland by F. de Wit#61-67

F. de Wit's Nova tabula Magni Ducatus Finlandiae – 1:2,000,000 #61-67

The copper plate of Blaeu's map of Finland apparently came into the possession of Frederik de Wit in 1694. In that year, most of Blaeu's printing plates were sold at the auction of the bookseller Abraham Wolfgang, who had previously acquired them in the 1670s. De Wit made quite a number of corrections to the plate and published the map as a new edition under his own name. The map of Finland was probably issued in the final years of the 1690s.

At least the following changes were made to the map by de Wit: 1) The dedication to Horn is missing. In its place, terrain details were added to northern Sweden, 2) Many new place names appeared especially along the shores of the Gulf of Bothnia, 3) The depiction of Åland, the area in front of Stockholm, the islands of the Archipelago Sea, and the coast of the Gulf of Finland was revised.

The main source for these changes appears to have been the maps in Peter Gedda's sea atlas. Gedda's maps were engraved in the Netherlands in 1694–1695, meaning they may have been available to Dutch map publishers quite early. Thus, de Wit's map of Finland could not have been published before 1695, but it was probably not issued in that exact year either.

After the death of de Wit's widow in the early 18th century, the printing plate of the map passed into the possession of the map publishing house Covens & Mortier. Several editions of the map were later printed, apparently at least until the 1750s. Some of the later printings bear the imprint *Amstelodami ex officina I. Covens et C. Mortier,* while others do not. It seems that maps were printed from the same plate for several different publishers; those sold by Covens & Mortier had this imprint added, while those sold by other publishers were printed without it. #62–67

In the 18th-century reprints, changes mainly concern the depiction of St. Petersburg and its surroundings. In the latest printings, the battle sites of the "Hats' War" – Lappeenranta and Hamina from 1741 – were added.

Frederik de Wit

Frederik de Wit (born 1630, died 1706) was a Dutch cartographer, engraver and map publisher. He published not only his own maps but also new editions of maps by earlier publishers (Blaeu Janssonius and others). On maps, de Wit's name also appears in the form de Witt.

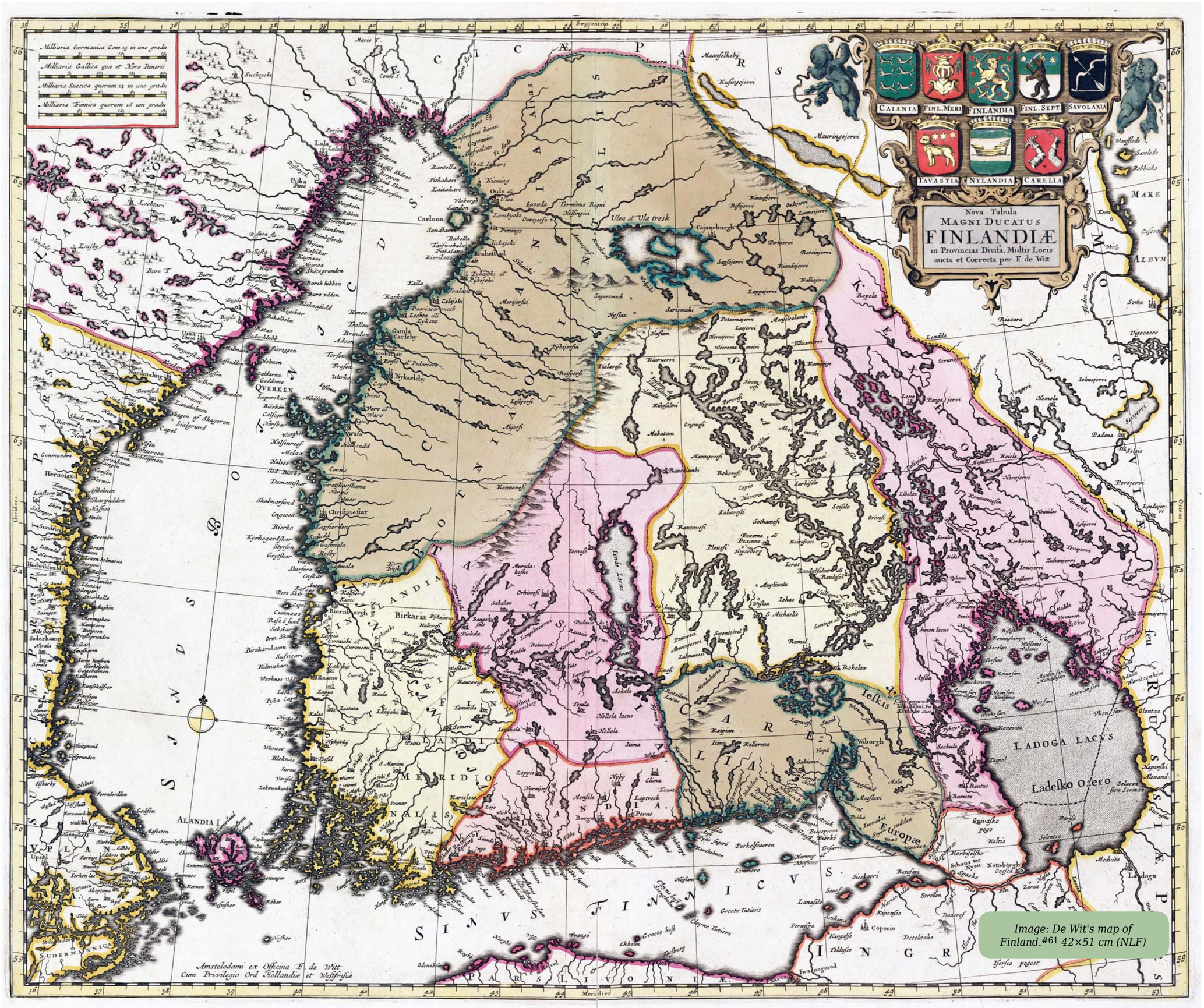


Image: De Wit's map of Finland.#61 *42×51 cm (NLF)*

N. Sanson's maps of Finland in the scale 1:880 000 from 1666 #70–83 & #130–137

Alongside the previously mentioned Dutch publishers Blaeu and Janssonius, a third major map publisher of the 1660s also began publishing maps of Finland. Between 1666 and 1669 the French geographer, cartographer, and publisher Nicolas Sanson issued a series of maps depicting Finland. Unlike his Dutch colleagues, who printed their maps at the same scale as Anders Bure's original map (1:2,000,000), Sanson enlarged the scale to more than double, about 1:880,000. As a result, Finland could no longer fit onto one or two sheets; including Lapland, six sheets were required.

Compared to the Dutch maps, Sanson's maps include one significant addition: the boundaries of the provinces (that is, the administrative counties of the time). It is not known where Sanson obtained information about the borders of the Swedish and Finnish counties. No earlier map showing these boundaries is known, so he could not have copied them from any earlier cartographic source. The most likely explanation is that he used a textual source available in Paris. The probable source was the book *Epitome descriptionis Sueciae, Gothiae, Fenningiae, et subjectarum provinciarum*, published in Turku (Åbo) in 1650 by Professor Michael Wexionius-Gyldenstolpe. It contains sufficiently detailed geographical descriptions of the counties of Sweden–Finland. Otherwise, Sanson's maps are almost exact reproductions of the Hondius version of Bure's map.

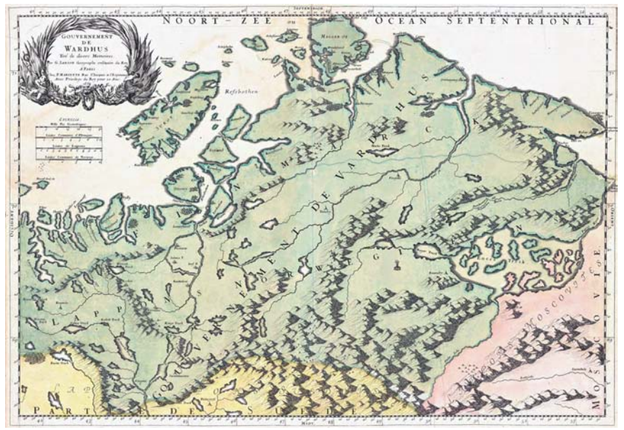
These maps are included in the first volume of the fourth expanded edition (published in 1667) of Sanson's atlas *Cartes Générales de toutes les parties du monde*. The first edition of the atlas (1658) contained 113 maps. In later editions the number increased so that the 1667 edition included 200 maps, among them 17 maps of the Nordic countries based mainly on Bure's map. Sanson collaborated with another Parisian map dealer, Pierre Mariette. Separate versions of most maps in the atlas were produced for each publisher. They differ only in the publisher's imprint: maps sold by Sanson himself bear the phrase *chez l'Auteur*, while those sold by Mariette read *chez Pierre Mariette Rue St Jacques à l'Esperance*.

