

The East Indian Water World 1709-1760: A comparison of two Dutch manuscript atlases

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Keywords: Manuscript atlases, Toponymy, Southeast-Asia

Abstract:

In 1709 Isaak de Graaf, chief cartographer of the Dutch United East India Company (VOC) in Amsterdam, produced a manuscript atlas, called *Atlas Isaak De Graaf* (or Atlas Amsterdam), after him. This atlas portrayed the trading area of the VOC, and ranged from the Cape of Good Hope to Japan. It showed the countries around the Indian Ocean and in Southeast Asia. Two generations later (1760/61), Gerrit de Haan, chief cartographer at the VOC's other map establishment, situated in Batavia (present-day Jakarta), did likewise and produced another manuscript atlas of the VOC trading area. Both atlases have been reproduced in facsimile, the *Atlas Isaak de Graaf* as volume I of the *Comprehensive atlas of the Dutch East India Company*, while all sheets of the De Haan atlas were reproduced inserted in volumes II-VII of the same publication. For both atlases place name indexes have been produced and, on the basis of the comparison of these two name sets, conclusions can be drawn regarding the changes in naming behaviour of Dutch mariners between 1700 and 1760. On the basis of the place name spellings, more use has been made of British and French maps for the later atlas.

The *Atlas Isaak de Graaf* originally contained some 187 maps, 175 of which have been preserved, amongst which there are many large-scale maps of fortifications and town plans with only a few names. The atlas by Gerrit de Haan, called *Ligtende zeefakkel of de geheele Oost-Indische waterweerd* ('Shining see-torch or the complete East-Indian water world'), contained 50 maps (with 8 town area and 42 overview maps). Apart from one map posthumously added to the Atlas de Graaf, all the maps in the De Haan atlas were new, and – in theory - based on more recent observations.

The nature of the overview maps in both atlases is the same: they are homogeneously executed. They serve as small-scale hydrographic charts, showing only coastal towns, bays, capes, islands and navigational hazards. The map lettering is more modern in the De Haan atlas, and the spelling more like contemporary Dutch, and there is a standard portrayal of coastal views.

While the De Graaf atlas presents an uninterrupted series of overview maps of the whole trading area, the later atlas has more detail for specific trading areas, omitting areas in-between. This suggests changes in the focus of mercantile operations of the VOC. There is less interest for the African coast and for Kerala in the De Haan atlas, and more for the Philippines and Eastern Indonesia. Neither atlas shows any maps for Borneo, apparently this large island did not present any opportunity for trade. Although Australia did not present any commercial interest either, its western coasts were extensively portrayed in both atlases. Of course, comparison of the two atlases also shows the advances in geographical knowledge of Southeast-Asia.

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Introduction

The Dutch East India Company (1602-1799) disposed over two main cartographic workshops, one in Amsterdam and one in Batavia (present-day Jakarta). The one in Batavia served as a clearinghouse: a gathering, processing and distribution point for all the cartographic information gathered east of Cape of Good Hope. The information gathered was regularly sent to Amsterdam, where all those maps were copied, that were intended for the outward bound voyage of the VOC-ships to the East. These were the small-scale charts used for navigating the Atlantic and Indian Oceans and the larger-scale charts of the East-Indian waters, as well as large-scale charts for Sunda Strait and the Bay of Batavia. In Batavia the ships pursuing their journey for the Red Sea, India, Ceylon, China or Japan were equipped with charts of those areas. The VOC cartographers also produced other types of maps, next to small and large scale navigational charts: maps and plans of fortifications, maps of inland routes followed by embassies to foreign courts, or by military expeditions (see GAVOC).

Atlases produced for the whole VOC trading area had been compiled before (Schilder 2006): In 1622, the board of the VOC for the first time required a handy standard-size chart book, which was not preserved however. In 1660 work on a second atlas was started but not completed as the board was shocked by the costs involved. The maps already compiled were partially preserved in the Vingboons collections. The idea of making the cartographic material of the VOC accessible to the board was raised again in 1689. In that year a motion was passed by the board "... that all the maps of countries, cities, forts and places in the Indies which have been sent over from time to time and still arrive daily, should be drawn anew and in this manner put into a separate book" (Schilder 2006)

