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## The Origin of the Word 'Cartography'

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*Summary:* Although maps are made since antiquity, 'cartography' the word for the art of manufacturing maps and for the study of maps is only two centuries old. In 1939 the Portuguese map-historian Cortesão wrote that it was the Vicomte de Santarém who invented the word in 1839 - he based himself on a letter written by Santarém. Among map-historians this attribution of Santarém was commonly accepted. Recent research in geographical publications of the time has shown that the word 'cartography' was commonly in use among French and German geographers since c. 1830. There are strong indications that the Danish-French geographer Conrad Malte-Brun is the inventor - he used it in 1808 (without follow-up) and again in 1825, when it found followers. In German it was picked up by Heinrich Berghaus in 1829.

This article traces when the words 'cartography', 'cartographer' and the like came into being, whether their meaning was subject to change over time and how these words were dispersed. Firstly, a short overview of the words used for 'map' and 'chart' is given.

### 'Map' in the classic languages<sup>1</sup>

In 1839, the German philologist Hermann Reinganum (1803-after 1841) discussed in his very early historic-cartographical study on Greek and Roman maps, *Geschichte der Erd- und Länderabbildungen der Alten, besonders der Griechen und Römer*,<sup>2</sup> the Greek and Latin terminology for map, surveying and cartography. The paragraph below, including the referenced sources, stems mostly from his work.

Classical Greek normally used *pinax* (πίναξ)<sup>3</sup> for map, originally standing for plank, by extrapolation for a painted plank or one with text, the painted or written information on the plank and finally meaning any writing or book. For a map an adjective could be added *geographikos pinax* (γεωγραφικός πίναξ),<sup>4</sup> other terms used are *pinakion* (πινάκιον), also *geographia* (γεωγραφία) and later even *pinakographia* (πινακογραφία).

Classical Latin uses *pinax* as taken from the Greek or - in all meanings - *tabula*. Also, the adjective *picta* (from *pingere* - to paint) was used: *picta Italia* (= painted Italy - map of Italy),

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<sup>1</sup> The words under discussion, taken from the sources, are written in italics throughout the article, also in quotations. The word 'cartography' as it is used to refer to the word itself, is placed between quotes.

<sup>2</sup> Reinganum (1839): 32-42. In his work the references are given to the classical sources for the various terms.

<sup>3</sup> Ptolemaeus *Geographia* I, 18, 19; II, 1; VIII, 1, 2. and Strabo II, 69, 87, 90. In Ptolemy's *Geographia* the word πίναξ is also used for the tables of coordinates. See also Too (2010): 74.

<sup>4</sup> Strabo *Geographia* 1.1.11. See also Liddell & Scott (1940). This term was still used (re-introduced) during the Greek Enlightenment by the Greek cartographer Anthimos Gazis (1758-1828).

*picta itineraria* (= painted route description - road map, as the *Tabula Peutingeriana*),<sup>5</sup> *situs depicti* (= painted region – map) and *forma*.<sup>6</sup>

In medieval Latin and later, a map is often labelled with the classical *tabula* (a.o. 1318)<sup>7</sup> and *mappa* (c. 1400).<sup>8</sup> The word *mappa*, which stands for cloth/canvas or signal flag in classical Latin was used for *mappa mundi*, world map, during the Middle Ages. The word 'map' is found in English for the first time in 1527, as an abbreviation of the Middle English *mapemounde* (c. 1380),<sup>9</sup> an English derivative of *mappa mundi*. Logic required that when *mappa mundi* stands for world map and *mundi* means 'world', *mappa* has to be 'map'. In English, the second syllable changed into an unvoiced *mappe* and later disappeared altogether. The spelling *mapp* constitutes the latest reference to the second syllable of *mappa*.

Starting with the sixteenth and the seventeenth century, in Latin, also *deliniatio* (delineation), *descriptio* (description), *imago* (image), *typus* (image), *chorographia* (place description) came into use.

The term *chorographia* was defined by Ptolemy as a representation of 'localities such as harbors, farms, villages, river courses and such', the function of chorography was 'to paint a true likeness and not merely to give exact positions and size.' Chorography therefore is a visual representation that can be understood as a portrait of place.<sup>10</sup> Occasionally the term chorographer was used in the Renaissance for maps and map-making of sub-national or county areas.<sup>11</sup>

Most modern European languages<sup>12</sup> derive their word for map from the Greek word *chartēs* (χάρτης). This word initially referred to a papyrus leaf. Its meaning then developed first into any leaf and thereafter into the image and text applied to the leaf. In Latin, this word was taken over as *charta* with the same enlarged meaning - well known is the *Magna Charta*, a treaty, extorted from the English Barons of King John Lackland in 1215, curtailing the royal powers. The Dutch word *charter* is a derivative of *charta* and stands for a 'written document, containing a statement or agreement of sorts' and is equivalent to deed. The term *carta* was in the Late Medieval Period used to designate a map by southern European cartographers. In his work *Arbor Scientiae* (1295-96) Ramon Llull writes about navigation techniques, and says about navigational aids "Et ad hoc instrumentum habent cartam, compassum, acum et stellam maris" (and for this they have an 'instrument', a *carta*, a pair of dividers, a needle, and the Pole star).<sup>13</sup> Pietro Visconti wrote on his 1311 portolan chart: "Petrus Vesconte de janua fecit ista *carta* anno domini MCCCXI".<sup>14</sup> In succession, the term was considered acceptable by Catalan and Italian cartographers for their portolan charts. The first printed *carta* is the *Carta Marina* of 1516 by Martin Waldseemüller.

<sup>5</sup> Vegetius, *De rei militaris* III, 6, see [http://www.hs-augsburg.de/~harsch/Chronologia/Lspost04/Vegetius/veg\\_epi3.html#n1](http://www.hs-augsburg.de/~harsch/Chronologia/Lspost04/Vegetius/veg_epi3.html#n1). See also Drakoulis (2007) and Dilke (1987b): 236-237.

<sup>6</sup> Dilke (1987a): 205.

<sup>7</sup> Harley & Woodward (1987), plate 31.

<sup>8</sup> Harley & Woodward I (1987), plate 35.

<sup>9</sup> *Online etymology dictionary* (<http://www.etymonline.com>).

<sup>10</sup> Nuti (1999), see also Borys (2014): xvi.

<sup>11</sup> Christopher Saxton and John Norden were called 'Chorographorum' (in the English translation 'Chorographers') in the preface of William Camden, *Britannia* (London: George Bishop and John Norton, 1607), sig. \*\*[1r], and in the 1610 translation by Philemon Holland on sig. [\*5]v.

<sup>12</sup> English uses 'map' and 'chart' for two different cartographic representations. Most other modern languages have only one word and use adjectives for special meaning, thus: *kaart*, *Karte*, *carte* = map and chart (Dutch - German - French); *zeekaart*, *Seekarte*, *carte marine* = chart; *landkaart*, *Landkarte*, *carte géographique*, = map.

<sup>13</sup> Nicolai (2014). About the meaning of 'instrumentum', 'compassum', 'acum' and 'stella maris', the opinions differ; the meaning of *cartam* is generally agreed to be chart or portolan..

<sup>14</sup> Fischer (1886): 79-80 and 111.

The Italian *carta marina* or 'nautical sheet' lost its adjective and was since used to designate cartographical images.