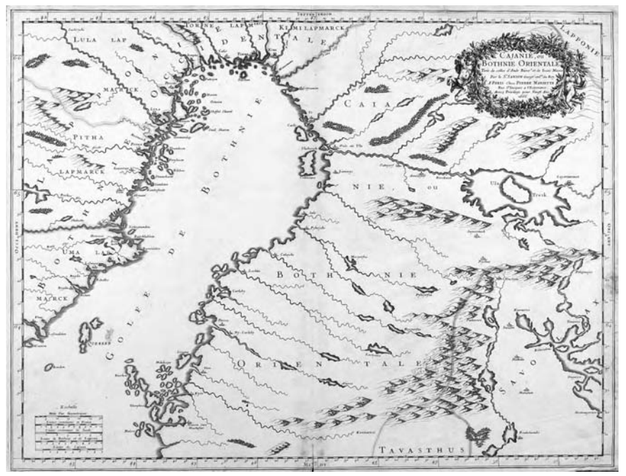
The maps were subsequently sold both individually and bound into atlases well into the latter half of the 18th century. Some editions bear later publication dates, such as 1688 and 1703, and possibly others. From the 1730s onward, the publication of Sanson's maps was continued by the geographer Robert de Vaugondy. In reprints issued in the 1740s, he added a new date and his own name. It appears that all the maps depicting Finland were also printed in such 1740s editions.

In the copies I have seen, the administrative borders are usually highlighted with thin colour, typically using orange.

Nicolas Sanson

Nicolas Sanson d'Abbeville (b. December 20, 1600, d. July 7, 1667) was a French cartographer and map publisher – the most renowned French mapmaker of his time. He has been called the father of French cartography. He produced over 300 printed maps as well as atlases. He served as the Royal Cartographer of France and as a geography tutor to the nation's kings. The publishing house founded by Sanson was continued by his sons, Adrien (1639–1718) and Guillaume (1633–1703).





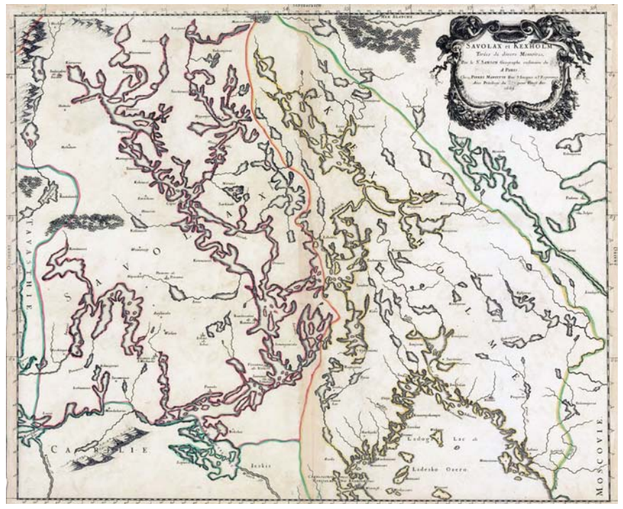


Image (←): Sanson's map of Southwestern Finland, consisting then of provinces called Northern Finland and Southern Finland, Uusimaa (Nylandia) and Häme (Tavastia).#71 *40×55 cm (NLF)*

Image (↑↑↑): Sanson's map of Finnish Lapland.#134 *41×52 cm (JS)*

Image (↑↑): Sanson's map of Ostrobothnia.#82 *41×55 cm (JS)*

Image (↑):Sanson's map of southwestern Finland.#71 *(NLF)*

Image (↑↑↑): Sanson's map of Finnmark including Inari (Enare) Lapland.#137 *38×56 cm (NLF)*

Image (↑↑): Sanson's map of Savo and North Karelia.#78 *43×53 cm (EKM)*

Image (↑): Sanson's map of Karelia and Ingria.#75 *44×52 cm (EKM)*

Blaeu's and de Wit's maps of Lapland

Image (↘): Blaeu's map of Lapland from around 1655 is the only one of the 17th-century maps based on the Bure map in which the border between Sweden and Norway is drawn correctly. Inari, Utsjoki and Kautokeino are marked for Sweden, as they were at the time.[#126] *40×51 cm (JS)*

J. Blaeu's Lapponia – 1:2,000,000[#126]

The map of Finland by Joan Blaeu, described above, covers only Finland south of the Arctic Circle. For Lapland Blaeu published a separate map titled *Lapponia*. In addition to the Lapland of Sweden–Finland, it also shows Northern Ostrobothnia in Finland, Vestrobothnia in Sweden, and most of the Norwegian Finnmark. To the south, the map extends far enough to include most of the Bothnian Bay.

Image (↑): Blaeu's map of Finnmark from around 1660[#127] *contradicts the description of the borders with the map of Lapland by the same publisher (the adjacent map). 38×54 cm (NLF)*

Image (↓): De Wit's map of Lapland from around 1700[#129] *was probably printed on the same plate as the adjacent Blaeu map. 40×51 cm (NLF)*

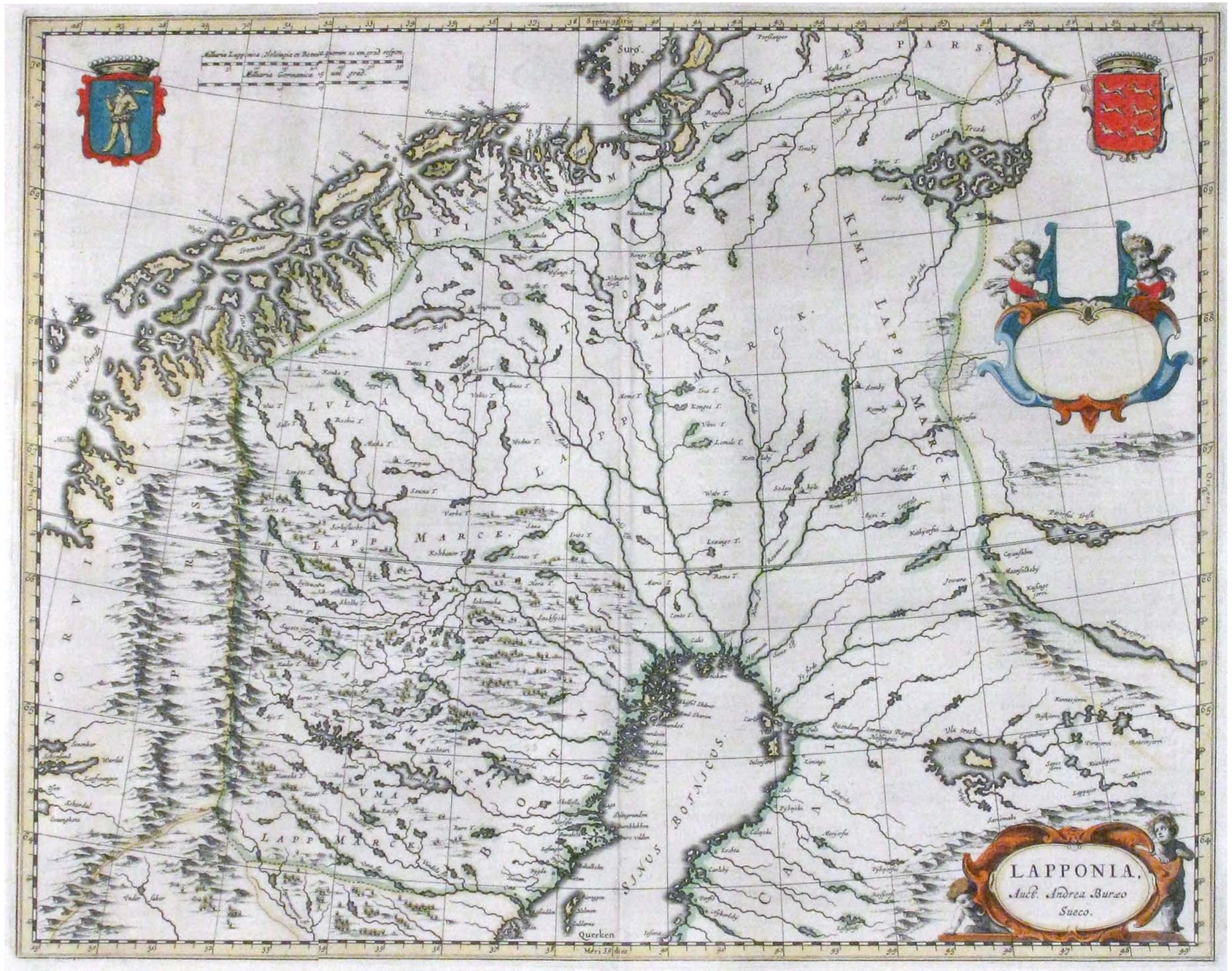
The map specifically depicts the northern parts of the Swedish realm. For the northern parts of Norway, Blaeu published another map titled *Finmarcken*.

The Lapponia map is based on Bure's original map from 1626, except that the border between Sweden and Norway is drawn correctly according to Bure's 1611 map. For this reason, Blaeu's Lapponia was the best map of Lapland of its time.

The map includes an empty cartouche, which was probably intended for a dedication to a sponsor. However, it seems that the Swedish nobility was not willing to provide funding to sponsor a map of such a poor and remote region.

F. de Wit's Sueciæ Lapponiæ et Norvegicæ – 1:2,000,000[#128–129]

In the late 17th century, Frederik de Wit, who had acquired Blaeu's printing plates, published a revised edition of the Lapland map. The following changes were made: The national borders, which Blaeu had drawn correctly, were altered and became erroneous, place names were added along the coast of the Gulf of Bothnia based on Gedda's sea chart, administrative boundaries were marked with dotted lines, and names of the regions were added, the positions of some previously existing names were changed based on Nicolas Sanson's maps, mountain drawings were added, and small changes were made to the depiction of waterways.



Maps of Norden and Sweden-Finland from 1650–1800 based on the Bure map

European map production

Based on Bure's map numerous maps of the Norden and of Sweden–Finland were published during the 17th and 18th centuries. The earliest of these have already been discussed above. In total, dozens of such maps appeared. At least around fifty publishers produced Nordic maps based on Bure's map between the years 1630 and 1800. These maps were published in the Netherlands, France, Britain, Germany, Italy, Austria, and one also in Sweden. This chapter provides a summary of those by showing small images of a part of them and discussing a few maps that deviate from the general pattern.