The Atlas Isaak de Graaf

In 1691, aged 23, Isaak de Graaf was commissioned to produce this chart book of the Indies. His father was also serving the VOC, as examiner of its helmsmen and pilots, and as author of a number of standard texts on navigation. So Isaac must have been familiar with the principles of navigation and charting. The first step was to ask the Batavia cartographic workshop for recent map material not available in Amsterdam, and this arrived at the end of 1692 in Amsterdam, and then the compilation work could begin. In 1709 De Graaf, nominated VOC's chief cartographer in 1705, completed the manuscript atlas, which was forthwith to be called the *Atlas Amsterdam* or *Atlas Isaak De Graaf*, after him. This atlas portrayed the trading area of the VOC, and ranged from the Cape of Good Hope to Japan. It showed the countries around the Indian Ocean and in Southeast Asia. The Atlas originally contained 187 maps (53x73cm), 175 of which have been preserved, amongst which there are many small- and medium-scaled marine charts but also large-scale maps of fortifications and trading lodges with only a few names. The atlas also contains river charts, town plans and some geographical regional maps. Unfortunately, in a misplaced attempt to store the maps geographically, in 1856 the atlas was dismembered and its contents stored as separate sheets; in the process twelve sheets were lost. The original cover of the atlas has not been preserved. Instead we show here the cover of the facsimile edition (slide 2).

The structure of the atlas can be deduced from the table of contents drawn up in 1806: the atlas consisted of two volumes, the first contained the western half of the trading area of the VOC, from the Cape Colony to Sumatra, Malacca and the Sunda Strait. It begins with a couple of general overview maps/charts, and these are followed by larger-scale charts, maps

and town plans ranged from west to east. The second volume covers the Malay Archipelago with New Guinea and Australia, and then the so-called Indies 'North', by which name South-East and East Asia roughly to the north of Malacca were meant at the time. The order in which the separate regions and places are dealt with in detail is from Java via Celebes to the Moluccas and then on to Indochina, China, Taiwan and Japan, with in conclusion the charts of coastal Australia and New Guinea. As stated above, a number of the original maps of both-volumes are missing, including those of the town and Strait of Malacca and the maps of West, Central and East Java. On the other hand some new maps were added after the first completion of the atlas in about 1705, for example those of the west coast of Madagascar, and of Batavia Bay.

The *Ligtende zeefakkel of de geheele Oost-Indische waterweerd*

The *Ligtende zeefakkel of de geheele Oost-Indische waterweerd* ('Shining see-torch or the complete East-Indian water world') was produced in Batavia, two generations later (1760/61). It was Gerrit de Haan, VOC's chief cartographer in Batavia who compiled it. It contained 50 sheets of different sizes, ranging from 53x53 to 62x198cm, with 8 town area and 42 overview maps. Apart from one map posthumously added, all the maps in this De Haan atlas were new, and – in theory - based on more recent observations. Like its predecessor it showed the countries around the Indian Ocean, but it also covered Australia and the Pacific.

Like its predecessor the atlas is divided into two volumes, on the same lines as the De Graaf atlas: Volume 1 almost equals De Graaf's volume 2 in scope, and volume 2 vice versa. So Volume 1 starts from Batavia westwards to Southern Sumatra and then Malacca straits, the Gulf of Thailand, the South China Sea, Canton, to Japan. An innovation compared to De Graaf atlas is the map of the Pacific Ocean, including the Pacific part of the viceroyalty of New Spain – apparently in Batavia they had a different global outlook as compared to Amsterdam. The Philippines followed, the Moluccas and Eastern Indonesia, brought into perspective again by a map of the southern continent Australia as circumnavigated by Tasman, with New Zealand and Tonga, and by Celebes, the Lesser Sunda isles we return to Java and Batavia.

Volume 2 again departed from Batavia, not northwards however but westwards, through Sunda Strait, the west coast of Sumatra, and on to India via the Andaman Sea and the Bay of Bengal. Charts of the Coromandel coast, Ceylon, Malabar coast, the Persian Gulf, Strait Babel Mandeb and the Red Sea followed, the Southwestern Indian Ocean with Madagascar, ending in South Africa. As a bonus, maps of Australia's west coast and of Java were added, as well as an overview map of the Indian Ocean area. The coverage of this Indian Ocean area with more detailed map was incomplete as can be seen in figure 1.

