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Missing Links in the Development of the Ancient Portuguese Cartography of the  
Netherlands East Indian Archipelago

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whole place seemed to be settling down, and I think the Kurds are now realizing that we are not out to get their blood, so to speak, but are doing all we can to help them. We have been sending them up food and clothes and have done much else. I am quite certain that things will settle down, and then when the peace, if ever it comes, is known to everybody, it will find things very very different from what they have been during the last year.

The PRESIDENT: It has been a very great joy to those of us who have had to remain in London during the war to see these men who have been doing work for us out in the far parts of the world coming back to town once more. Those of us who have had to deal with wild peoples must know that the difficulties of officers have been enormously increased by the uncertainty that there has been ever since the Armistice was signed as to the future destinies of the countries in which these officers have been working. You have been able to hear from what these officers have told you that there is this uncertainty as to whether Kurdistan is to come under British rule, or go back to Turkish, or to become part of the Armenian State of the future. Until that matter is definitely decided the work of our officers out there must be conducted under enormous risk and carried through with the greatest difficulty. We can well appreciate the difficulties which our officers have had to encounter. I think that in listening to the lecture of Major Mason the chief thought which has struck us was the fact that the dreadful desolation and horror which we have heard described came about through no fault of the people themselves. These unfortunate people have had their homes wiped out and the population of the country has been decimated through no quarrel of their own, but through a quarrel between Europeans far away in the centre of Europe. From Major Mason's description and from the excellent slides which he showed us, the country seems extraordinarily dry and desolate, and at the present time there does not seem to be very much in the way of communications. Nevertheless, the lecturer ended his address on a note of hope. He thought it would make an excellent hill-station for our troops if we retain garrisons in Mesopotamia. He spoke of the possibility of growing trees there—possibly fruit trees,—of growing vines and cereals, and cotton and tobacco, and I think he mentioned that there might be coal and oil there too. So after all there may be some future for this unfortunate country, and we may hope before long that it will be settling down for solid reconstruction. It only remains for me to ask you to return a very hearty vote of thanks to Major Mason for his most instructive and informing lecture.

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## MISSING LINKS IN THE DEVELOPMENT OF THE ANCIENT PORTUGUESE CARTOGRAPHY OF THE NETHERLANDS EAST INDIAN ARCHIPE- LAGO

E. C. Abendanon

THROUGH my studies on the historical cartography of Celebes\* I have been carried temporarily on scientific ground not my own. On this occasion I have been struck by the missing links in the develop-

\* *Voyages géologiques et géographiques à travers la Célèbes Centrale* (Leyde, 1918), vol. 3, chap. xxii.

ment of the oldest Portuguese cartographic picture of the East Indian Archipelago. The object of this paper is to demonstrate this to its full extent, in the first place for those who may sooner or later have the good luck of finding one or more of these missing links.

The expression "oldest cartography of the Archipelago" is used here to indicate the oldest cartography based on observations, thus excluding everything prior in date to the arrival of Europeans in the Archipelago. The latter category, highly fantastic in character, has been the subject of an interesting article by Dr. F. C. Wieders in the new issue of the *Encyclopædie van Nederlandsch-Indië*, under the title "Kaartbeschrijving."

It is common knowledge that, in the end of the 15th and in the beginning of the 16th century, the Portuguese, after rounding the Cape of Good Hope, gradually extended their explorations farther east. After the conquest of Malacca in 1511 Affonso d'Albuquerque \* sent, in November of the same year, an expedition of three ships to the Moluccas under Antonio d'Abreu, Francisco Serrão and Simão Affonso Bisigudo.† Pilots on board these ships were Gonçalo d'Oliveira, Luys Botim and Francisco Rodrigues.‡ It is of the last-named pilot that maps of the Archipelago are still in existence; it is highly probable that these are the oldest which are based—at least partly so—on personal observation. These maps have been reproduced by the Portuguese Viscount de Santarem§ under the following title: *Portulan dressé entre les années 1524-1530, par Francisco Rodrigues, Pilote Portugais qui a fait le voyage aux Moluques*.