Erik Dahlberg's map of the Nordic countries

In the early 18th century Erik Dahlberg published his renowned illustrated work *Svecia antiqua et hodierna*, depicting the grandeur of Sweden during its era as a great power. The book includes two relatively small maps of the Norden. One depicts the "former" and the other the "current" Sweden – that is, Sweden at the end of the 17th century. These are the only maps of the entire kingdom published in Sweden during the period 1627–1746.

As far as Finland is concerned, the map of "current" Sweden can be described as a rough generalisation of Bure's map. There is little information, and even that includes fairly significant errors. For example: Lake Päijänne is shown as draining into the Vuoksi water system; the coat of arms of Satakunta and the name Finlandia septentrionalis are placed at the borders of Kainuu, Savo, and Häme; the coat of arms of Ingria is located in the Imatra region; and the northernmost part of Swedish Lapland is marked as belonging to Norway. This raises the question of whether the famous Swedish field marshal Erik Dahlberg's knowledge of his own country could really have been so poor, or whether the map might have been commissioned from a subcontractor. A new and distinctive feature of the map is the inclusion of provincial coats of arms.

Valk's maps of the Norden and Sweden-Finland from ca. 1700

Around the year 1700, the Amsterdam-based map publisher Valk issued maps of Norden and of Sweden–Finland that were largely based on Hondius's edition of Bure's map. However, they differed significantly from the general trend in that the overly broad shape given to Northern Europe by Bure had been narrowed. These maps were likely the first representations in which Bure's systematic longitude error was corrected. Although this improved the proportions, the maps did not gain followers and remained a curiosity.

De L'Isle's map of the Norden 1706

In 1706, the French geographer Guillaume De L'Isle published a larger-than-usual map of the Norden titled *Carte des Couronnes du Nord*, translated as Map of the Northern Kingdoms. The depiction of Finland on this map differs from earlier Bure-based editions and therefore deserves attention. It includes both deteriorations and improvements.

The most significant change is a deterioration: the Gulf of Finland has been shifted about half a degree – roughly 50 km – northward from the correct position assigned to it by Bure. The apparent source of this error is the previously mentioned sea chart by Gedda, which is incorrect in this respect. At the same time, the coastline has been redrawn, and less accurately than in Bure's version. In the Gulf of Bothnia, there is some improvement in that more place names have been added, some of them meaningful – for example, the town of Jakobstad, founded in 1652. The depiction of Lapland is improved compared to most contemporary maps, though not in relation to Bure's original map or Blaeu's map of Lapland. Inari Lapland and Lake Inari are marked as belonging to Sweden–Finland, which was correct. The northern border with Norway appears to have been drawn rather freely. The dispute between Sweden and Denmark–Norway over which country Kautokeino belonged to has been resolved by drawing two Kautokeinos on the map – one for each side of the border. The inland hydrography is more generalised and, for example, much of the Saimaa lake system is depicted less accurately than in Bure's map.

De L'Isle's name is connected to the disappearance in 1704 of the Gripenhjelm map mentioned earlier. The Gripenhjelm map was completed in 1688 and was considered a military secret by Sweden. The stolen map is said to have ended up in De L'Isle's possession, and that he used it as a source for his 1706 map. At least with regard to Finland, however, De L'Isle's map is based on Bure's map, apart from the relocation of the Gulf of Finland. Some of the new place names might be thought to derive from Gripenhjelm, but this seems unlikely. This is because many of the new names in the Gripenhjelm map are missing from De L'Isle's map, while many new names in De L'Isle's map are absent from the Gripenhjelm map. Even the northward shift of the Gulf of Finland more likely originates from Gedda's sea charts.

Despite its shortcomings, the larger-than-usual and revised map by the renowned geographer Guillaume De L'Isle became an authority that many Western and Central European mapmakers of the 18th century followed. Many maps explicitly refer to De L'Isle in their titles or captions. Such maps continued to be published up until the late 18th century.

Maps of Sweden-Finland:

Image (↓): F. de Wit's Sweden-Finland circa 1700. (JS)

Image (↓↓): Lotter's Sweden-Finland circa 1760. (JS)

Image (↓↓↓): Van der Aa's small-sized map of Sweden-Finland from the beginning of the 18th century. (NLF)

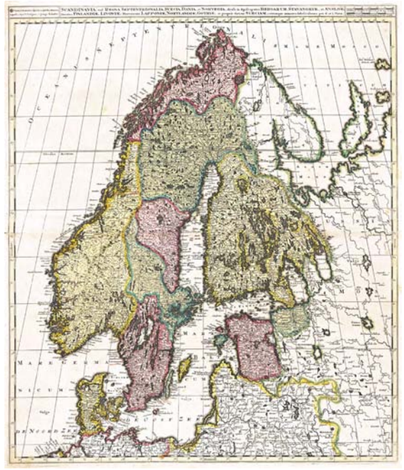


Image (↑): Valk's Norden c. 1710. Note the figure is narrower than usual. (NLF)

← PICTURES ON THE LEFT

Image (top): Blaeu's Norden circa 1633 based on Bure's original map. The shore of the Arctic Ocean at Ruija is marked as belonging to Sweden.[#40] *(NLF)*

Image (2nd top): Hondius's Norden, c. 1638. Sweden-Finland reaches Lake Onega.[#52] *(NLF)*

Image (middle): Sanson's Norden 1658. (NLF)

Image (2nd bottom): Homann's Norden c. 1718. The early edition has a picture of Charles XII. (NLF)

Image (bottom): Moll's Norden in 1720. On the right are Schefferus's Lapland pictures. (NLF)

PICTURES ON THE RIGHT →

Image (top): Dahlberg's Norden, c. 1700. The only map of the entire kingdom published in Sweden between 1627 and 1746. (NLF)

Image (2nd & 3rd top): Elwe's large map of the Norden from the late 18th century is a copy of De L'Isle's map from 1706. (JS)

Image (2nd bottom): M. Seutter's Norden, c. 1720. The image shows Queen Ulrika Eleonora, who reigned from 1719 to 1720. (NLF)

Image (bottom): Jaillot's larger-than-usual map of the Norden c. 1690. (JS)

Maps of Lapland in Schefferus' Lapponia 1673–1705

In 1673, the famous description of Lapland, *Lapponia*, by the Swedish scholar Johannes Schefferus, was published in Frankfurt. The first edition was in Latin. Later on editions were released in German, French, English, and Dutch.

The original edition contains a relatively small map of Lapland[#138]. The map has no title; it is a simplified variation of the Hondius version of Bure's map. It contains very little information. Following the Hondius version, the border between Sweden and Norway is drawn such that the regions of Inari and Utsjoki fall under Norway – which did not correspond to reality, nor to the text of Schefferus's book.

It is unlikely that the map was created by Schefferus himself in any capacity. It was more likely commissioned by the publisher. Else it would be difficult to explain the contradiction between the map and Schefferus's text.

A map with the same content appeared in the 1674 English edition of Lapponia. The map was redrawn, so the depiction of mountains and the placement of nomenclature differ slightly. The dimensions of the map have also changed.

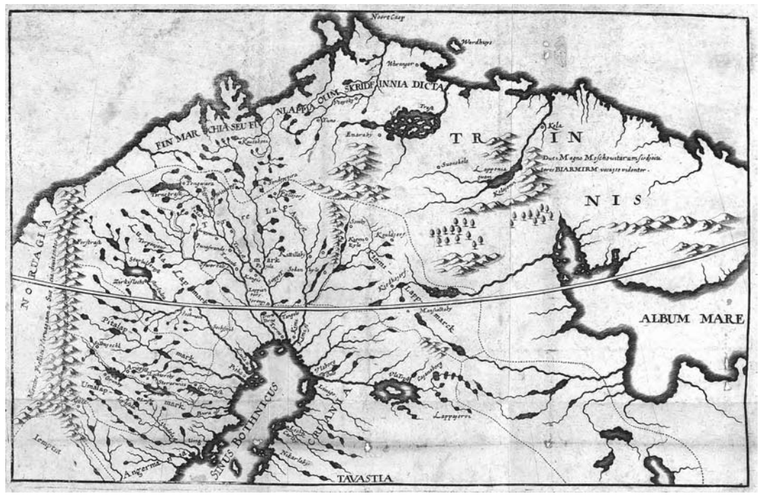
On the map in the 1678 French edition, titled *Carte Nouvelle de la Laponie*[#140], it is noted that it was prepared based on the mathematical observations of the King's geographer, Augustin Lubin. Lubin had translated the book in French. A coordinate system, missing from the 1673 map, was added, though it is not accurately placed. The greatest error and curiosity is that the Arctic Circle has been dropped to the latitude of Luleå and Ii. In the north, the border between Sweden and Norway is drawn better than on the original edition's map to match Schefferus's text, placing the Inari, Utsjoki, and Kautokeino regions within Sweden. However, at the same time, Sweden was given a stretch of the Arctic Ocean coast.

The same map by Lubin, decorated with ships drawn on the Arctic Ocean, appears in the 1682 Dutch edition under the name *Nieuwe Laplantse kaart*[#142]. The 1675 German edition of the book does not contain a map.