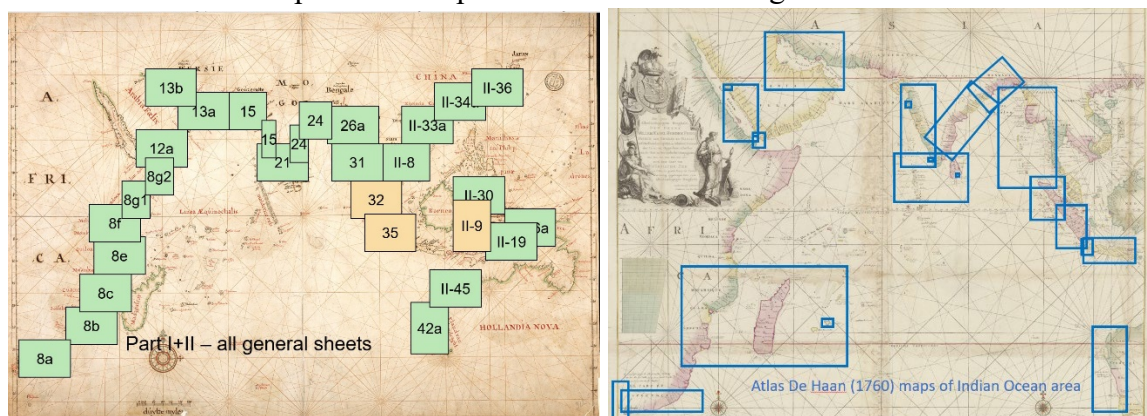


Figure 1. Index of the maps bordering the Indian Ocean in the De Graaf atlas (1709, at left) and the De Haan atlas (1760).

Difference in purpose

That brings one to focus on the difference in purpose of the two atlases: The Atlas Amsterdam had been produced primarily in order to present all the available map material on the East Indies in a format accessible to the VOC board. De Haan's intention was different: He provided route charts to all parts of the VOC trading area. The Horn of Africa, Hadhramaut and Baluchistan clearly did not belong in VOC's trade network any more. The Maldives, not mapped by De Graaf, had lately been incorporated in this network, as cowrie shells could be obtained there, which were regarded as currency in parts of Africa, and so they were charted by De Haan as well. What stands out, when looking at an index chart of De Haan's map sheets on the East-Indian archipelago (slide 6), is that the southern part of the isle of Borneo is not portrayed (it is only rendered on the overview map of the whole trading area). The smaller rectangles of course stand for larger scale, more detailed maps, and one notices the extensive coverage of Sumatra, Java, Malacca and Singapore strait, the Lesser Sunda Isles and the Moluccas.

Differences in style



Figure 2: Southeast Celebes by De Graaf (at left) and De Haan (at right). At the head of the Gulf of Mandar the places *Kaij* and *Pau* are located, rendered by De Haan as *Kraaij* and *Pauw*.

De Haan has almost only overview maps, except for some town plans and harbour charts, so we will focus on the overview maps in both atlases, when discussing differences in style. When we compare them (as in figure 2), immediately we are struck by the much more modern appearance of the De Haan maps, with running modern script which

makes it easier for us to read, even if the contrast is not well preserved. The lettering by De Graaf is rather dominant, even if the coastline has been highlighted as well, as compared to De Haan. De Graaf's letters are more gothic, while De Haan's names are perfectly readable to a modern audience. Where De Graaf only had a few maps doing so, for De Haan it was standard practice to differentiate with colours between names located on terra firma and on water: black names were on land and red names on water, thus making the land/water division clearer, especially in an amphibious area like the Indian archipelago.

There is more detail in most De Haan maps, and the south coast of Java is a good example. There, De Haan rendered the Zandbay or Teluk Ciletuh, for the first time and he greatly improved the topography around the main southern coastal port of Cilacap, with the inland lagoon of Segara Anakan correctly portrayed. Further east the isle Barung (Nusa Barung or Pulau Nusabarung as the official name with double generics has been standardised) is rendered by him as well.

Especially in Eastern Indonesia, De Haan's sheets show an enormous increase in topographical knowledge which is especially visible in the islands Misool and Salawati, under the coast of New Guinea or Irian. This proof of extensive habitation is strange, as most of these names shown on the map or the corresponding villages cannot be retrieved on GeoNames – apparently there has been a severe reduction of the habitation since the 1760s.

Another proof of increased detail is the chart of the mouth of the Ganges river with not only a more precise rendering of the sand banks, islands and coastline, but also coastal views, buoys, and a clear suggestion of danger: on the sand banks the shipwrecks of at least four East India Men are drawn in.