In the 1520s, the word is already in general use in the Netherlands, demonstrable by some quite different sources: on 14 November 1526 Jan de Pape is paid for a *kaerte* of the Gooiland, that he had made.<sup>15</sup> The printed map of the Baltic Sea by Jan van Hoirne of 1526 reads: "Dese *Carthen* vintmen te coope Thantwerpen by myn Jan van Horen" (This *Carthen* is for sale at Antwerpen from me, Jan van Horen).<sup>16</sup> In the 1529 inventory of Duurstede castle, two items read 'een *carthe* in parchemijn van een deel lantscaps' ('a *carthe* in parchment of a section of land) and 'een ander cleyn *carthe* in papier' ('another small *carthe* on paper).<sup>17</sup> The *Woordenboek der Nederlandsche Taal* (WNT) refers to the *Kaert vander Zee* (1532) as the earliest mention of map in its meaning of "a sheet, presenting the surface of the earth or part thereof." The compilers obviously did not know that it was a so-called rutter: a booklet with a textual description of sea-routes, without a graphical representation. It thus indicates that in 1532 the word *kaart* had not yet solely a cartographical meaning. As second reference, the WNT mentions the *Caerte van Oostlant* (1543) by Cornelis Anthonisz.<sup>18</sup> The term possibly transferred from Dutch into German, where it was spelled *Charte* until well into the nineteenth century. In sixteenth century German, *Tafel* or *Landtafel* (from the Latin *tabula*) is still in common use. In French, its *carte* was also taken from Dutch or Italian, but as the word also had differing meanings, the adjective *géographique* was mostly added. The second syllable '-ta' in *charta* has progressed to an unvoiced syllable already with Van Hoirne and Anthonisz. for later mutation into the ending-t in the word *kaart*. The unvoiced syllable was retained in the German *Karte* and the French *carte*; the voiced syllable is still to be found in the Russian *karta* (карта).

The word 'cartography' is a combination of the Greek word *chartès* (χάρτης, copied as discussed above from *charta* and *graphein* (γράφειν), which means 'to describe'. Various descriptive sciences borrowed the second part of their name *-graphy* from it.<sup>19</sup> In classical Greek other terms were used for drawing and designing maps, such as *pinaka katagraphein* (πίνακα καταγράφειν) and *pinakographia* (πινακογραφία).<sup>20</sup> A map scribe was called a *pinakographos* (πινακογράφος) in Greek and a *chorographus*<sup>21</sup> in Latin, which word was also used for a geographer ('one who describes countries'). The Greek word was however not used in the renaissance.

Obviously, almost all of the writers from the renaissance and later did not feel the need to use a word for mapmaker or the technique of mapmaking, a description or the more generic term 'geographer' or in some cases 'chorographer' seems to be sufficient.

An exception is the designation *caertschrijver*, as the chartmakers of the North Holland School of Cartography call themselves in the second half of the sixteenth century.<sup>22</sup> They could have

<sup>15</sup> Bouck van den Behoeften ende Necessiteiten van der Rekenkamer in den Hage 1516-1527. See Enklaar (1931-32): 194.

<sup>16</sup> Sališev (1979). Three fragments of this map are still extant, one of which contains text. The word '*carthen*' (singular) is used at another place in the text fragment as well. See a.o. Van der Heijden (1998), map 1.

<sup>17</sup> Sterk (1980).

<sup>18</sup> *Woordenboek der Nederlandsche Taal*, deel 7.1 ('s-Gravenhage: Nijhoff; Leiden: Sijthoff, 1926), col. 708-709.

<sup>19</sup> *Cartography*, as relatively often used in German (less so in French) in the second half of the nineteenth century is probably a corrected or ultra-correct form of *cartography*.

<sup>20</sup> Reinganum (1839): 40.

<sup>21</sup> Reinganum (1839): 42-43

<sup>22</sup> Schilder (1981).

latinised their professional name to *\*cartographus*, but they only used Dutch to write on their maps. Also in Italian the verb *cartezando* (mapping) is used already in the fifteenth century.<sup>23</sup>

### The Viscount the Santarém

In his work on the history of Portuguese cartography of 1935, Armando Cortesão<sup>24</sup> attributed the invention of the word ‘cartography’ to the Viscount de Santarém<sup>25</sup> (1790-1856). Cortesão was following here the Portuguese historian Vice-Admiral Vicente Almeida d’Eça, who had published Santarém’s correspondence in 1906.<sup>26</sup> In a letter of 8 December 1839 to the Brazilian historian Francisco Adolfo de Varnhagen, Santarém pointed to “a questão concernente à cartographia (inventado esta palavra já que ahi se tem inventado tantas) a *cartographia* mesma do século XVI he m.<sup>10</sup> importante e muito difficil”, in translation: a question, concerning ‘cartographia’ (I invented this word myself as it has become the fashion to devise words) is that the *cartographia* of the sixteenth century is both very important and very complicated. In a note, Almeida d’Eça added, in my translation:<sup>27</sup>

Esta asserção é muito importante. Começámos a verificar em alguns Diccionarios anteriores a 1839 a não existencia da palavra Cartographia ; entretanto tornar-se-ia indispensavel uma investigação mais minuciosa, que não nos foi possivel fazer, se por ventura se julgasse necessario ratificar o que não temos razão alguma para pôr em duvida até demonstração em contrario. E assim bem se póde dizer que o Visconde de Santarém é o primeiro critico da cartographia, como foi o inventor do proprio termo.

It has sometimes been said that Santarém used the word *cartography* only when he meant the ‘study of early maps’.<sup>28</sup> This is not, however, what comes across from the letter or from Santarém’s later publications, where ‘cartography’ is used as a synonym for ‘map making’.<sup>29</sup> Remarkable is that Santarém in the publication of his notes on Amerigo Vespucci in 1837 had made use of the word *cartographie*<sup>30</sup> and had used *cartographie* in 1839 in his text on Vespucci in

<sup>23</sup> In the travelogue by Gabriele Capodilista. See Momigliano Lepschy (1965): 175, paragraph 29. The author thanks Corradino Astengo.

<sup>24</sup> Cortesão (1935): II, 365-366.

<sup>25</sup> His complete name is: Manuel Francisco de Barros e Sousa de Mesquita de Macedo Leitão e Carvalhosa, 2.º visconde de Santarém.

<sup>26</sup> Almeida d’Eça (1906). The letters were in possession of Santarém’s family. The present location of the letters is not investigated.

<sup>27</sup> Almeida d’Eça (1906): 30 n.1. Translation: “This assertion is very important. We started to check some dictionaries previous to 1839 for the non-existence of the word Cartographia; however it became clear that a more thorough investigation was indispensable, which was not possible for us, if perchance it is deemed necessary to ratify what we have no reason to doubt until proven otherwise. So we can certainly say that the Vicomte de Santarém is the first critic of cartographia, as well as the inventor of the proper term’.

<sup>28</sup> Harley (1987): 12.

<sup>29</sup> In 1849 Santarém referred to the science of making maps as *la science cartographique* (see Vicomte de Santarém, *Essai sur l’histoire de la Cosmographie et de la Cartographie* (Paris, 1849), 1, xxiv).

<sup>30</sup> “le nom d’Amérique... employé comme et dénomination indubitablement arrêtée et généralement admise dans la *cartographie*.” Continuation des notes additionnelles à la lettre de M. de Vicomte de Santarém... sur les voyages d’Améric Vespuce, *Bulletin de la société de géographie*, 2me sér., t. 8 (1837), p. 181.

the *Dictionnaire de la conversation et de la lecture*.<sup>31</sup> These occurrences of *cartographie* were obviously unknown to Cortesão.

Allegedly, the word came into general circulation only after Santarém had used it in the title of his *Essai sur l'histoire de la Cosmographie et de la Cartographie* in 1849,<sup>32</sup> the first major work to bring the word into its title.<sup>33</sup> The first dictionary containing the word 'cartography', is according to Cortesão, the *Diccionario francés-español y español-francés*, the Spanish-French dictionary by Ramon Joaquín Dominguez (Madrid, 1845). Proof that Santarém was indeed the inventor of the word, was, again according to Cortesão, the fact that the word *cartography* was not included in the 1835 edition of the *Dictionnaire de l'Académie française*.