As regards the date 1524-1530 de Santarem, who was not aware that Rodrigues had been at Malacca as early as 1511, seems to be in error. This is demonstrated by Hamy|| and Coote,¶ who attribute to Rodrigues maps the dates 1511-1513; or let us say about 1512. On these maps of Rodrigues, undoubtedly the oldest of Portuguese origin, Sumatra and Java are given, Borneo under the erroneous name of *maquacer* or *maquater* (Macassar)\*\* and many small Sunda and Moluccas islands. Between Borneo and the Moluccas figure islands which I hold to be the high mountain ranges of Celebes which the traveller took for separate islands. This group of islands therefore represents, in my opinion, the first embryonic cartographic picture of Celebes, as a result of field work.

\* W. de Gray Birch, *The commentaries of the great Afonso Dalboquerque*, Hakluyt Society, London, 1880; G. Collingridge, *The discovery of Australia*, Sydney, 1895.

† P. A. Tiele, *De Europeërs in den Maleischen Archipel*, Bijdr. Taal-, Land- en Volkenkunde, 1877, p. 355.

‡ Dr. E. T. Hamy, *Études historiques et géographiques*, Paris, 1896: VII, *L'Oeuvre géographique des Reinel et la découverte des Moluques*, pp. 164 et 174-175; G. Collingridge, *loc. cit.*, p. 113.

§ *Atlas composé de mappemondes et de cartes hydrographiques et historiques depuis le XI<sup>e</sup> jusqu'au XVII<sup>e</sup> siècle du Vicomte de Santarem*, Paris, 1842 (1849).

|| *Loc. cit.*, p. 175, note 2.

¶ Ch. H. Coote, *Autotype Facsimiles of three mappemondes*, 1898, p. 10.

\*\* Macassar was then more generally known from a political point of view than Brunai (Borneo).

The cartographical knowledge of the Archipelago, as shown on these maps, is not only far ahead of that of their contemporaries; it is also far superior to what we might expect as the result of personal vision and observation in those days. Hamy (*loc. cit.*, p. 176, note 2) remarked that Rodrigues has made use in parts of native predecessors, and Denucé\* spoke of Chinese and Javanese maps having served as models; see also *Cartas de Affonso de Albuquerque*, 1, Lisbon, 1884, p. 64. We must consider Rodrigues' maps as specimens of the official cartography, which was kept in absolute secrecy in those times. There was also a public cartography exercised by masters like the Reinels (father and son) and others; but it had not gone beyond the sphere of fantasy, more or less unbridled. The existence of this dualism in cartography lasted until the end of the 18th century. The Dutch East Indian Company also kept its official cartography strictly secret, and as this developed in accordance with new observations, there existed in the 17th and 18th centuries another cartography, a public one, which tried to hide its want of solid knowledge by fantastic imagination, often of a highly excessive character.

The next official Portuguese map known is that of Lopo Homem of 1554. It has been found in Florence,† and its importance has been demonstrated by Dr. Wieder. This map gives much more of the Archipelago than that of Rodrigues, especially of its eastern part. For instance, the islands of Borneo and Celebes are clearly represented, albeit without any limitation on their eastern side.

In the interval between c. 1512 and 1554, no official Portuguese maps of the Archipelago are known. Still they must have existed in great numbers. In times of great activity in land-discoveries and explorations we may expect a corresponding extension of cartography. The question is: What has become of those maps? Mr. E. de Vasconcellos, Permanent Secretary to the Portuguese Geographic Society, has answered me this question. He informs me that in 1755, when fires broke out in Lisbon during the well-known earthquake, the archives of the Casa da India where the original Portuguese maps were gathered, were also destroyed by the flames. Much of what remained was afterwards taken away by the French. A mass of material, valuable and not to be replaced, must therefore be considered as irretrievably lost; but in consequence of losses important discoveries beyond the boundaries of Portugal remain within the scope of possibility, as has been proved by the finding—already mentioned—of Lopo Homem's map of 1554. What makes this discovery all the more remarkable, is the fact that Lopo Homem‡ obtained as early

\* J. Denucé, *Les origines de la Cartographie Portugaise et les Cartes de Reinel* (Ghent, 1908), pp. 107 and 119.