Figure 3 Bacan Island southwest of Halmahera, by De Graaf (at left) and De Haan (at right)

And although De Graaf already presented some coastal views, this also was standard practice in the De Haan atlas, and the relief is certainly more extensively portrayed. The map of Strait Bab el Mandeb is a good example, with the skylines of Mocca and Aden exquisitely rendered. But another example would be the map of the bay of Muscat, for which De Haas clearly and most vividly shows the extensions of the fortifications.

Another comparison between the styles of De Graaf and De Haan, in figure 3, shows that the emphasis on drawing coastal views can be detrimental to seeing the overall picture. In De Graaf's version of Bacan Island, located southwest of Halmahera in the Moluccas, the outlines of the island stand out, while in De Haan's version it is the mountains that catch the eye, and the overall shape of the island is difficult to gauge.

Finally from a functional point of view the De Haan maps are more advanced as it is standard practice to show compass lines.

Differences in Names

For both atlases, names indexes were produced, and this eased the comparison of the names from one atlas to the other. The 16 000 and 8 400 names contained in the De Graaf and De Haan atlases were first reduced, by weeding out all double names, i.e. names that referred to the same feature, in different maps. Only when European and indigenous names for the same feature occurred side by side, both were retained. This operation resulted in 8302 named features in the De Graaf and 5625 named features in the De Haan atlas (see table 1). Because the De Graaf atlas contained 175 maps and the De Haan atlas only 50, this difference is

striking, but understandable when one realises that the De Graaf atlas contained many large scale plans with only few toponyms. The author's surmised ability to distinguish between European and indigenous names led to a division into indigenous, Dutch, English, French and Iberian names (see table 1). What also is striking is the fact that in the De Graaf atlas the percentage of indigenous names was 79, while two generations later this had dropped to 67 – one would have expected that because of growing familiarity with the area, more indigenous names would have been retained.

Atlas by→	Isaak de Graaf			Gerrit de Haan		
Names origin↓	absolute	% of all	% of all Eur.names	absolute	% of all	% of all Eur.n
indigenous names	6603	79	-	3796	67	
European names	1699	21	100	1829	33	100
European names without Dutch names	341	4	20	681	12	32
Latin names	21	0,2	1	5	-	0,2
Portuguese/Spanish	300	3	18	582	10	
French names	16	0,1	1	64	1	3
English names	4	-	-	39	0,6	2
Dutch Names	1358	16	80	1119	20	61
total	8302	100		5625	100	

Table 1 Subdivision of the names in our manuscript maritime atlases on the basis of the provenance of the names.

Table 1 shows the share of Dutch names in all European names decreased from 80 (de Graaf) to 61% (De Haan). The number of Latin names decreased, but that of Iberian names increased substantially, because of the incorporation of a detailed map of the Philippines in the De Haan atlas. English and French names increased fivefold in numbers in the De Haan atlas, especially for Mianmar, the Red Sea area and Madagascar.

When focussing on the Dutch names, there is an unsatisfactorily large percentage of uncategorised names – these would be names referring for instance to navigational hazards (such as Foul Bay, Rough Cape), to contacts with locals (Murderer's Bay, Fisherman's island), or state of mind (Fortune island, Cape of Good Hope). Locational names (capital directions, names like Two Brothers, Hen and Chickens) increased from De Graaf to De Haan, while Dutch names referring to animals decreased from 19 to 15%. But the largest differences were in the category of descriptive names (like Red Hill, Green Island, low/long, etc), of which De Haan had an increase of 6% and in the category of names referring to places back home, which showed a reduction of 7%. Apparently the custom of naming groups of small uninhabited islands after places back home was waning.

Most names remained indigenous names, based on the hearsay of natives, but often adapted to the European languages. Examples of adaptations to Dutch are Selangor>Slangoor (snakes's ear), Miskin > Misschien (perhaps), Misigit>Muschiet (mosquito). Pulau Panikiang became Pannekoeken eiland (Pancake island), the land of Ende (on Flores) became Land van Einde (the end). Gili Ijang became Galjoen (galleon), Socah (pronounced as Sochah) became Zoetje (Sweetie) and Bawean became Baviaan (baboon).

name types	Isaak de Graaf		Gerrit de Haan		% difference
	absolute	%	absolute	%	
locational	166	12	182	16	+4
descriptive	165	12	201	18	+6
animals	253	19	166	15	-4
plants	46	3	40	4	+1
persons	122	9	108	10	+1
places	220	16	96	9	-7
rest	386	28	329	28	
total	1358	100	1122	100	

Table 2 Dutch names subdivided over name categories

In the *Atlas Amsterdam* of Isaak de Graaf many names were clearly derived from Portuguese maps. Many of those Portuguese names were likewise adaptations of Malay names: Pulau Masperi became Lusapara; other examples are Rosugilet, Lusaradi, Lucipara; and these Portuguese adaptations were retained by the Dutch. The Portuguese name Queda was derived from the Malay Kedah as the Portuguese Quilowa refers to the Swahili name Kilwa. The Portuguese words ‘Vigia’ (look out!) and ‘ouro’ (gold to be found here!) were not translated by the Dutch but considered as place names.