Had Santarém meant to say that he had devised the word for Portuguese (the language of the letter), without implicitly stating that he had actually translated it from French? His statement is odd, moreover, since the Portuguese word *cartographia* did already exist as is seen from José da Fonseca's *Novo Dicionari Francez-Portuguez* (1836), which contains the following entries:<sup>34</sup>

Chartographe: cartographo (auctor de cartas).

Chartographie: cartographia (arte de compor, e fazer cartas) - descrição das mesmas.

Chartographique: cartographico, a (relativo á cartographia).

Da Fonseca had translated these lemmas directly from Raymond's 1832 French dictionary (discussed later). Thus just as in this dictionary, the meaning of the word *carta* is not clear and can also mean a charter or legal deed.

The English version of his book, published in 1968, Cortesão essentially repeated what he had said in the original Portuguese edition.<sup>35</sup> He added that the first printed occurrence of 'cartographie' was in 1840 in the *Bulletin de la Société de Géographie*, where the term is used by Sabin Berthelot in the Annual Report over 1840. As first appearance in English for the use of the term 'cartography', Cortesão mentions "ten[!] years later" the 1843 *Journal of the Royal Geographical Society* in William R. Hamilton's *Annual Report*. This information had been made available to him by Helen Wallis and G.R. Crone.

Subsequently, whenever historians of cartography discussed the origin of the word cartography - Sališček (1979), Wallis (1982),<sup>36</sup> Wallis & Robinson (1987),<sup>37</sup> Harley (1987), Garcia (1997),<sup>38</sup> and Wood (2003)<sup>39</sup> - they follow Cortesão and referred to it as a Portuguese neologism originating with Santarém in 1839.<sup>40</sup>

<sup>31</sup> "...le mot Amérique, ce mot ne se trouve jamais ni dans cette carte, ni dans les cartes postérieures, comme un dénomination indubitablement arrêtée généralement admise dans la *cartographie*." *Dictionnaire de la conversation et de la lecture*, t. 52 (Paris: Belin-Mandar, 1839), p. 119.

<sup>32</sup> In three volumes, (Paris 1849-1852), and published as text volume to the *Atlas composé de Mappemondes, de portulans et de carte hydrographiques et historiques depuis le VIe jusqu'au XVIIe siècle* (Paris, 1842).

<sup>33</sup> The first work with *cartography* in the title is a Dutch work *Over cartographie van Palestina* by M.D. de Bruyn (1845), discussed later in this article.

<sup>34</sup> Paris: J.P. Aillaud, 1836, p. 201.

<sup>35</sup> Cortesão (1968): I,5.

<sup>36</sup> Wallis (1982), 2:50-63.

<sup>37</sup> Wallis & Robinson (1987): XVI.

<sup>38</sup> Garcia (1997): 41.

<sup>39</sup> Wood (2003). Wood corrected himself in 2004, when he quotes as earliest appearance 1832, according to the etymological dictionary by Block and Von Wartburg.

<sup>40</sup> Only Koeman (1974) thought to have found a much earlier reference, an instrument from 1557. Later, Wallis (1982) proved, however, that this was wrong.

### Earlier references in French dictionaries

Further investigation, however, shows that the mention of 'cartographie' in the *Bulletin de la société de géographie* for 1840 was not in fact the earliest printed reference. Previous uses of the word may be found with the help of Walther von Wartburg's *Französisches Etymologisches Wörterbuch* of 1940<sup>41</sup> and Paul Imbs' *Trésor de la langue française* (1977).<sup>42</sup>

It is remarkable that none of these etymological dictionaries mention Santarém's 'invention' from 1839, but more remarkable still is that neither of the afore-mentioned cartographical authors (except for Wood in his second article) consulted a French etymological dictionary. Walther von Wartburg stated in his etymological French dictionary that *cartographie* and *cartographique* occur for the first time in 1832, but that *cartographe* stems from 1829 already. Imbs' *Trésor* provides under the lemma's *Cartographie* and *Cartographique* two results: *chartographie* and *-graphique* in 1832 and *cartographie* and *cartographique* in 1838. The source Wartburg and Imbs gave for the 1832 use is the *Dictionnaire général de la langue française* (Paris: Aimé André, 1832) by François-Louis-Dominique Raymond (1769- ?). There on page 281 we read:

CHARTOGRAPHE. s.m. Auteur de cartes.

CHARTOGRAPHIE. s.f. Art de composer, de faire des cartes; description des cartes.

CHARTOGRAPHIQUE. adj. des 2 g. Qui appartient, qui est relatif à la cartographie.

CHARTOLOGIE. s.f. Traité, histoire, discours sur l'art de faire des cartes.<sup>43</sup>

CHARTOLOGIQUE, adj. des 2 g. Qui concerne la chartologie. *Traité chartologique*.<sup>44</sup>

The identical text is found in Raymond's *Supplément au Dictionnaire de l'Académie française, sixième édition, publiée en 1835* (Paris: Gustave Barra, 1836, p. 175).

It is unclear here whether Raymond meant here maps (*cartes géographiques*) or charters, but in his second dictionary of 1836, *Dictionnaire général des arts et des métiers*, he was more to the point:

CHARTOGRAPHIE, s.f. cart. Art de faire ou de composer des cartes géographiques.<sup>45</sup>

However, in the *Dictionnaire de l'Académie française* of 1831 a lemma *Cartographe* was included: "CHARTOGRAPHE, Auteur de cartes géographiques. Peu usité."<sup>46</sup> In the edition of 1835, as consulted by Cortesão, it does not appear (because it was 'little used?').

For the 1829 occurrence of *cartographe*, Wartburg cited his source as the 1829 edition of the dictionary compiled by the Parisian printer and lexicographer Pierre-Claude-Victoire Boiste (1765-1824), who, like Raymond, was also publishing a number of dictionaries during the first half of the nineteenth century. The first edition of Boiste's *Dictionnaire universel de la langue française* appeared in 1800. Its seventh, posthumous, edition of 1828 was edited by Charles

<sup>41</sup> Wartburg (1940): Imbs (1977) reports that Wartburg erroneously wrote *carto-* instead of *charto-*.

<sup>42</sup> Imbs (1977): 252.

<sup>43</sup> The word *cartologie* was in use in the second half of the nineteenth century more or less synonymous with cartography. In 1971 Ratajski suggested to use the term *Kartologie* again for the theoretical cartography.

<sup>44</sup> CHARTOGRAPHE. Author of 'cartes'. / CHARTOGRAPHIE. The skill of putting together, of making 'cartes', describing 'cartes'. / CHARTOGRAPHIQUE. Belonging to, or related to 'chartographie'. / CHARTOLOGIE. Treatise, history, discourse on the skill(s) of making 'cartes'. / CHARTOLOGIQUE. That which deals with *Chartologie*. *Chartologique* treatise.

<sup>45</sup> 'Chartography ... The art of making or compiling geographical maps.'

<sup>46</sup> 'Cartographer, author of geographical maps. Little used.'

Nodier (I have not found an edition of 1829). Here we find the word *cartographe*, defined as 'auteur de cartes, qui les écrit'. Unclear is whether a cartographer in the map-making sense or a writer of deeds (charters) was intended.<sup>47</sup>

Authoritative modern dictionaries, like the *Grand Larousse de la langue française* (Paris: Larousse, 1971) and *Le Grand Robert de la langue française* (Paris: Le Robert, 2001) cite as the first references to cartography and cartographer (1829 and 1832 respectively) what they found in Wartburg. They make no reference to Santarém. Obviously, only in cartographical circles has the idea that Santarém was the originator of the term 'cartography' been entertained.