† In the Museo degli Strumenti antichi; see Dr. F. C. Wieder, *Onderzoek naar de oudste kaarten van de omgeving van New York*, Tijdschrift Kon. Ned. Aardrijkskundig Genootschap, 1918, p. 252 [and notice of the same in *Journal*, Vol. 53, p. 276.]

‡ According to Denucé, *Cartographie Portugaise*, p. 2.

as 1517 the exclusive privilege (equal to the octroi of the Dutch East Indian Co. in later years) to draw and improve the "agulhas de marear" in Lisbon. The map brought to light in Florence is probably one of the last or the last of Lopo Homem's cartographic productions; we must infer this not only from its date 1554 in comparison to the beginning of his official career in 1517, but also from the fact that after 1554 no map of Lopo Homem has come to our knowledge, while the oldest map of Diego Homem, taken to be his son, dates as far back as 1558. This map of the Archipelago by Diego Homem deviates but slightly from that of the elder Homem. The conclusion is forced upon us, when we compare the Portuguese maps of the latter half of the 16th century, that the great cartographic activity of the first half of that century had then almost come to a standstill.\* Let us say at once that this is fully explained by the degeneration and the increasing mis-government of the Portuguese in the Archipelago, which date from about 1555, and which led to their expulsion from Ternate by the natives in 1575.

The first, or Portuguese, period of the real cartography of the Indian Archipelago extends from 1512 to the middle of the 16th century, and I venture to say that of the development of original Portuguese maps during that period only the starting-point and the terminal point are known, respectively represented by the maps of Francisco Rodrigues (1512) and of Lopo Homem (1554). The first conclusion to be drawn from this is that the finding of Lopo Homem maps dating between 1517 and 1554 is to be considered highly important.

In order to have a chance of success in searching for these, it will be indispensable to make a conscientious study of Lopo Homem's style of drawing and writing exhibited by the solitary authentic map that is known of him, which states in the lower right corner: "Lopo homẽ cosmographo Caualeiro fidalgo delrei nõso snõr me fêzẽ lixboa Era de. 1554 Annos." This study is essential for the discovery of possible anonymous Lopo Homem maps.

A second question is whether nothing further is known of the course of development of the cartography in the Archipelago in the first half of the 16th century. Our thoughts first go to the Spaniards, who have also been in the Archipelago. But we should bear in mind that the controversy about the trade monopoly in the Archipelago, and more especially in the Moluccas, had been solved by the Pope's decision that the whole of the Archipelago was to be allotted to the Portuguese. And although Isabella, Queen of Portugal, was the wife of Charles V., King of Spain, the former country ceded nothing of its monopoly to the latter, not even in regard to cartography. As many as three times the Spaniards were expelled from the Archipelago by the Portuguese. This

\* A new period of cartographic activity for the Archipelago only commenced at and through the arrival there of the Dutch towards the end of the 16th century.

happened for the first time in 1521 and 1522 to the famous expedition of Fernão de Magelhães (who himself fell in the Philippines) under Juan Sebastian d'Elcano and Gonzalo Gomez de Espinosa.

The second Spanish expedition left Coruña on 24 July 1525, under Garcia Jofre de Loyasa and d'Elcano, who both died on the voyage. It arrived in 1526 at Halmahera (Samafo), and on 1 January 1527 at Tidore, under command of Iniguez de Carquizano. It had on board also Andres de Urdaneta. On Iniguez' death he was succeeded by Hernando de la Torre, under whom the Spaniards managed to maintain themselves against the Portuguese at Tidore till 1529 and at Halmahera till 1534. In that year they were obliged to leave the Moluccas by way of Amboina, Banda, Java, and Malacca; whilst in the year that followed, the above mentioned Urdaneta, who was the last of the more intellectual Spaniards, had to follow them. On his arrival in Portugal in 1536 all his journals and maps were taken away from him, and any information he could supply after his return to Spain had to be drawn from memory.