The description of the world published by Henri Chatelain in Amsterdam in the early 1700s, consisting of 29 folio volumes, includes a description of Lapland based on Schefferus's work. It also features a small map, *Carte de la Laponie Suédoise*. The map matches the aforementioned ones in its level of detail, but its coverage does not extend to the Arctic Ocean.

Image (↓): Map in the Latin first edition of Lapponia 1673.[#138] *19×30 cm (KB)*

Image (↓↓): Map of the French edition from 1678.[#140] *20×31 cm (NLF)*



Map of the Barony of Cajania from ca. 1651[#157]

In the 17th century, only a few local maps were published in Sweden-Finland. One of these – and the only one depicting Finland – is the map of the Barony of Kajaani, which was granted as a fief to Per Brahe. The map is titled *Tabella geographica Caianiæ, illustrissimi et generosis comitis domini Petri Brahe baronatus*[#157]. The map covers the regions of Kainuu and Northern Savo. On this map, North is oriented to the left.

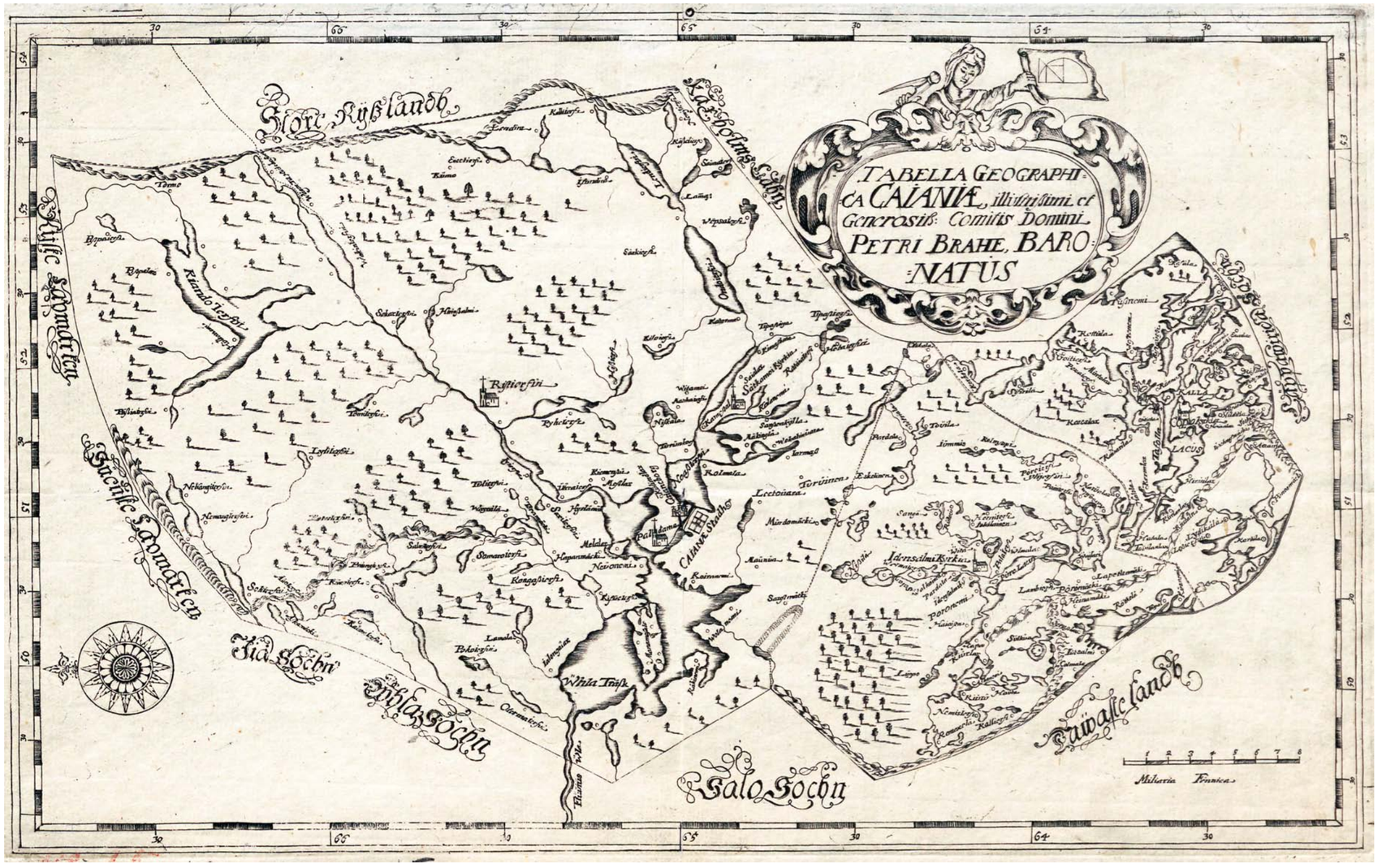
According to Warmholtz, the map was engraved in the 17th century. Lüdeke provides even more specific details: *The map was commissioned to be engraved by the then Lord High Steward (drots) Per Brahe. The plates are still kept in the magnificent Skokloster Castle, which belongs to the comital Brahe family.*[1]

1 Warmholtz no 172; Lüdeke 1796 p. 277.

It is difficult to imagine anyone other than Per Brahe himself as the publisher of the map. Who else would have been interested enough in depicting his lands to fund a map of such remote corners, especially when printed maps did not even exist for the Swedish heartlands? The Barony of Kajaani existed between 1650 and 1681. The map marks the town of Kajaani, which was founded in 1651. The map's data, style, and orthography also date to the latter half of the 17th century. The churches of Kuopio, Iisalmi, Paltamo, Sotkamo, and Ristijärvi are indicated. Ristijärvi is particularly interesting in this regard, as there appears to be no surviving information regarding the existence of a church there as early as the 1600s, other than the markings on this map and the hand-drawn one mentioned next.

The National Archives in Helsinki holds a larger and more detailed hand-drawn map of Kainuu, signed by the surveyor Claes Claesson in 1650. In the sections depicting the core areas of Kainuu around Lake Oulujärvi, the drawings are very similar, suggesting that Claesson may have also drawn the printed map. This is especially likely since no other surveyors were active in the region at that time. On the other hand, there are substantial differences between the maps regarding the outlying areas of Kainuu – the hand-drawn map is much more accurate. Based on this, one might guess that the printed map is actually older than the hand-drawn one.

Image (↓): The Map of the Barony of Cajania from.[#157] *18×29 cm (NLF)*



The End of the Era of Bure's Image

Three Maps that 1747-1797 Ended the Era of Bure's Influence

Bures map from 1626 preserved its status as the main authority of maps of the Norden until the second half of the 18th century. As late as in the end of the 18th century maps based on it were published.

In 1747 the director of the printing office of the Swedish Land Survey Georg Bjurman (1700-1755) published a one sheet map of Sweden that was in all respects better than the Bure map. All the major mistakes of Bur were corrected and a new correct details were added.

Fore some reason the map did not get the attention it would have deserved by foreign cartographers. Not until 34 years later, in 1781 the Danish cartographer C. Pontoppidan published the first map of Norden where the new form given to Sweden-Finland was incorporated to a map of Norden.

However a new standard for the maps of Norden were first reached in 1797 when baron Samuel Hermelin started to publish his atlas of Sweden. Already the first volume had a map of Norden by C.E. Enagrius that was better than anything before it.

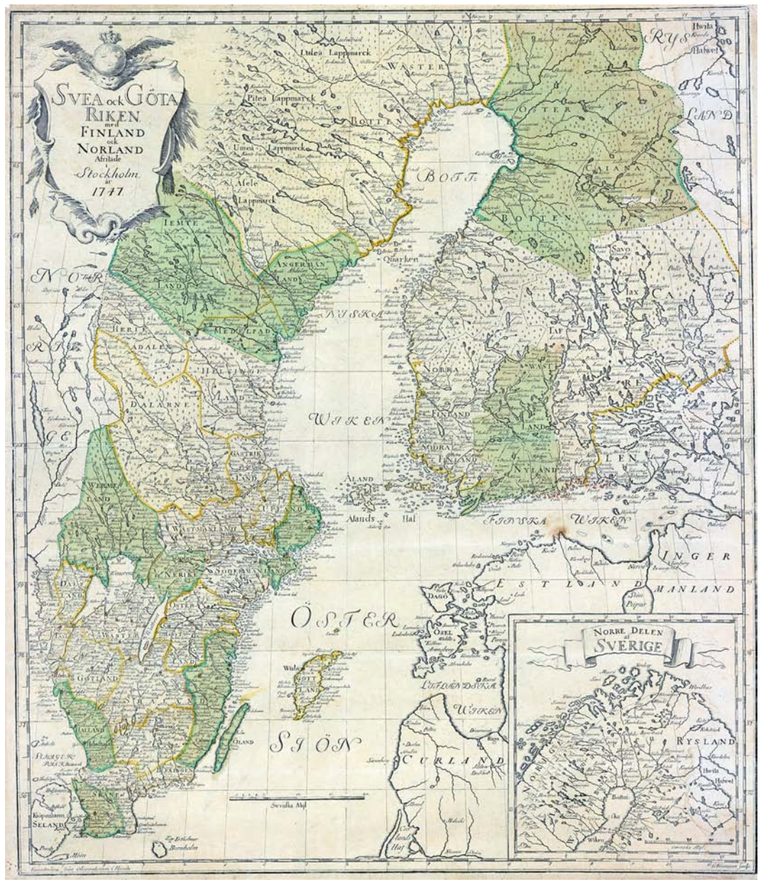


Image (↗): Biurman's map of Sweden-Finland from 1747.#114 *53×45 cm. (EKM)*

Image (→): Enagrius' map of Norden from 1797, in part 1 of the Hermelin Atlas.#121 *54×56 cm. (NLF))*

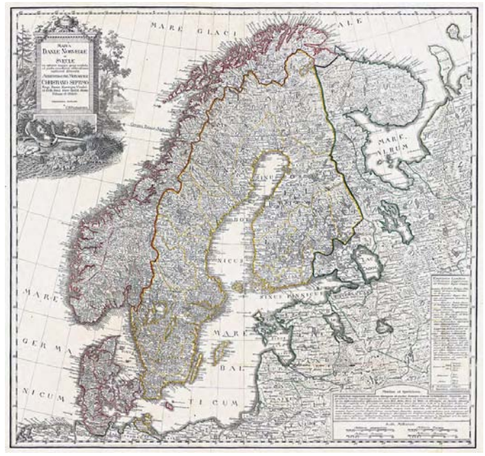


Image (↓): Christian Pontoppidan's map of Norden from 1781.#118 *54×57 cm (NLF)*

Bibliography

Reading Instructions and List of Abbreviations for the Bibliography

Description

In the bibliography th maps have been grouped according to the subject and within every subject put in order after the printing year. The descriptions of the items are based on the original maps themselves when such has been available. Each description consists of a title of the description in bold and the description proper.