Contrary to Isaak de Graaf who must have attended a Latin school, Gerrit de Haan had no proper education beyond some classes of primary school, as he joined the VOC aged eleven, as scheepsjongen (ship boy/dogsbody) Apparently he showed an aptitude for navigation, as he was apprenticed to the cartographic workshop, as soon as his ship reached Batavia. There he did rather well, as assistant to the chief cartographer, from whom he got practical schooling in mathematics and the use of navigation instruments at sea (Guleij 2016). When, in 1745, his boss was nominated governor of the newly established Marine Academy in Batavia, De Haan - aged 17! – was nominated his successor. But his deficient education was apparent in his handling of English and French toponyms, which he did not recognise as such. ‘Small river’ is turned by him into ‘Smal rivier’ (narrow river in Dutch), ‘Danish Fort’ wordt ‘Danees Fort’ (instead of Deens Fort in Dutch), and neither does he seem to understand the meaning of rocks, hill, sunken or dangerous. There are similar reactions to French names. Off southern Myanmar, he draws in the isle of ‘Negada or Verdrongen eijlandt’ (submerged island) and next to them he copies from a French chart an Ile Noyée, which must have referred to the same Negada island. On the other hand, there was also a literary reference: De Haan introduced a Lelij Puttens Baij (Lilliput Bay) on Dassen Island in South Africa, so he must have been familiar with Jonathan Swift’s masterpiece. A final remark on De Haan’s naming practice: he had a strong tendency to adapt indigenous names to Dutch words: an example is that the names Kaij and Pao (on a map by De Graaf) have been turned into Kraay and Pauw (crow and peacock), Dutch names for birds (see figure 2), Sukadana becomes Sinkendamme, Nusa Penida becomes Bandieten eiland.



Figure 4 Detail from the map Bali to Makassar from the De Haan atlas, showing *de Laars* (the boot) sandbank and the *Bank van sessen*. NL-HaNA_4.VELH_156.1.22-Bali-Makassar

A number of features on the maps in both atlases didn't get their names from local informers, but their names were coined only after being mapped, and named after their particular shape: the *horseshoe*, the *pair of glasses*, and the *boot* are examples. Totally inspired by cartography is the name 'bank van zessen', (sandbank of sixes), a shoal covered with 6 fathom soundings (see figure 4). For the choice of names bestowed by the Dutch on features in the archipelago one is referred to the introduction of volume I of the Comprehensive atlas of the Dutch United East India Company, pages 33-37.

Geographical differences

Comparison of the contents of the two atlases suggests changes in the focus of mercantile operations of the VOC, as there is less interest for the African coast and for Kerala in the De Haan atlas, and more for the Philippines and Eastern Indonesia. Neither atlas shows any maps for Borneo, apparently this large island did not present any opportunity for trade. Although Australia did not present any commercial interest either, its western coasts were extensively portrayed in both atlases. Of course, comparison of the two atlases also shows the advances in geographical knowledge of Southeast-Asia.

Figure 5 shows the differences more in detail: The areas where De Graaf's maps showed more information, on larger scales, were South and East Borneo, New Guinea, Ceylon, East China and Japan. The coastlines where De Haan had a superior portrayal were those of Madagascar and Mozambique, the Red Sea and Persian Gulf, the Maldives, the Coromandel coast and Southeast coast of Myanmar. As the sheets on Strait Malacca were missing from the De Graaf atlas, De Haan was also doing better there. He introduced a superior map of the Philippines, better maps of Northeast Celebes, and his coverage of Australia was much extended and improved. The only area in the De Haan atlas that is incomprehensibly outdated is northern New Guinea, it is much better portrayed by De Graaf.