### Tessier's *Cartographie universelle* (c. 1790)

During the present research, the earliest mention of the word 'cartography' was found in a report in the archives of the French Ministry of Foreign Affairs of c. 1790.<sup>48</sup> After the death of Jean-Baptiste Bourguignon d'Anville (1697-1782), the Ministry acquired his map collection through his pupil Jean-Denis Barbié du Bocage (1760-1825).<sup>49</sup> The transfer to ownership entailed the drawing up of an inventory of this collection and Nicolas Antoine Queuxdame dit Tessier (1746-1821)<sup>50</sup> was commissioned to do this. His report *Travail utile dont la Collection géographique du Dépôt des Affaires Etrangères peut seule fournir la matière: motifs et moyens d'en faciliter l'exécution* is undated but must have been written between 1787 and 1791.<sup>51</sup> Tessier, who wrote the report in the third person, suggested:<sup>52</sup>

Tessier n'a pas regardé comme moins utile de comprendre dans cet Inventaire des détails semblables sur les Cartes qui manquent à la Collection pour la rendre la plus complète qui existe, et d'y ajouter l'indication soit des Dépôts publics ou particuliers qui les possèdent, soit des Recueils dont elles sont partie; en sorte que cet inventaire supplée à l'impossibilité de réunir dans un même lieu toutes les cartes géographiques connues, et devienne par là une nomenclature géographique ou si l'on peut employer cette expression, une Cartographie universelle.<sup>53</sup>

<sup>47</sup> The *Dictionnaire complet des langues française et allemande*, 3ème éd. (Stuttgart; Tübingen, 1842) translates *Chartographe, qui écrit sur les chartes* with 'Urkundenschreiber' [compiler of deeds]. *Chartologie*, a "traité sur les cartes" is translated as "Abhandlung über den Karten" [treatise on maps].

<sup>48</sup> The following information originates for the major part from e-mail correspondence with Ralph Kingston (now department of history, Auburn University, Alabama), in reply to my question on the first mention of the word cartography on the e-mail discussion group MapHist, May 2006.

<sup>49</sup> Masson (1877): 44.

<sup>50</sup> Not much is known about him. He worked at the French ministry of foreign affairs, as 'commis des affaires étrangères' and as 'directeur des élèves du ministère des Relations extérieures' (on-line catalogus of autograph dealers, no longer available). Some information may be found in Masson 1877, p. 32, and in the *Revue d'histoire diplomatique* 89-90 (1975), p. 29.

<sup>51</sup> Armand Marc, comte de Montmorin Saint-Hérem (1745-1792), who is mentioned by Tessier as minister of Foreign Affairs, held this post from 1787-1791.

<sup>52</sup> *Ministère des Affaires Étrangères, Paris, Volumes Réliés (Dossiers Individuels) Origine-1830, Vol. 66, Tessier, Nicolas, Antoine, Queux, Dame dit, f. 75recto - 84verso*. The author thanks Jean-Michel Urvoy, who copied the document in Paris.

<sup>53</sup> 'Tessier did not see it as less useful to include in this Inventory similar details on Maps which were missing from the Collection in order to make it the most complete in existence and to add to it the indication whether it is owned by public office or an individual, and the Collections to which it belongs; so that this inventory compensates for the impossibility of bringing together all the geographical maps known in the same place, and thus becomes a geographical nomenclature or a universal Cartography if this expression can be used.'

With this *cartographie universelle* he had in mind a list of maps that we would recognise today as a universal cartobibliography, an inventory of all existing maps. Although Tessier's ideas in this respect might be not entirely new,<sup>54</sup> his description of such a listing as a 'cartography' seems to be new indeed.<sup>55</sup> Tessier may thus have invented the word *cartographie*, but his handwritten report remained hidden in the archives of the Ministry until Ralph Kingston read it in 1999. It cannot be said that his report of c. 1790 contributed to the promulgation of the word 'cartography'.

### Conrad Malte-Brun 1808 and 1826

Dictionaries document words as used in a language. The presence of *cartographe* in 1831 signifies that the word existed in French at that time. Accordingly, earlier references need to be sought in French texts prior to 1831. For this research French language geographical journals, such as the *Bulletin de la société de géographie* (from 1822 onwards) and the *Nouvelles annales des voyages, de la géographie et de l'histoire ou Recueil des relations originales inédites* (starting from 1819) were consulted. Both are digitally accessible via Bibliotheca Gallica (the *Bulletin* from its second year 1825), but regrettably not in a searchable format and I accordingly targeted features most likely to contain the word, namely yearly overviews and reviews of maps and atlases. The most rewarding search engine, however, proved to be Google Books.<sup>56</sup>

The earliest found reference is in the year 1808 for the *Annales des voyages de la géographie et de l'histoire*, published in 1810 by Conrad Malte-Brun, in a review of the topographic and military map of Germany:<sup>57</sup>

La célèbre maison de commerce Bertuch, connue sous le nom d'Institut Géographique de Weimar, entreprend aujourd'hui de remplir cette lacune dans la *chartographie*, et cette belle et grande entreprise mérite toute l'attention du public géographique français.<sup>58</sup>

The term went unremarked. The *Dictionnaire technologique ou nouveau dictionnaire universel des arts et métiers* of 1823<sup>59</sup> still speaks of "l'art de construire les cartes de géographie" (art of constructing geographical maps) under the lemma *Cartes de Géographie*, without providing a specific name for this *art*.

Malte-Brun tried again. In the review of Philippe Vandermaelen's *Atlas universel* in the *Nouvelles annales des voyages, de la géographie et de l'histoire* of 1825, edited by J.B. Eyriès and Malte-Brun himself, reference was made to 'détails *chartographiques*'. The 1826 number of the same journal contained a report from three 'commissaires' appointed by the Société de Géographie to examine the results of Raymond Pacho's travels in Cyrenaica, which report was read on 31 March

<sup>54</sup> Edney (1999).

<sup>55</sup> According to various on-line catalogues, two earlier references would exist; checking these out showed that they go back to an incorrect title description.

<sup>56</sup> It is of note that Google Books meta-information is often in error. The year of the first issue is used for the complete series of the journals, besides, years are often in error (reading 1832 instead of 1852, 1813 for 1913 etc. The most peculiar is a 1921 catalogue being dated 1784 - the date is in Roman numerals, MCMXXI, and the number 1784 on the title page is the postal bank account number of the firm!). Furthermore, Google's OCR often reads "cartographie" where "l'ortographie" is printed. Cf. Nunberg (2009).

<sup>57</sup> *Annales des voyages de la géographie et de l'histoire* 5 (1808), p. 264. Note: The volume was republished after a correction in 1810.

<sup>58</sup> 'Bertuch, the famous company known as the Weimar Geographical Institute, is presently undertaking the task to fill this cartographical void, and this great and wonderful enterprise deserves the full attention of the French cartographic community.'

<sup>59</sup> T. 4ème (Paris: Thomine & Fortic, 1823).



1826.<sup>60</sup> During the discussion of the three maps Pacho had produced it was said: "Nous désirons la publication pure et simple de ces précieux matériaux dont la critique *cartographique* tirera ensuite le parti qu'elle jugera convenable."<sup>61</sup> The 'commissaires' were Alexandre Barbié du Bocage (1798-1835), François Étienne Joubert (fl. 1787-1836) and Conrad Malte-Brun.