The title of the description contains four elements separated by a dash (–). The elements are: Year of publication – Author (if available) and the Title of the map – Scale – the number of the record preceded by the number sign #.

The description record proper contains following elements separated by a dash (–). They are:

1. Title + other text on the map.
2. Scale information.
3. Physical description (size etc.)
4. Comments.
5. Name of the atlas or book in which the map was published.
6. Libraries in which the map has been found. Starting with the word "Map:"
7. Sources. Starting with the word "Source:"

1 Title information field

The field starts with the title of the map followed with other text on the map. Only those parts of the text that are needed for a bibliographical description are copied, such as information about the author, printer, engraver, localities, scale etc. Text that has been copied from the map is in *italics*. In some cases a translation into English of the title is provided in square brackets []. The locations of the texts on the map are described with abbreviations in curly brackets {} in front of the relevant texts. The abbreviations are:

- M = margin
- C = cartouche
- N = North, up
- S = South, down
- W = West, left
- E = East, right
- NW = North-West, up-left
- NE = North-East, up-right
- SW = South-West, down-left
- SE = South-East, down-right
- X = middle
- V = verso (backside)
- K = cover

2 Scale information field

If the scale of the map has not been printed on the map as a ratio, the author has calculated the scale from the geographical coordinates or scale bar or if none of those has been present from a distance between two well-known places. The calculation is in parentheses after the scale. Abbreviations related to the scales of the maps are:

- EM = No scale information is found on the map
- EMK = Neither scale information nor geographic coordinates are found on the map
- JM = Scale as a ratio calculated from the scale bar information
- KM = Scale as a ratio calculated from the coordinates (usually from the distance between the southernmost and the northernmost latitudes on the map)
- ~ = about, the scale has been calculated and is therefore an approximation
- s = Sazhens or Russian fathoms (2.1336 meters)
- v = Russian versts (500 sazhens = 1,066.8 m)
- k = Swedish and Finnish alns (aln, kyynärä) (0.594 m)
- pk = Swedish and Finnish miles (mil, peninkulma) (18,000 alns = 10,688 m)
- sp = German miles (4' = 7,408 m)
- " = English inches (0.0254 m)
- ° = Geographic degrees (111,120 m)
- ' = Geographic minutes or nautical miles (1/60 degrees = 1,852 m)

3 Physical description field

The field usually contain information about the printing method and the size of the map. In most cases the size measurements have been done by the author in which case there often is the sign ** (not always). The author has measured the size from the innermost margin lines which gives the size of the map proper without margins (which could be called the "cartographical size"). Height is before width. When the map has not been measured by the author, the size information has been taken from bibliographies or library catalogues etc. and the authors of those may have used different methods. A common practice used by librarians has been to take measurements from the outermost margin lines (which could be called the "typographical size").

6 Libraries field (Map:)

The field contain a semicolon separated list of the collections in which the author of the book has located the map. The field begins with the word "Map:". Each item in the list contain the abbreviation of the collection and the signum of the map in the collection. List of abbreviations used is below

Example. "NLF Enckell 999; KA MHA 1m7" means that one copy has been located in the National Library in Helsinki (NLF) with the signum "Enckell 999" and another copy in the National Archives in Helsinki (KA) with the signum "MHA 1m7".

The abbreviations are:

- BL = British Library, London
- BN = Bibliothèque nationale de France, Paris
- DKB = Det Kgl. Bibliotek (Royal Library), Copenhagen
- EKM = Etelä-Karjalan museo (South Karelia Museum), Lappeenranta
- faks = faksimile
- JN = John Nurminen Foundation, Helsinki
- JS = Jan Strang (the author)
- KA = Kansallisarkisto (National Archives), Helsinki
- KB = Kungliga Biblioteket (Royal Library), Stockholm
- KBN = Koninklijke Bibliotheek (Royal Library), Amsterdam
- NLF = Kansalliskirjasto (National Library), Helsinki
- KrA = Krigsarkivet, Stockholm
- MV = Museovirasto (Finnish Heritage Agency), Helsinki
- RA = Riksarkivet (National Archives), Stockholm
- SKS = Suomalaisen Kirjallisuuden Seuran kirjasto (Finnish Literary Society), Helsinki
- TYK = Turun yliopiston kirjasto (Turku University Library)
- UUB = Uppsala universitetsbibliotek (Uppsala University Library)
- UU = Universiteitsbibliotheek, Utrecht
- VMC = Vikimedia Commons (internet)
- Y = (Private person)

7 Sources field

The field contain a semicolon separated list of sources and additional reading.

Addenda in the English edition

This Bibliography was made in 2012, what mean that the new information about the different editions of the large Hondius edition of 1635 of the Bure map have not been controlled. Probably there are differences in his and mine descriptions. However I have not made changes to my text as it would have required also control of other sources, in which work I have not possibilities at the moment.

The Bure map of 1626

Map of Norden by Bure – Orbis Arctoi

1626 – A. Bure: *Orbis arctoi nova et accurata delineatio* – 1:1,960,000 – #35

{M-N:} *Orbis arctoi nova et accurata delineatio, Auctore Andrea Bureo Sueco [= A new and accurate drawing of the Arctic, by Andreas Bureus, Swed].* {SE:} *V.S. Trauthman sculpsit et excud.* {C-SE:} *Exhibeo tibi, lector benevole, Orbis Arctoi, imprimisque amplissimi Regni Sueciae tabulam, maiori quam unquam antehac studio elaboratam... Milliaria [scale bars]...* {NW:} *[Cartouche with the portraits of King Gustavus Adolphus and Queen Maria Eleonora and the dedication texts:] Gvstavvs Adolphvs Dei gratia, Suecorum, Gothorum, Vandalorum rex, Magnus princeps Finlandia, dux Esthonia et Carelia nec non Ingria dominus.* [and] *Maria Eleanora Dei gratia Suecorum Regina magna princeps Finlandia, ducissa Estonia et Carelia Ingriaqz domina. Nata marchionissa e domo electorali Brandenburgensi, Borussice Juliaci, Clivia ac Montium etc. dux.* – KM ~1:2,000,000 (453 mm/8°). 0-meridian at Corvo in the Azores archipelago, 31° west of Greenwich. – The map consists of six (2×3) separately printed copper-engraving sheets intended to be joined together. The size of each sheet is 560×421 mm, measured from the Lönborg facsimile. From this, the dimensions of the copperplate set including margins are (2×560 mm)×(3×421 mm) = 1120×1263 mm and the actual map area (without margins) 1078×1221 mm. The following information has been given as the size in different sources: Size of the sheets 57×43 cm (Raid) or 56.5×42 cm (Ehrensvärd). Dimensions of the entire map: 108×124 cm (kb), 113×129 cm (Raid) or 118×133 cm (Ehrensvärd) or 113×126 (Ehrensvärd, sum of the sizes of the individual pages) or 150×160 (Lönborg). The actual map is framed in all directions by a series of pages printed separately in the printer's office, joined together, forming wide margins for the map. The title information of the map is placed in large woodcut letters in the upper margin, across the entire width of the map. The side and bottom margins consist of 16 folio-sized text pages. The first of these reads as the title of the text: *Orbis arctoi, imprimisq; Regni Sveciæ descriptio.* The place of printing of the texts is marked on the page in the lower right corner: *Impressa Stockholmiae, Praelo Reusneriano, Anno MD.CXXVI* [= 1626]. The dimensions of the whole, including the surrounding text and frame, are approximately 168×180 cm. – Map: Richter 1936 knows of seven complete copies of the map in the following collections: Kungliga Biblioteket (Stockholm), Krigsarkivet (Stockholm), Uppsala University Library (3 copies), Det. Kongl Norske Videnskapers Selskab (Trondheim) and the private collection of Captain C. Gripenstedt (Bysta, Närike). In addition, he mentions three incomplete copies in the following collections: Landtmäteriverket, KB and UUB. According to Ehrensvärd, about 15 copies of the map have survived to our days. but he does not say where they are located.