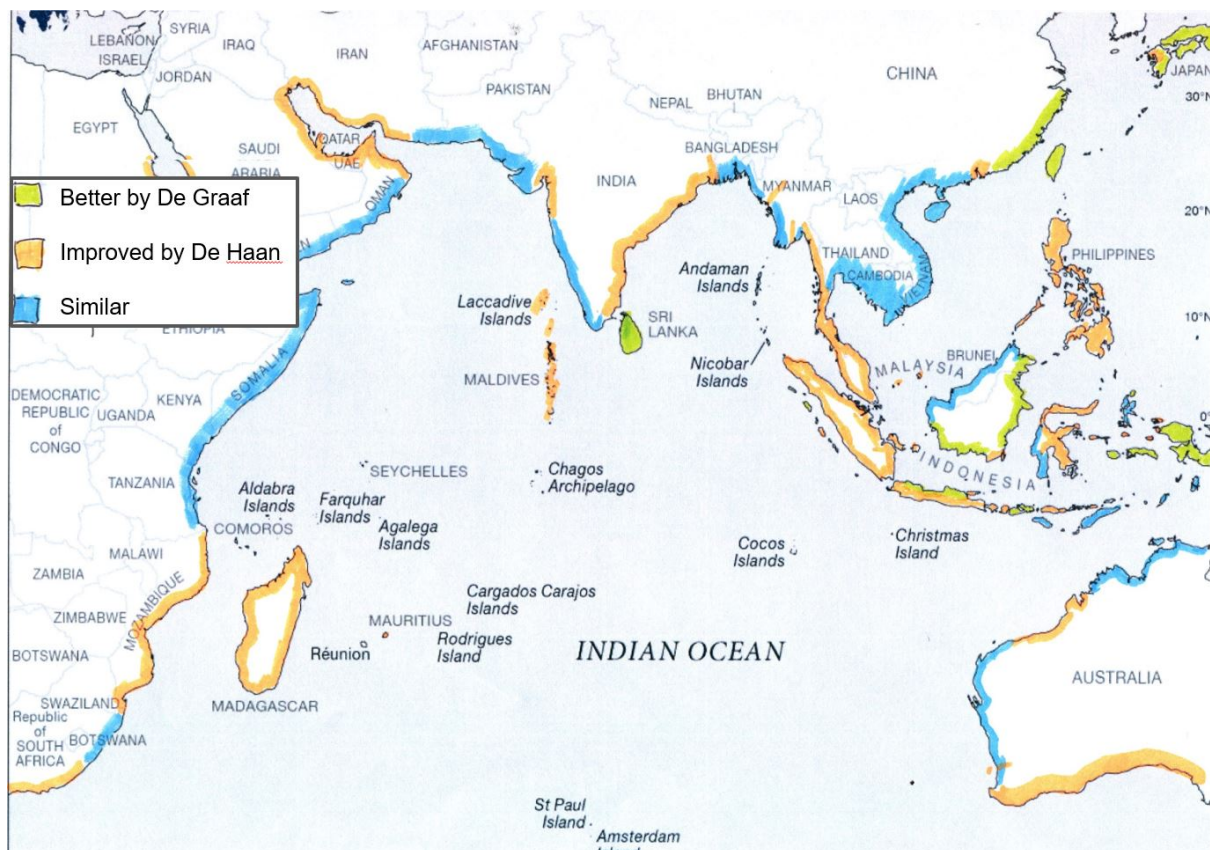


Figure 5 Comparison of the detail shown on the maps in the De Graaf and De Haan atlases. Blue coastlines are rendered similarly in both atlases, For green coastlines De Graaf shows more detail, while for orange coastlines De Haan has more information.

Final remark

The De Graaf atlas with its superior number of maps (175), standard-sized sheets and more diverse composition has attracted more attention by historians of cartography, also in the sense that a special facsimile edition was produced (volume I of the GAVOC). But the De Haan atlas, *Ligtende zeefakkel of de geheele Oost-Indische waterweerdlt* ('Shining see-torch or the complete East-Indian water world') actually deserves equal attention – it has been reprinted, but its facsimile maps are dispersed over the 7 volumes of the GAVOC, so that it is difficult to perceive it as the well-structured unit it is. Given the less favourable production conditions in Batavia, its relative isolation from the world's mapping centers, it is a remarkable work in its own right.

Literature

GAVOC (*Grote Atlas van de VOC*) or *The Comprehensive atlas of the Dutch East India Company* was published in 7 volumes by Asia Maior Publishing House, Voorburg 2006-2010. It can now also be accessed on line through the National Archive in The Hague. Volume 1 reproduces the Atlas Amsterdam or Atlas Isaak de Graaf.

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