Conrad Malte-Brun also provided the first more or less scientific review of the meaning of the word cartography. He wrote it in the introduction to a *Traité élémentaire de géographie*, which he could not complete due to his untimely death. The work was completed by La Renaudière,<sup>62</sup> Balbi<sup>63</sup> and Huot<sup>64</sup>. It was published in 1830 with a (literal?) rendition of Malte-Brun's Préface, which reads:<sup>65</sup>

Ainsi, in traité élémentaire doit sans doute donner une idée générale de ce que c'est qu'une carte, et en enseigner l'étude critique: mais l'art de tracer des projections, dont on a voulu une faire une base de l'enseignement, n'est que le métier spécial des *cartographes*, (p. viij)

and further on

Tous les divers objets de la géographie pouvant se résumer d'un manière plus ou moins spéciale dans les représentations graphiques appelées cartes ou mappes, nous avons résumé les principales notions de cette science auxiliaire ou de la *cartographie* avec une étendue suffisante pour aider nos lecteurs à comprendre et à apprécier tous les genres de cartes qui, naturellement, doivent se multiplier à mesure que l'esprit de la science se répand davantage (p. xij).<sup>66</sup>

Here, thus, a *cartographe* is a mapmaker, and *cartographie* is the science of the graphical representation of geographical phenomena on maps. Since Malte-Brun died on 14 December 1826, this text cannot be dated later than 1826.

Malte-Brun's students took care of distribution of the word *cartographie*.

Firstly, the geographer Philippe François de La Renaudière (1781-1845), in his yearly address address to the Société de Géographie on 11 December 1829, after discussing the newly published

<sup>60</sup> Rapport des commissaires nommés par la commission centrale de la Société de Géographie pour examiner les résultats du voyage de M. Pacho dans la Cyrenaïque (Lu dans l'assemblée générale du 31 mars 1826). *Nouvelles annales des voyages, de la géographie et de l'histoire* 30 (1826), 99.

<sup>61</sup> 'We simply want a straightforward publication of this valuable material from which the cartographic readership will select those parts it considers useful.'

<sup>62</sup> Philippe François de La Renaudière (1781-1845), French geographer.

<sup>63</sup> Adriano Balbi (1782-1848), Italian geographer.

<sup>64</sup> Jean Jacques Nicolas Huot (1790-1845), French geographer, geologist and naturalist.

<sup>65</sup> Conrad Malte-Brun, *Traité élémentaire de géographie*, terminé... par ses collaborateurs MM. Larenaudière, Balbi et Huot, Paris: Aimé-André, 1830 (also in the edition Bruxelles: J.P. Meline, 1832, p. x-xi). The editors stated: 'Il [Malte-Brun] venait ... de rédiger pour ce travail une préface que nous allons reproduire en entier' [He has just composed a preface for this work that we are reproducing in its entirety].

<sup>66</sup> 'Thus, an elementary textbook should undoubtedly give a general idea of what is a map/chart, and from that instruct in its critical study. However, the art of drawing projections, which one had wanted to make a base for teaching, is the professional specialty only of cartographers. [p. viij] Since all the multiple purposes of geography can be more or less particularly summarized in the graphic representations called charts or maps, we have summarized the main concepts of this secondary science, or cartography, with a broad enough coverage to help our readers understand and appreciate all types of maps/charts that, of course, should increase as the concept of the science gains ground.' The volume was also published in Brussels (J. P. Meline, 1832), where the quotations are on vj and x-xj.

French maps and atlases started the review of the foreign works with:<sup>67</sup> "D'autres travaux *cartographiques* doivent encore trouver place ici..." (Other cartographic labours should be mentioned here..).

Secondly, the Venetian geographer Adrian Balbi (1782-1848) published in 1832 his *Abrégé de Géographie*, with in the introduction the note: "La cartographie est sans nul doute une partie principale de la géographie" (Cartography is without any doubt a principal part of geography).<sup>68</sup>

As we shall see later, both, La Renaudière's address and Balbi's *Abrégé* were translated in the principal languages and was therefore responsible for the distribution of the word in other languages.

An intriguing reference to the word *cartography* - the third oldest printed reference - is found in volume 50 of the *Biographie universelle, ancienne et moderne* published by Louis-Gabriel Michaud in 1827 in Paris. The entry for Lucas Jansz. Waghenaer describes him as a 'habile *cartographe* du seizième siècle' ('an able sixteenth-century cartographer'). Waghenaer was one of the *caertschrijvers* [map scribes] of the North Holland cartography school. Could the anonymous author<sup>69</sup> of this lemma have translated the Dutch 'caertschrijver' into *cartographe* after all?

### A German origin?

In the search for early references to the word 'cartography' also the 1867 edition of the Larousse encyclopaedia was consulted. The lemma on the Berlin geographer Carl Ritter (1799– 1859) includes the following quotation: 'La géographie nouvelle a surchargé tous les continents de chaînes de montagnes qui n'existent que dans l'imagination des *Chartographes*' (The new geography has overloaded all the continents with mountain ranges that exist only in the imagination of 'chartographes'). The Larousse text could be taken to imply that, since Ritter had published the first instalment of his most important work, *Die Erdkunde*, in 1817, he had used the German version of 'cartographer' in that year. This, however, is not the case; Ritter's original word was *Kartenzeichner* ('map draughtsman').<sup>70</sup>

Aber diese verführerische Ansicht hat die neue Geographie angesteckt, und statt des Zusammenhangs der Höhen, oder der Höhenlinien, alle Continente mit wirklichen Gebirgsketten aller Art überladen, die nur zu häufig blos in der Phantasie der *Kartenzeichner* und Kompendienschreiber existiren.<sup>71</sup>

It was the editor of the Larousse encyclopaedia who translated the German word for map draughtsmen as *Chartographes*. Nevertheless, this statement stimulated further study of Ritter's

<sup>67</sup> Philippe-Fr. de la Renaudière, 'Notice annuelle des travaux de la Société de Géographie lue dans sa séance publique, le 11 décembre 1829', *Bulletin de la Société de Géographie* 12, no. 80 (December 1829), 294-313 at 306.

<sup>68</sup> Adrian Balbi, *Abrégé de géographie* (Paris: Jules Renouard, 1832), p. xviii.

<sup>69</sup> The text carries the signature 'Z', the notation for an anonymous author. The identical lemma is also included in the *Biographie du royaume des Pays-Bas* by Mathieu Guillaume Delvenne (vol. 2, Liège 1829).

<sup>70</sup> Carl Ritter, *Die Erdkunde im Verhältniß zur Natur und zur Geschichte des Menschen oder allgemeine vergleichende Geographie* (Berlin, D. Reimer, 1817), vol. 1, 67.