1866 – Mandel's facsimile edition – 1:2,000,000 – #36

In 1866, Philip Heinrich Mandel made a ten-copy photolithographic reprint of the 1626 map. The model was the copy in the Royal Library in Stockholm, which at that time was in six separate sheets (later the library combined the sheets and included the frame sheets acquired elsewhere). The facsimile does not include the surrounding title and text sheets. – KM ~1:2,000,000 (441 mm/8°). – 10041×1214 mm (KA). – Map: NLF (in six separate sheets, each of which was glued to sturdy cardboard early on); KA Muut maat Ipo. 9 (A large wall map, worn and repaired).

1907 – Lönborg facsimile edition (southeastern sub-page only) – 1:1,960,000 – #37

In 1907, Sven Lönborg published a folio-sized book, Swedish Maps, which contained facsimiles of early Nordic maps. The map reproductions are in black and white, but the print is sharp so that even on reduced maps the text is usually legible. The work includes the sub-page in the lower right corner of the Bure map printed on the original copper plate from 1626. That plate was the only one of the six plates preserved in 1907. The sheet mainly depicts the Russian region, but also includes part of Finnish Karelia and a little bit of Savo. Savonlinna is in the northwestern corner of the sheet. The sub-page also has a cartouche with scale bars. The print is very sharp, which some what casts doubt on Warmholtz's claim at the end of the 18th century that the plates were already very worn at that time. – 539×405 mm.** – Map: NLF.

1936 – Richter's facsimile edition – 1:2,000,000 – #38

In 1936, Herman Richter, in collaboration with Wilhelm Nordlind, published a new facsimile edition of the map together with a text section of about fifty pages. The text section includes a rather extensive introduction and the text surrounding the original map in the original language Latin and translated English. The facsimile is based on a fairly good copy from Uppsala University (one of three copies in the library). The printing is substantially sharper than in Mandel's edition. – KM ~1:2,000,000 (443 mm/8°). – Title of the publication: *Orbis arctoi nova et accurata delineatio auctore Andrea Bureo Sueco 1626 edited by Herman Richter in collaboration with Wilhelm Nordlind* (Meddelanden från Lunds universitets geografiska institution : Avhandlingar III). – 107×127 cm. – Map: NLF I.2./4.a.; TYK.

1631, 1632, 1633, 1634, 1639, 1936, 1985 – Book-format editions of the surrounding text of the Bure map – #39

The text surrounding the map was printed separately in book form in several editions, at least as follows: 1631 (Wittenberg: Tham), 1631 and 1633 (Leiden: Elzevier), 1632 (Zwickau: Göpner & Leipzig: Grossen), and 1634 and 1639 (Rinteln: Lucius). Richter published the text in 1936 in its original Latin and translated into English. In Finnish, the text was published in a translation by Tuomo Pekkanen in 1985.[1]

Vischer's (Piscator's) reduced edition of Bure's map

1630 – N. Piscator: *Tabula exactissima regnorum Sueciæ et Norvegiæ, nec non Maris universi orientalis, terrarumq adjacentium* – 1:5,800,000 – #40

{C-NW:} *Tabula exactissima regnorum Sueciæ et Norvegiæ, nec non Maris universi orientalis, terrarumq adjacentium, summo studio ab Andræa Bureo sueco. In lucem edita, noviter seria cura, singulariq, zelo, dedicatur humillime Gustavo Adolpho d.g. suecorum, gothorum, vandalorumq regi, magno duci Finlandiæ, duci Esthoniæ, ac Careliæ, Ingriæq domino etc. a Nicolao Piscatore.* {S:} *Abraham Goos sculpsit 1630.* {C-SE:} Scala miliarium... [6 scale bars]. – KM = ~1:5,800,000 (289mm/15°). – Copperengraving. 360×437 mm.** – The year 1630 is missing from some apparently later, but still early, editions. The British Library catalogue mentions a copy with the year 1631. Keuning, and apparently based on him, Ehrensvärd mentions that there was also an edition of the map with the year 1628. (Keuning 1939; Ehrensvärd 2006). I have not been able to verify the existence of such an edition. In connection with the mention of Keuning, there is a reference to his earlier publication. However, the cited source only mentions the 1630 edition. – Map: NLF I.2/8; Enckell 317, 319a, 319b, 320.

Blaeu's reduced edition of Bure's map

1634 – J. Blaeu: *Svecia, Dania, et Norvegia, regna Europæ septentrionalia* – 1:4,850,000 – #41

{C-NW:} *Svecia, Dania, et Norvegia, regna Europæ septentrionalia. Iuxta archetypum Andreæ Burœi de Boo, secretarij, et supremi Regni Sueciæ architecti.* – KM 1:4,850,000 (344mm/15°). – Copper-engraving. 409×515 mm.** – First included in Blaeu's Novus Atlas in 1634 (see Keuning 1959 p. 79) and subsequently in many atlases. – Map: NLF Enckell 231, 259, 260; I.2/11.a; I.2/11.

1 Collijn 1942, II, p. 122; Richter 1936; Pekkanen 1985.

Blaeu's Map of Sweden-Finland

1645 – J. Blaeu: *Svecia regnum* – 1:4,000,000 – #42

{C-NW:} *Svecia regnum. Avct. Andrea Burœo Sveco* {C-NE:} *D. Carolo Gvstavo, Svecorvm, Gothorvm regi ac principi hæriditario J. Blaeu.* – 1:4 milj(Koeman). – Copper-engraving. 428×490 mm(NLF-n) – Based on Bure's 1626 map, but the borders of the kingdom have been added and corrected for both the Norwegian and Russian borders. In Lapland, the border has been drawn according to Bure's 1611 map of Lapland. In Jämtland, the border has been drawn so that the province remains on the Swedish side, to which it was annexed in 1645. – Map: NLF N I p. 55, vol. II[2].

The large Hondius edition of the Bure map revised by Massa and Gerritsz

Hondius edition of the Bure map (Massa-Gerritsz edition)

1635 – A. Bure, I. Massa, H. Gerritsz & H. Hondius: *Orbis Arctoi. Nova et Accvrata delineatio* – 1:2,000,000 – #43

{C-NW:} *Orbis Arctoi. Nova et Accvrata delineatio. Auctore Andreo Bureo Sveco.* {C-S:} *Habes bic beneuole lector, Orbis Arctoi, imoprimisqz Regni Sueciæ accuratissimam tabulam, nuper quidem per' doct. virum 'd Andr. Burœum delineatam, sedpostes de integro, per Hesselium Gerardi atqz Isaacum Massam, viros perutissimos, emendatam, meaqz iam curate sumptu æri incinam, multisqz in locis mutatam et auctam vale. Tuus Henricus Hondius.* – Copper-engraving. 106×124 cm (KB) – Map: KB; DKB, BN, Bern, Zürich.

Between 1635–1660 – Blaeu edition – 1:2,000,000 – #44

{C-NW:} *Regnorvm Sveciæ, Daniæ et Norvegiæ descriptio. Auctore Andrea Bvrœo Regni Sueciæ secretario.* {C-S:} *Habes bic beneuole lector, Orbis Arctoi... auctam vale. Amstelædami. Ioannes Blaev excudebat.* – Copperengraving. 109×127 cm (including frame printings 128×159.5 cm) or 106×124 cm(KB) or 108×124 cm(dkb) or 110×126.5 cm(BN) – Map printed with the same plates as the 1635 Hondius edition. The cartouche in the upper left corner is printed separately and differs from the cartouche of original map. The map does not have a title strip at the top, but the title is in the cartouche. The preface for map readers is signed by J. Blaeu. According to Schilder (1984), there is also a version of the map in which the preface is signed by Hondius. According to Schilder, this would be the case, for example, in the London, Rostock and Berlin copies. However, this is not the case in the Berlin copy, which is signed by Blaeu. I have not checked the London and Rostock copies. – Map: Schilder (1984) knows of six surviving copies in the following collections: Staatsbibliothek zu Berlin (in the giant atlas known as "Grand Elector's Atlas"), British Library (London, in giant atlas "Klencke's Atlas", Universitätsbibliothek zu Rostock (in the Giant Rostock Atlas), Kungliga Biblioteket (Stockholm) and Bibliothèque Nationale (Paris, 2 copies, one of which as six separate sheets). In addition, the map is at least in Det Kongelige Bibliothek in Copenhagen.

Late 17th century – De Wits edition – 1:2,000,000 – #45

Map: KB (106×122 cm), Private (only with the town views preserved).

Late 17th century – Pierre Mortier edition – 1:2,000,000 – #46

Map: KB 2 copies (100×123 cm and 101×123 cm), Bitburg, Flensburg

Early 18th century – Covens & Mortier edition – 1:2,000,000 – #47

n the early decades of the 18th century, the map publishers Covens & Mortier published a reprint of the Hondius edition. It is obvious that they had acquired the plates from Blaeu's heirs. According to Ehrensvärd, the 1737 sales catalogue of the firm included the following entry: Les Royames de Suede, Denemarque & Norwege par Andrea Buraeo secretaire du roi, 6 feuilles. The title cartouche is the same as Blaeu's, but above it the names of Covens and Mortier have been added. – Map: BL, DKB, ÖNB, Bern, Dresden, 3 private collections. One copy was sold at Sotheby's auction in London on 23 October 1986 (lot no. 103). The item was purchased by the Amsterdam antiquarian Israel.

1907 – Lönborg's facsimile of the Hondius edition – 1:4,800,000 – #48

The book *Swedish Maps* published by Sven Lönborg in 1907 contains a reduced black-and-white facsimile of the Hondius edition in the Royal Library of Stockholm, printed in two parts. The quality of the print is so good that, despite the considerable reduction, the texts are readable with a magnifying glass insofar as they have not been worn away from the original. – KM ~1:4,800,000 (185 mm/8°). – Size: 446×(273+268) [the parts together would be 519 mm wide]. – Map: *NLF HF.56–421.