Finally the Spaniards arrived for the third time in the Archipelago of Eastern Asia in 1543 under Ruy Lopez de Villalobos, accompanied by Garcia d'Escalante Alvarado, Bernardo de la Torre, and Juan Gaytan. This time they had started from Mexico, and appeared first in the Philippines, afterwards in the Moluccas. This was contrary to Villalobos' instructions, as Portugal's exclusive right to visit the Moluccas had already been accepted by Spain. Possibly the storm which drove Villalobos to the Moluccas furnished a welcome pretext to the Spaniards. But they were not to have an easy stay there, and after some parleying Fernão de Sousa de Tavore, who was the new Portuguese commander at Ternate from 1545, wrote to Villalobos that he was as short of word as of stature, and that if the Spaniards did not immediately evacuate the Moluccas they would have to bear the consequences. The outcome was that the Spaniards were provisionally interned at Ternate, and as soon as the necessary ships were available were sent back to Spain in 1546. Of this last expedition of the Spaniards to the Moluccas there exist publications by d'Escalante and Juan Gaytan. It is evident that under circumstances so unfavourable to the Spaniards, no great expectations can be put on the Spanish cartographic school, which had then its seat in Sevilla, in the matter of supplementing the missing links in the course of development of the Portuguese cartography of the East Indian Archipelago.

Really the Spanish cartography, the genuine development of which received the first vigorous impulse from Magelhães' sailing voyage round the world (as is well known, he was the first who accomplished this feat), does not show much progress in regard to the Archipelago. After a few pioneers like Nuña Garcia de Toreno, by whom exist maps of 1522 and perhaps also of c. 1523, which I pass in silence, I must mention Diego Ribero, a Portuguese by birth, pupil of the Reinels, but since 1523 cosmographer and principal map-drawer of the King of Spain. His world-

renowned maps\* of 1529 reflect the cartographic knowledge of the world which then was held in Spain; but as regards the Archipelago we do not find much more than had been derived from the results of Magelhães' expedition of 1519-1522: of Borneo nothing but a small piece of the north-west coast; Celebes is wanting entirely. And this absence of Celebes remains one of the most characteristic defects in the slow and insignificant progress of the cartographic picture of the Archipelago, as given by the Spaniards up to 1550. It is true that in 1542 Alonso de Santa Cruz† shows an improvement as regards Halmahera, having evidently borrowed from verbal information of the second Spanish Moluccas expedition‡ (their written records having been confiscated, as we have seen, by the Portuguese in 1536); and that Sebastian Cabot,§ "pilot major" of Charles V., gives in 1544 the whole of Borneo in oblong shape with the denomination "Brunai," but nothing is to be seen of Celebes. We find the same blank in another Spanish map of this period, the one that has last come to our knowledge, that of Diego Gutierrez of 1550.||

All these maps fail to produce the links which are wanting in the development of Portuguese cartography of the Archipelago in the first half of the sixteenth century. But an extremely fortunate circumstance comes to our help, not only in bridging the distance between Rodrigues' and Lopo Homem's maps, but also in furnishing conclusive proof that originally other Portuguese standard maps have been in existence. This circumstance is the existence in those days of the French cartographic school at Dieppe, of which masterpieces of the years c. 1536-1553¶ have come to light. This subject deserves one moment's attention. There exist magnificent reproductions of the most important of the maps referred

\* One in Weimar, another in Rome. See Dr. E. T. Hamy, *Études hist. et géogr.*, Paris: VIII., *Note sur la mappemonde de Diego Ribero*, p. 179-186; P. A. Tiele, *De oudste kaarten van den Maleischen Archipel*, Bijdr. Taal-, Land- en Volk. van Ned. Indië, The Hague, 1883, with a partial reproduction; L. Fournereau, *Le Siam ancien*, Ann. du Musée Guimet, T. XXVII., Paris, 1895, Pl. III. (part. reprod.); G. Collingridge, *loc. cit.*, p. 165 (part. reprod.); complete reproductions in A. E. Nordenskiöld, *Periplus* (Stockholm, 1897), Pl. XLVIII. and LIX.; and in E. L. Stevenson, *Maps illustrating the discovery and exploration in America, 1502-1530* (Brunswick and New Jersey, 1903), Pl. XI. 1, 6, 7, and 12.