<sup>71</sup> 'But this tempting view has infected the newer geography, and instead of the relation between the heights, or contour lines, all continents are overloaded with real mountain chains of all kinds, which all too often merely exist in the imagination of the 'Kartenzeichner'.

works. In the 1817 and 1822<sup>72</sup> editions of *Der Erdkunde* Ritter used for mapmakers *Landkartenfabrikanten* (map producers, p. 31) and *Kartenzeichner* (map draughtsmen, p. 67). However, in his presentation for the Akademie der Wissenschaften in Berlin on 18 December 1828, (published in 1832),<sup>73</sup> he wrote the following:

beide [Karten] sind (auf dem beiliegenden lithographirten Blatte vereinigt) durch die grösste Sorgfalt, Genauigkeit und unermüdete Ausdauer des gewissenhaftesten *Kartographen* Herrn Grimm, construiert und gezeichnet.<sup>74</sup>

Julius L. Grimm referred to himself in his supplement to the published version of the lecture, as a *Geometer*.<sup>75</sup>

It is not known if the text of Ritter's paper as published in 1832 is identical with the text he presented in 1828. So we do not know if he used *Kartograph* in his spoken text. This is crucial, since in the periode between 1828 and 1832 the word 'cartography' was used in the German language by an other geographer, Heinrich Berghaus (1797-1884). Berghaus, the publisher of the *Kritischer Wegweiser im Gebiete der Landkartenkunde nebst andern Nachrichten zur Beförderung der mathematisch-physikalischen Geographie und Hydrographie*, from 1829 till 1835, included reviews of maps and atlases, which he presumably wrote himself. Although the title of the journal has *Landkartenkunde* (study of maps), already in the third issue of the first year, 30 June 1829, the word *Kartographie* was used. There, in a review of Pierre Lapie's *Atlas universel de géographie* (1828) and of Dufour's *Atlas classique* (1828), we read:<sup>76</sup>

Einen erfreulichen Beweis von den Fortschritten, welche das Bedürfniss nach Unterricht in der Erdkunde in Frankreich nimmt, giebt das Erscheinen beider Atlanten zu erkennen. Nicht genug an den Werken ähnlicher Art, welche die französische *Kartographie*, und zwar einige in ausgezeichneter Ausführung, bereits aufzuweisen hat, scheint das Bedürfniss zu gross zu sein, um von dem Vorhandenen befriedigt zu werden.<sup>77</sup>

In later issues it occurs a few more times in reviews.<sup>78</sup>

<sup>72</sup> Carl Ritter, *Die Die Erdkunde im Verhältniß zur Natur und zur Geschichte des Menschen oder allgemeine vergleichende Geographie, Zweite Ausgabe* (Berlin: D. Reimer, 1822), vol. 1: Vorrede zur ersten Ausgabe (blz. v-x), Vorwort zur zweiten Ausgabe (pp. xi-xviii), Einleitung (pp. 1-56) and Allgemeine Vorbemerkungen über die festen Formen der Erdrinde (pp. 58-87).

<sup>73</sup> Carl Ritter, 'Entwurf zu einer Karte vom ganzen Gebirgssysteme des Himálaja nebst dem Specialblatte eines Theiles desselben um die Quellen des Ganges, Indus und Sutludsch,' *Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin aus dem Jahre 1830, Hist. Philolog. Abhandl.* (Berlin, 1832), pp. 95-120.

<sup>74</sup> '...both [maps] (combined on the enclosed leaf in lithography) are constructed and drawn with the greatest care, accuracy, and unwearied perseverance by the most conscientious cartographer Mr. Grimm.'

<sup>75</sup> J.L. Grimm, 'Anmerkung zur Karte nach Seite 111: Über den Mangel der Verbindung der Hodgson'schen und Webb'schen Messungen zwischen dem Ganges und Ram-Ganga,' *Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin aus dem Jahre 1830, Hist. Philolog. Abhandl.* (Berlin, 1832), pp. 121-124.

<sup>76</sup> *Kritischer Wegweiser* Vol. 1, Part 3 (30. Juni 1829) pp. 80-82, on p. 80. The author thanks Markus Oehrli for this reference. See also Markus Oehrli, 'Neues zur Geschichte des Begriffs 'Kartographie'. *Cartographica Helvetica* 34 (July 2006): 43-44.

<sup>77</sup> 'The publication of both atlases is a gratifying proof for the raising demand for geography education in France. Although there are already some excellent works of similar type in French cartography, demand seems to exceed supply.'

<sup>78</sup> In the issues 1829, 1830 and 1831 the word *Kartographie* and derivations appears at least 15 times. I am indebted to Markus Oehrle for counting these occurrences.

In the journal *Hertha: Zeitschrift für Erd- Völker- und Staatenkunde*, another journal edited by Berghaus, the word 'cartography' also occurs for the first time in 1829, namely in the translation of La Renaudière's presentation of 11 December 1829:<sup>79</sup> "Auch andern *kartographischen* Arbeiten gebührt hier eine Stelle" (Also other cartographic work deserve a place here).

However, a year earlier, in the review of Philippe Vandermaelen's *Atlas universel* the word *Mappirungskunst* ('art of mapping') was used instead of 'cartography'.<sup>80</sup>

It may be assumed that Heinrich Berghaus himself was both the translator of La Renaudière's presentation and the reviewer of Vandermaelen's atlas. In the review of the atlas in 1828, Berghaus spoke of *Mappirungskunst*, but he change over to *Kartographie* in 1829 for the review of the atlases by Lapie and Dufour and the translation of La Renaudière's presentation. We may therefore assume that the German *Kartographie* was borrowed from the French, and was introduced into the German language by Heinrich Berghaus in 1829 - although it is possible that Berghaus took the word from Ritter's presentation in December 1828.

### Introduction in other languages

Soon after the almost simultaneous introduction of the word 'cartography' in French and German, other European languages followed: Italian (1833), English (1830, 1834 and 1840), Spanish (1836), Dutch (1845).

#### *English 1830 - 1834 - 1840*

Helen Wallis and Arthur Robinson (1987) suggested that the word *cartography* after its introduction by Santarém "was quickly picked up and applied to the making of maps," and that the "mapmakers were soon calling themselves cartographers." Denis Wood (2003), however, cast doubt on this statement, arguing that:

*cartography* is not attested to by the Oxford English Dictionary until 1859, *cartographer* not until 1863, *cartographic* not until 1880 (in the phrase 'the cartographical art being only in its infancy'), and *cartogram* not until 1890 (and not in its modern sense until 1934). The word seems only gradually to have caught on, in fact, precisely as the subject to which it referred was making its way into the halls of academe. Imagine trying to justify a faculty position in 'mapmaking.' 'Cartography' sounds so much more respectable.

Through the enormous options that Internet offers nowadays, it became clear that *The Oxford English Dictionary* is not correct. Proof is found that the words *cartography* and its derivatives, were in common use in English *before* the second half of the nineteenth century.

The earliest mention of the derivative *cartographic* is the English translation of La Renaudière's presentation of 11 December 1829, published in May 1830 in *The Edinburgh Journal of Natural and Geographical Science*:<sup>81</sup> "Other cartographic labours should be mentioned here..." It seems this publication was not remarked by the London geographers.

<sup>79</sup> Bericht über die Arbeiten der Pariser geographischen Gesellschaft im Jahr 1829, vorgetragen in der öffentlichen Sitzung am 11. Dec. desselben Jahres von Herrn von Larenaudière, Generalsekretär der Centralkommission (Aus der Handschrift übersetzt). *Hertha* 14 (1829): 73-88, at p. 81

<sup>80</sup> *Hertha* 11 (1828): 383.

<sup>81</sup> Mr. de Larenaudiere, 'Annual note of the Labours of the Geographical Society, read at the Public Meeting the 11th December 1829,' *The Edinburgh Journal of Natural and Geographical Science* 2 (April 1830), 47-48 and (May 1830) 121-124 at 123.

The next mention of *cartography* in the English language is found in an obscure American booklet by Francis Lieber, *A Constitution and Plan of Education for Girard College for Orphans*, published in Philadelphia in 1834. Lieber was advocating in which arts orphaned children should be educated. He divided the art of drawing into five sections, one of which was described as the:

Drawing of maps or *chartography*, (at least, I believe we might use this word, formed after the French *cartographie*, which comprises the drawing of geographical and topographical maps, charts and all the drawing of mensuration).

With these words, Lieber claims to be the inventor of the word 'cartography' for the English language! He obviously did not know the *Edinburgh Journal*, but also his own 'invention' went unremarked.