1971 – Berlin facsimile of the Blaeu edition – 1:3,500,000 – #49

A reduced facsimile edition of the gigantic, so-called Atlas of the Great Elector (*Atlas des Grossen Kurfürsten*) held by the Berlin State Library was published in Leipzig in 1971. This "second largest book in the world" weighs 125 kilograms. It also includes a facsimile of the Blaeu edition of the Bure map. The original map is colored and the facsimile is printed in color. The print is of high quality – all texts are legible. – KM ~1:3,500000 (256 mm/8°). – Copper-engraving. 614×714 mm. #44. – Map: *NLF työh. N. (atlas).

Hondius' one sheet map of his 6-sheet edition of the Bure's map

1638 – H. Hondius: Sveciæ, Norvegiæ et Daniæ – #52

{C-NW:} *Sveciæ, Norvegiæ et Daniæ. Nova tabula.* {S:} *Amstelodami. Henricus Hondius excudit.* – Copperengraving. Approx. 47.5x55.5 cm. – Map: I have seen only an image of a later edition of the map in an auction catalogue (Stockholms Auktionsverk 26.10.2015).

17th century separate maps of Finland

Map of Finland by Blaeu

1651 ca. – J. Blaeu: *Magnus Dvcatus Finlandiæ* – 1:2,000,000 – #55

{C-NE:} *Magnus Dvcatus Finlandiæ. Auct' Andrea Burœo Sueco.* {C-NW:} *Perill.ac generos.mo domino Gvstavo Horn comiti Biörneburgi, b. in Marienburgh, dñ. in Hering et Malla, etc. S.æ R.æ Regnorumq Sueciæ senatori et campi mareschallo, Finlandiæ australis iudici provinciali. equiti aurato. Tabulam hanc d.d. J. Blaeu.* {C-SW:} *Milliaria Finnonica et Cajanica quorum 18 uni grad. respondent [line 95 mm] [0]...30. Milliaria Germanica 15 unum grad. conficiunt [line 95 mm] [0]...25.* – JM ~1:2,000,000. – Copper-engraving. 420×508** – Map: JS; *NLF Enckell 111 (thick paper). – Sources: KE (K.R. Melander's writing about Gustav Horn); Koeman I pp. 67–, 207.

Map of Finland by Janssonius' heirs

1669 ca. – J. Janssonius, her: Magnus Ducatus Finlandiæ – 1:2,000,000 – #58

{C-NE:} *Magnus Ducatus Finlandiæ Nova et accurata delineatio.* {SE:} *Apud Heredes Ioannis Ianssonii.* {C-NW:} *Literis et morum... d.no Jacobo Schütz, sueco...* – JM ~1:2,000,000 (93 mm/15 sp). – Copper-engraving. 413×501 mm. – Map: KrA utl.k.Finl. nro 11; *KA Yleisk. Ia 1. – Sources: Tooley 1979; Taylor 1940; Koeman II p. 162 & 18.3. According to Koeman, the map first appeared in an atlas: *Nieuwen atlas* v. 1658.

1680 ca. – Janssonius-Waesberg & Moses Pitt edition – #59

{C-NE:} *Magnus Ducatus...* {SE:} *Sumbtibus Janssonio-Waesbergiorum; et Mosis Pitt.* – Otherwise as first edition. – Map: NLF Enckell 113; NLF III.1./3.; Yks; JS.

1700 ca. – Valk & Schenk edition – #60

{C-NE:} *Magnus Ducatus Finlandiæ...* {S:} *Amstelædami penes Gerardum Valk et Petrum Schenk.* – Otherwise as first edition. – Map: NLF III.1./3. (2 copies, the second glued to cardboard); *Kr A Utl.k.Finl 13; NLF Enckell 114..

de Wit's map of Finland (revised Blaeu map)

1695 – F. de Wit: *Nova tabula Magni Ducatus Finlandiae* ('Schans ter Nyen' -version) – 1:2,000,000 – #61
{C-NE:} *Nova tabula Magni Ducatus Finlandiae in provincias divisa, multis locis aucta et correcta per F. de Witt.* – JM ~1:2,000,000 (56mm/15 sp). – Copper-engraving. 420×507 mm.** – St. Petersburg is not marked. The fortres "*Schans ter Nyen*" is marked at the mouth of the Ohta River. – Map: Seen at the Antiques Shop Ortelius on 9.2.2003 (2 copies). – Sources Koeman II p. 45, 49, 52 and III p. 191.; Warmholtz.

1700? – 'Schans ter Nyen' -version with "ex officina de Witt" marking – 1:2,000,000 – #62
{C-NE:} *Nova tabula...* {SW:} *Amstelodami ex officina I.F. de Wit. Cum privilegio ord. Hollandia et Westfrisiae.* – Otherwise similar to the previous one. 418×504 mm. – Map: NLF III.1./65. (old colouration has worn through); JN; KA Yleisk. Ia 79.

1710 ca. – Pierre Mortier edition – 1:2,000,000 – #63
Warmholz mentions an edition described as "*Finlandia, a Fr. de Wit aucta & correcta. Amst ap. P. Mortier*" (Warmholtz I, item 160). The old catalogue of the Harvard University Library (online) mentions a map with the entry *ex officina Petri Mortier.*

1725 ca. – 'St. Petersburg on the site of Peterhof' -edition – 1:2,000,000 – #64
{C-NE:} *Nova tabula...* – As in the original edition, but Peterburg is marked as a small fortress between Peterhof and Oranienbaum. – Map: Seen in second-hand shops in 1991 and 1998.

1725 ca. – 'St. Petersburg on the site of Peterhof' -edition with "ex officina Covens & Mortier" marking – 1:2,000,000 – #65
{C-NE:} *Nova tabula...* {SW:} *Amstelodami ex officina I. Covens et C. Mortier. Cum privilegio ord. Hollandia et Westfrisiae.* – Otherwise as above. – The dating is based on what Koeman says about the addition of the "*Ex officina...*" marking to the maps in the Covens and Mortiers 1725 atlas. The partnership between Covens and Mortier began in 1721, so the map could not have been published before that. – Map: NLF Enckell 117; NLF mf III.1./65a.; KrA/Utl.k.Finl. (414×501 mm).

1743 ca. – 'The Battle of Willmanstrand' -edition – 1:2,000,000 – #66
{C-NE:} *Nova tabula...* – Like the original edition, but there are substantial changes in Southeastern Finland and Ingria: St. Petersburg is drawn as a large city, filling the entire Neva delta. The locations "*Wahelax ou Fredricshamn*" and "*Willmanstrand*" are marked in Finland. Below the latter, a sword and the text "*Sept. 1741*" have been added to mark the battle. The map was apparently revised during war in 1742 or 1743. – Map: JS.

1743 ca. – 'The Battle of Lappeenranta' -edition marked "ex oficina Covens & Mortier" – 1:2,000,000 – #67
{C-NE:} *Nova tabula...* {SW:} *Amstelodami ex officina I. Covens et C. Mortier. Cum privilegio ord. Hollandia et Westfrisiae.* – Otherwise as above. – Map: NLF Enckell 118; Yks.

Maps of Finland in scale 1:880,000 in Sanson's atlas Cartes Générales from 1666

The maps were included in the fourth expanded edition of Sanson's atlas *Cartes Générales de toutes les parties du monde* published in 1667, its first part. – Sources: Pastoureau p. 413.

The following are only descriptions of the maps of Finland south of the Arctic Circle. Information on the maps of Lapland is given further on: See numbers #130–137.

Sanson's Finland Proper, Satakunta, Häme and Uusimaa

1666 – N. Sanson: Finlande Septentr'le, et Merid'le, Nylande, et Tavasthus – 1:880000 – #70
{C-N:} *Finlande Septentr'le, et Merid'le, Nylande, et Tavasthus. Tirée de celles d'Andr Burœ et de Isaac Massa. Par le Sr Sanson geogr. ordre. du Roy. A. Paris chez l'Autheur.* – Otherwise as in the following Mariette edition. – Map: NLF Enckell 103.

1666 – chez Mariette version – #71
{C-N:} *Finlande Septentr'le, et Merid'le, Nylande, et Tavasthus. Tirée de celles d'Andr Burœ et de Isaac Massa. Par le Sr Sanson geogr. ordre. du Roy. A Paris chez Pierre Mariette. Rue St Jacques a l'Esperance. Aveq privilege pour vingt ans. 1666.* – KM ~1:870,000 (255 mm/2°). – Copper-engraving. 403×548 mm.** – Map: *NLF III.2./1 (glued on cardboard); NLF NC p. 258.

1703 edition – #72
Information from the antiquarian Baskes' (USA) catalogue in 2005 and in Jonathan Potter's catalogue (16.10.2005).

1741 – Robert de Vaugondy edition – #73
Information and image seen in an online map seller's catalogue in 2004.

Sanson's Karelia and Ingria

1666 – N. Sanson: *La Carelie, et l'Ingrie, ou Ingermenland* – 1:880,000 – #74
{C-SW:} *La Carelie, et l'Ingrie, ou Ingermenland. Par le Sr Sanson geogr. ordre. du. A. Paris chez l'Autheur. Aveq privilege pour vingt ans 1666.* – KM ~1:880,000 (63 mm/30'). – Copper-engraving. 440×520 mm.** – Map: JS.

1666 – chez Mariette version – #75
{C-SW:} *La Carelie, et l'Ingrie... A. Paris chez Pierre Mariette rue St. Iacques a l'Esperance. Aveq privilege pour vingt ans 1666.* – Otherwise as above. – Map: NLF III.2./2; NLF NC p. 258.; Yks.

1741 – Robert de Vaugondy edition – #76
{C-SW:} *La Carelie, et Ingrie. Par le Sr Sanson geogr. ordre du Roy A. Paris. Chez le S. Robert Geographe ord. du Roi quai de l'Horloge du Palais. Avec privilege pour vingt ans 1741.* – Map: Seen in the late 1990s in an antique shop by the Tallinn market square.

Sanson's Savo, North Karelia and Ladoga Karelia

1669 – N. Sanson: Savolax et Kexholm – 1:880000 – #77
Not seen, but apparently published.

1666 – chez Mariette version – #78
{C-NE:} *Savolax et Kexholm. Tirées du diverses Memoires, par le Sr Sanson geographe ordinaire du. A Paris. Chez Pierre Mariette. Rue St Jacques a l'Esperance. Avec privilege du pour vingt ans 1669.* – EM. KM ~1:880,000 (254 mm/2°). – Copper-engraving. 432×530 mm.** – Map: *NLF Enckell 144; NLF NC p. 258.

1688 edition – #79
Information from two antiquarian booksellers' sales catalogues in 2005.

1741 – Robert de Vaugondy edition – #80
Information in antiquarian booksellers' catalogue (Kaaber, Denmark, 16.10.2005).

Sanson's Ostrobothnia

1666 – N. Sanson's Cajanie, ou Bothnie orientale – 1:880000 – #81
{C-NE:} *Cajanie, ou Bothnie orientale. Tirée de celles d'Andr Burœ et de Isaac Massa. Par le Sr Sanson geogr. ordre. dy Roy. A. Paris chez l'Autheur. Aveq privilege pour vingt ans 1666.* – JM ~1:880,000 (63,5 mm/30'). – Copper-engraving. 409×548 mm.** – Map: SKS; NLF Enckell 146; KA MHA Ieb. 2..

1666 – chez Mariette version – #82
Map: VV 37/2058; NLF NC p. 258.

1741 – Robert de Vaugondy edition – #83
Seen in an antiquarian map seller's catalogue.

Bure's Lapland

Bure's "Map of Lapland"

1611 – A. Bure: *Lapponiæ, Bothniæ, Cajaniæ qve regni Sveciæ provinciarvm septentrionalivm nova delineatio* – 1:4,200,000 – #35
{C-NW:} *Lapponiæ, Bothniæ, Cajaniæ qve regni Sveciæ provinciarvm septentrionalivm nova delineatio. Sculpta anno domini 1611.* {C-NE:} *Illustrissimo principi ac domino dno Gustavo Adolpho regni Sueciæ principi hereditario magno duci Finlandiæ. Nec non Esthoniæ Wesmanniæque duci. Domino suo clementeissimo, hanc septentrionalium regionum tabulam submisse offert dedicatque Andreas Bureus.* {C-SE:} *Na harum regionum miliaria quod attinct: sunt fere Lapponica et Bothnica talia, quorum viginti dua singulis latitudinis gradibus competunt, Cajanicorum vero octodecim: ut subjunctæ monstrant scala. Miliaria Lapp. et Both: [line 38,5 mm] [0]...32. Cajan: [line 46,5 mm] [0]...32.* – JM ~1:4,200,000 (38,5mm/32×1°/22). – Copper-engraving. 236×296 mm (measured from a facsimile said to be made to a scale of 1:1 in the Ymer magazine). – The map shows the northern part of Fennoscandia from the 63rd latitude north. The northern parts of Finland are visible as far as Vaasa and Kuopio. – Map: KB; Trolleholm Castle in Skåne. – Sources: Ahnlund 1928; Pekkanen (states scale as 1:3,500,000); Lönborg 1901A; Lönborg 1907; Ehrensvärd 2006 p. 130.

1901 – S. Lönborg's 1901 edition – #124
A facsimile edition of the map was published as a folding supplement to the magazine Ymer in 1901. – Map: NLF; HYK.

1907 – S. Lönborg's, 1907 edition – #125
A facsimile of the map is included in Sven Lönborg's book "Swedish maps", 1907. – Map: NLF.

Blaeu's and de Wit's Lapland maps, 1650–1725

Blaeu's Map of Lapland

1662 – J. Blaeu: *Lapponia* – 1:2,000,000 – #126
{C-SE:} *Lapponia. Auct. Andrea Buræo Sueco.* {NW:} *Milliaria Lapponica...* – JM ~1:2,000,000 (94 mm/25 sp). – In the upper left corner is the coat of arms of Lapland. In the upper right corner is the coat of arms of Ostrobothnia, below which is an empty, textless cartouche intended for dedication. – Map: *JS.

Blaeu's Map of Finnmark

1662 – J. Blaeu: *Finmarchia* – 1:1,200,000 – #127
{C-NW:} *Finmarchia.* {SE:} *Milliaria Germanica...* – KM ~1:1,200,000 (282mm/3°). – Copper engraving. 378×537 mm.** – Map: NLF N.

de Wit's map of Lapland

1695 – F. de Wit: *Sueciæ Lapponiæ et Norvegicæ* – 1:2,000,000 – #128
{C-SE:} *Sueciæ Lapponiæ et Norvegicæ. Nova tabula, multis locis aucta, in provincias divisa, et correcta, per F. de Witt Amstelodami. Cum Privilegio.* – JM ~1:2,000,000. – Copper-engraving. 399×509 mm. – Map: DKB.

1705 ca. – P. Mortier -painos – 1:2,000,000 – #128b
As previous except: {M-SE:} *Ex officina P. Mortier.* – Map: DKB.

1725 ca. – Covens & Mortier edition – 1:2,000,000 – #129
As above except: {NW:} *Ex officina I. Covens et C. Mortier.* – JM ~1:2,000,000. – Copper-engraving. 399×509 mm.** – Map: NLF Enckell 108; JS.

Sanson's Maps of Lapland

Sanson's map of the western part of Swedish Lapland (Luleå, Piteå and Torneå, Laplands)

1666 – N. Sanson: *Partie occidentale de la Lapponie Suedoise* – 1:880,000 – #130
Not seen, but presumably exists and is, except for the "chez Author" marking, similar to the chez Mariette version.

1666 – chez Mariette version – #131
{C-NW:} *Partie occidentale de la Lapponie Suedoise. Tirée de celles d'Andr Burea et de Isaac Massa. Par le S.r Sanson Geogr. ord.re du roy. A Paris chez Pierre Mariette Rue St Iacques a l'Esperance. Avec privilege pour vingt ans. 1666.* – JM ~1:880,000 (63 mm/30'). – Copper-engraving. 410×518 mm.** – Map: NLF Enckell 103; NLF NC p. 258. – Sources: Pastoureau p. 413 no. 185.

1741 – Robert de Vaugondy edition – #132
Not seen.

Sanson's map of the eastern part of Swedish Lapland (Kemi Lapland)

1666 – N. Sanson: *Partie orientale de la Lapponie Suedoise* – 1:880,000 – #133
{C-NW:} *Partie orientale de la Lapponie Suedoise... Geogr ord du roy. Chez l'Auteur. Avec privilege pour vingt ans. 1666.* – Otherwise as follows. – Map: JYK (Fredrikson 1993).

1666 – chez Mariette version – #134
{C-NW:} *Partie orientale de la Lapponie Suedoise. Tirée de celles d'Andr Burea et de Isaac Massa. Par le Sr Sanson Geogr ord du roy. A Paris chez Pierre Mariette Rue St Iacques a l'Esperance. 1666. Avec privilege pour vingt ans.* – JM ~1:880,000 (63 mm/30'). – Copper-engraving. 409×519 mm.** – Map: NLF III.2./3a; NLF Enckell 102; NLF NC p. 258. – Sources: Pastoureau p. 413 no. 186.

1741 – Robert de Vaugondy edition – #135
Information seen in a map sellers catalogue.

Sanson's map of Finnmark

1668 – N. Sanson: *Gouvernement de Wardhus* – 1:880,000 – #136
Not seen, but presumably exists.

Not seen, but presumably exists.
{C-NW:} *Gouvernement de Wardhus. Tiré de divers memoires. Par G. Sanson Geographe ordinaire du Roy. A Paris. Chez P. Mariette Rue St Iacques a l'Esperance. 1666. Avec privilege pour 20 ans. 1668.* – JM ~1:880,000 (63 mm/30'). – Copper-engraving. 380×558 mm.** – Map: *NLF N; NLF Enckell 104.

Count Per Brahe jr's Barony in Northeastern Finland

Per Brahe's lands in Kainuu and Savo

1650 ca. – *Tabella geographica Caianiæ* – 1:1,400,000 – #157
{C-N:} *Tabella geographica Caianiæ, illustrissimi et generosis comitis domini Petri Brahe, baronatus.* {SE:} *Miliaria Fennica...* – JM ~1:1,400,000 (239 mm/3°). – Copper-engraving. 177×294 mm.** – Map: RA Ekebladska saml. vol. 19. fol. 91 (kvarligger vid handlingen); KrA Utl kartor Finl.; KA Yleisk. Ia* 108; JMA; MV.

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Ninnö
Petzinka fe.
Petzinka Kloster.
Bager T.
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Enarabij
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