Ten years after the first introduction of the word, in 1840, we find the first occurrence of *cartography* in a London publication, the *Journal of the Royal Geographical Society* for 1840. Since it is unlikely that the London geographers could have had any knowledge of Lieber's publication, we may assume that they had adapted the word from the French. The geologist George Grenough reported in his Anniversary address to the Society that John Holmes, who had prepared a catalogue of manuscript maps in the British Museum, was:<sup>82</sup>

(...) also engaged in preparing a bibliographical notice of all ancient maps of which notices are dispersed through the various geographical works, which will be of great service to the lover of *cartography*.

In 1840 and 1841, the London publisher and bookseller John Murray advertises for a new book, *Biblical Researches in Palestine* by Edward Robinson and Eli Smith. The advertisement cites a review of this book by Carl Ritter with the words "It contains in itself the materials for an entire transformation of the *Cartography* of Palestine."<sup>83</sup>

From America came other early mentions of the word 'cartography'. In William Guthrie's *A Geographical, Historical and Commercial Grammar in Miniature* (1843), Abraham Ortelius is praised with the words 'He did much for both, and applied erudition even to *cartography*'.<sup>84</sup> In the *Bibliotheca Sacra and Theological Review* of 1845, the Reverend Samuel Wolcott called Heinrich Kiepert's map of Palestine 'one of the finest achievements of modern *cartography*', and a few pages further on, he spoke of the *cartographer*.<sup>85</sup>

By the end of the decade, Noah Webster, in his *An American Dictionary of the English Language* (1848), defined '*cartography*' as 'the art of preparing charts or maps'. The same dictionary also has entries for *cartographer* ('A person who prepares charts'), *cartographical* and *cartographically*. But in 1850 Joseph E. Worcester published an entirely different definition in

<sup>82</sup> *Journal of the Royal Geographical Society* 10 (1840) p. lxxx. Holmes' work was published in 1844: *Catalogue of the Manuscript Maps, Charts, and Plans and of the Topographical Drawings in the British Museum*

<sup>83</sup> *The Gentleman's Magazine* 169 (1840), p. 16 (and other locations). Robinson prepared his manuscript to go to press while in Berlin, where he received advice from Humboldt and Ritter himself. See *The Monthly magazine of religion and literature* 1 (Gettysburg 1840), p. 61.

<sup>84</sup> William Guthrie, *A Geographical, Historical and Commercial Grammar in Miniature, New Edition* by R.A. Davenport (London: Thomas Tegg, 1843), p. 39. This text is a literal translation of Malte-Bruns *Traité élémentaire de géographie* from 1832.

<sup>85</sup> B.B. Edwards and E.A. Park (ed), *Bibliotheca Sacra and Theological Review* 2 (1845), p. 586 and 588.

another American dictionary: <sup>86</sup> 'CARTOGRAPHY: A description, or an account of maps and charts; illustration by maps and charts. W. R. Hamilton'.<sup>87</sup>

#### *Italian 1833 and Spanish 1836*

An important role in the distribution of the word *cartography* in the various languages has Adriano Balbi, whose *Abrégé de Géographie* of 1832 was translated in the principal languages of Europe, in the introduction of which he wrote: "La cartographie est sans nul doute une partie principale de la géographie" (Cartography is without any doubt a principal part of geography).

The introduction of 'cartography' into Italian seems to have come from Malte-Brun's influence. The word is first recorded in 1833 in Balbi's *Compendio di geografia*,<sup>88</sup> the Italian translation of his *Abrégé de Géographie*. In his *Compendio* Balbi speaks of *geografi ed i cartografi* (geographers and cartographers). In the same year (1833), a report by the Swedish-Italian geographer Greve Jacob Gråberg till Hemsö (1776-1847) appeared in the minutes of the *Accademia dei Georgofili di Firenze* on a new atlas of Tuscany, in which both *cartografia* and *cartografo* appear.<sup>89</sup> It is unclear how Gråberg came to use the words since he is not known to have had any direct connection with either Balbi or Malte-Brun.<sup>90</sup>

The word 'cartography' in Spanish is also first recorded in a translation of Balbi's work, the *Compendio de Geografía Universal* (Madrid, 1836).<sup>91</sup>

#### *Dutch 1845*

The introduction of *kartografie* or *cartografie*<sup>92</sup> into Dutch occurred relatively late.

The first mention comes from 1845 when the booklet *Over cartographie van Palestina*<sup>93</sup> was published by Marinus Didericus de Bruyn<sup>94</sup> (1809-1881), a theologian and private teacher in Utrecht. He used the word *cartographie* in the modern sense of the word, meaning mapping an area. In particular, he spoke of the

<sup>86</sup> Joseph E. Worcester, *A universal and critical dictionary of the English language* (Boston: Wilkins, Carter & Co., 1850), p. 106. Identical in the London edition of 1863.

<sup>87</sup> 'W.R. Hamilton' seems according to the list of consulted works (p. lxxiv) to refer to Walter Hamilton, *A Concise Dictionary of Terms Used in the Arts and Sciences* (London: John Murray, 1825). In this work, however, the word *cartography* does not appear. Therefore, obviously, is referred to William R. Hamilton's *Annual Report* in the *Journal of the Royal Society* of 1843, mentioned earlier in this article.

<sup>88</sup> A. Balbi, *Compendio di geografia* (Livorno, Masi, 1833), 563, 1087: 'che da lungo tempo i geografi ed i cartografi'.

<sup>89</sup> Rapporto di una Commissione sopra l'Atlante Toscane... 3 Marzo 1833. *Atti dell' I. e R. Accademia Economico-Agrarica dei Georgofili di Firenze* 11 (1833), p. 114. The committee consisted of Antonio Targioni-Tozzetti, Gaetano Giorgini and Jacopo Graberg di Hemso.

<sup>90</sup> Gråberg has been credited with introducing the word 'statistics' into Italian, see Patriarca (1996): 51.

<sup>91</sup> p. XXIII: "Cartas geograficas: La cartografia forma sin duda una parte principal de la geografia".

<sup>92</sup> In the Dutch language there are differing views on the correct spelling: the official spelling is *cartografie*, but in professional circles *kartografie* is used. See Van der Krogt (2006).

<sup>93</sup> M.D. de Bruyn, *Over cartographie van Palestina: Berigt bij de uitgave eener kaart van het Heilige Land* (Amsterdam: De Grebber, 1845). In this book's review in the *Nieuwe Rotterdamsche Courant* of 4 July 1845 the title is erroneously quoted as "Over de Chartographie van Palestina".

<sup>94</sup> Biography: J.H. Scholten, "Levensbericht van Marinus Didericus de Bruyn", in *Jaarboek van de Maatschappij der Nederlandse Letterkunde*, 1882 (1882), p. 67-88 (on-line [http://www.dbnl.org/tekst/\\_jaa002188201\\_01/\\_jaa002188201\\_01\\_0015.htm](http://www.dbnl.org/tekst/_jaa002188201_01/_jaa002188201_01_0015.htm)).

geschiedenis van de *cartographie* van Palestina, die ons leert, welke kaarten elkander in de Wetenschap zijn opgevolgd, en in hoeverre de laatste nog voor verbetering vatbaar bleven.<sup>95</sup>

**TABLE**

**Promulgation of *cartography* in the late 19th and 20th century**

Occurrence of “*cartograph.*” in titles of publications per decade in the catalogues of the British Library and the Bibliothèque nationale de France.<sup>96</sup>

	BL	BNF
1840-49	3*	4
1850-59	3 <sup>†</sup>	3
1860-69	-	9
1870-79	14	18
1880-89	15	41
1890-99	73	42
1900-09	36	70
1910-19	30	34
1920-29	79	46
1930-39	53	78
1940-49	81	45
1950-59	181	128
1960-69	314	142
1970-79	317	258
1980-89	455	261
1990-99	408	313

\* Twice in the Works by Santarém and De Bruyns book of 1845.

<sup>†</sup> incl. 1x *chartography*

*Meaning of ‘cartography’.*

When Tessier wrote about a *cartographie universelle* in 1790, he had a descriptive listing of maps in mind, rather what we would call a carto-bibliography nowadays.

Although Malte-Brun in 1826 *cartographie* describes as the science of the graphical representation of geographical phenomena on maps, the meaning in the documented places is almost exclusive mapmaker / mapmaking / related to maps. 'Cartography' as a generally accepted denomination for the science of mapmaking dates from a (much?) later date.

Dictionaries of the mid-nineteenth century document two meanings, namely the art of manufacturing maps and a listing of maps (a cartobibliography).

<sup>95</sup> ‘... the history of cartography of Palestine, which tells us what scholarly maps followed each other and to what extent the latest still can be improved’.

<sup>96</sup> Regrettably, no table could be generated for the Deutsche Staatsbibliothek as it is not possible to search with random words in the title, whilst in the catalogue of the Österreichische Nationalbibliothek one cannot search by year.

**Meaning of Cartography / Cartographie**

1834: l'art de dresser des cartes géographiques (Ajasson de Grandsagne, *Uranographie ou Description du ciel*)

1836: Art de faire ou de composer des cartes géographiques (*Dictionnaire général des arts et des métiers*)

1848: The art of preparing charts or maps (*An American Dictionary of the English Language*)

1850: A description, or an account of maps and charts; illustration by maps and charts (*A universal and critical dictionary of the English language*).

1856: Art de tracer les cartes de géographie (*Dictionnaire national* by Louis-Nicolas Bescherelle).

1857: Recueil de cartes géographiques; art de tracer ces cartes (*Dictionnaire de la conversation et de la lecture, 2e ed.* (Paris: Michel Levy, frères, 1857).

*Chorography and Mappography*

Two alternate names have been devised for the manufacture of maps, first chorography (1833) and later mappography (1846).

In 1833, the Austrian astronomer Joseph Johann von Littrow (1781-1840) issued a guide on how to draw maps, the *Chorography oder Anleitung alle Arten von Land-, See-, und Himmelskarten zu verfertigen* (Vienna: Beck, 1833), that was also translated into Dutch.<sup>97</sup> Littrow borrowed Ptolemy's term for the description of a landscape or a local area that was also used in the Renaissance for maps, written descriptions, and the making of such descriptions, usually of a sub-national region or county, but in the early eighteenth century had given way to 'topography'.<sup>98</sup> The use *chorography* as designation for professional map drawing suffered the same fate as Littrow's other semantic invention, *calendariography*, the art of making calendars, and never caught on.

In 1840 the German bibliographer Johann Georg Theodor Grässe (1814-1885) wrote in his study guide for the history of literature that young noblemen were instructed in the fifteenth century in Sagres "durch ein aus Majorca verschriebenen Mathematiker in der Erdkunde, Schiffahrt, Astronomie und *Mappographie* unterrichtet wurden,"<sup>99</sup> referring to a Spanish-Portuguese source, Manuel de Faria y Sousa (1590-1649), *Epitome de las historias Portuguezas* (Madrid, 1628).<sup>100</sup> However, nothing is found here.<sup>101</sup> When Grässe repeated the same quotation in the 1850 edition of his work, he made no reference to Sousa, having discovered, I assume, that his earlier reference was incorrect. In 1850 Grässe has not yet gotten to use *Kartographie*: he states in the abbreviated version of his study guide with respect to Sanuto that he "für die *Mappographie* dieser Periode

<sup>97</sup>*Chorographie of handleiding tot het ontwerpen van alle soorten van land-, zee- en hemelkaarten*, by J.J. Littrow; translated from High-German and supplemented with notes by R. Lobatto ('s-Gravenhage: Van Cleef, 1842).

<sup>98</sup> See also the first paragraph of this article.

<sup>99</sup> J.G.T. Grässe, *Lehrbuch einer allgemeinen Literärgeschicht aller bekannter Völker der Welt, Vol. 2.Part. 2, first half* (Dresden and Leipzig, Arnold, 1840), p. 809.

<sup>100</sup> Grässe refers as follows: 'Man. de Faria y Sousa Epit. de las Hist. Port. L. IV. c. 3'.

<sup>101</sup> 'L. IV. c. 3' is the 4th book, chapter 3. It seems that the first chapters of the fourth part of Sousa's book were misnumbered; the third chapter of book IV in the 1628 edition is numbered 21, but it also discusses a different period (1605 to 1625). The early 15th century, when Prince Henry the Navigator is said to have founded the School of Navigation at Sagres is treated in chapter 12 of the third book (p. 465–66), where no reference is found of Grässe's statement.



von äußerster Wichtigkeit ist."<sup>102</sup> In a language, wherein the word for map was derived from *mappa* (as English, Spanish, Polish, and Ukrainian), the term 'Mappography' seems more plausible than 'cartography' ; therefor it is most remarkable that 'Mappography' occurs for the first time in German.

Baron Edward Rastawiecki (1805–1874) published his carto-bibliography of maps of Poland under the title *Mappografia dawnej Polski* (Warsaw, Orgelbrand), in 1846. At the start of the second quarter of the twentieth century the term appeared in Ukrainian, as *mapografija*, in L. V. Klimentov's introductory textbook *Vstup do mapografii* (Kiev, 1928).<sup>103</sup> At present 'mappography' or 'mapography' is still in use as a kind of alternative for map-related terms.

### Conclusion

'Cartography' as a word is much younger than the 'drawing of maps' itself. Although drawing of maps as an art already had a dedicated designation by the Greek, *pinakographia*, obviously no need was felt to give the profession its own name until in the early nineteenth century. Drawing maps was possibly seen as a handicraft in support of geography, 'describing the places' (sometimes seen as part of chorography). When in the early nineteenth century, geography develops more and more into a science, a need arises to also consider drawing of maps as more academic. Conrad Malte-Brun is possibly the first to name the trade 'cartography' - already in 1808, and later he introduced *cartographie* as the name for the science of the graphical representation of geographical phenomena in maps. He found not much followers. In German, *Kartenzeichnen* remained in use or it was tried to introduce *Mappirungskunst*, whilst a drawer of maps called himself a *Geometer*. In French, *l'art de construire les cartes de géographie* is on record in 1823. Around 1826 and later, the word *cartographie* (and derivatives) plays an increasing role in French, influenced by Malte-Brun and his pupils La Renaudière and Balbi and gets to be accepted in other languages, in succession in German (1829), English (1830), Italian (1833), Spanish (1836) and Dutch (1845).

From approximately 1840 onwards one could say that 'cartography' had become generally accepted, but still with two meanings, being the art of drawing maps and the drawing-up of a list of maps. As the former meaning started to become ruling, Sir George Fordham decided in 1914 that for the latter meaning, a listing of maps, a new term was required: 'cartobibliography'.<sup>104</sup>

### Note

The initial Dutch text was translated by Hans Kok. The text was edited by Ferjan Ormeling and others.

<sup>102</sup> J.G.T. Grässe, *Handbuch einer allgemeinen Literaturgeschichte aller bekannter Völker der Welt, Vol.2* (Leipzig: Arnold 1850), p. 659 (Sagres) and 596 (Sanuto).

<sup>103</sup> Sališček (1979).

<sup>104</sup> H.G. Fordham, *Studies in Cartobibliography* (Oxford: Clarendon, 1914). See Fordham's biography in *The Geographical Journal* 73 (1929), p. 585. After a short study, it seems unlikely that this is based on a wrong assumption, as was the case in Santarém's supposed introduction of 'cartography'.

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