† Carefully reproduced by E. W. Dahlgren, *Map of the world by the Spanish cosmographer Alonso de Santa Cruz*, Stockholm, 1892; and on reduced scale in Nordenskiöld's *Periplus*, Pl. L.

‡ In 1527 the Spaniards of that second expedition sailed round Halmahera, during which their pilot Martin de Uriarte surveyed the coasts of that island.

§ Tiele, *De oudste kaarten*, *loc. cit.*, p. 5, mentions a copy in Paris and one in Weimar. Reproduced by E. F. Jomard, *Atlas des monuments de la Géographie*, Paris, 1862 (with an Introduction by E. Cortambert, Paris, 1879), Pl. XX. 1-4; partly reproduced by K. Kretschmer, *Die Entdeckung Amerikas* (Berlin, 1892), Pl. XVI.; and by O. Koelliker, *Die Erste Erdumseglung* (Munich, 1908), Tafel 28, facing p. 264.

|| In the Dépôt des cartes de la Marine, in Paris. Dimensions: 1'30 m. by 0'85 m. Reproduced in part in the so-called Rio Branco atlas.

¶ See also H. HARRISSE, *The Dieppe World Maps, 1541-1553*, which work I have been unable to trace.

to. The originals were drawn by Pierre Desceliers, Nicolas Desliens, and Jean Roze who went to England, where he was called John Rotz. Nicolas Vallard and Nicolas de Nicolay may also be mentioned.

Desceliers and Desliens are the principal map-drawers; and we must consider as milestones in the historical cartography of the Archipelago the one map which probably, and the three maps which certainly, have been drawn by Desceliers. In this respect Desliens' mappemonde\* of 1541 does not supply us with anything novel, and it does not need further mention. There remain Desceliers' maps of 1546, 1550, and 1553, and an anonymous and undated map, which is attributed to him, about 1536. With the exception of the one of 1553, these maps have been reproduced by Ch. H. Coote.†

What do these maps teach us? The oldest, now in the British Museum,‡ and known as the "Harleian mappemonde," is placed about 1536 by Coote, who attributes this "earliest example of the Dieppe school of cartography" to Pierre Desceliers. The progress in comparison with Rodrigues' map is remarkable, especially in the central part of the Archipelago. For the first time we see an essential indication of Celebes in the shape of an almost square island, situated to the north of the name "Mollvcqves" and designated by the name "Sselebres C : des." The origin of this must be the Portuguese denomination, "P.<sup>a</sup> dos Sellebres." The advancement of the cartographic knowledge of the Archipelago is further demonstrated in a remarkable way by Desceliers' map of 1546. It was Coote (*loc. cit.*, p. 12) who traced its author and year of origin,§ and who drew attention to the improvements in regard to the map of c. 1536 (?). This map, for instance, gives the same picture of Celebes as Lopo Homem's map of 1554.

Desceliers' mappemonde|| of 1550 is even more beautiful in design than that of 1546. And here we find the following characteristic fact :

\* Reproduced by V. Hantzsch and L. Schmidt, *Kartographische Denkmäler zur Entdeckungsgeschichte von Amerika, Asien, Australien und Afrika*, Leipzig, 1903, Pl. IV. The coloured parchment manuscript map, measuring without border 0·575 m. by 1·042 m., is to be found in the State Library in Dresden, Geogr. A. 52 m.

† Autotype facsimiles of three mappemondes, *Collations and Notes*, No. 4, *Bibliotheca Lindesiana*, 1898, p. 1-18, with annexed atlas.

‡ British Mus. Add. MS. 5413. Parchment map, 73° N. lat.—64° S. lat., measuring 8 ft. 2 in. by 3 ft. 11 in. See also J. A. J. de Villiers, *Famous maps in the British Museum*, 'The Geographical Journal,' 1914, pp. 177 and 183.

§ Reproduced also by Jomard, *loc. cit.*, Pl. XIX. 1-6, in original size, and by Nordenskiöld, *Periplus*, Pl. LI.-LIII., on a somewhat diminished scale.

|| Brit. Mus. Add. MS. 24,065. 84° 30' N. lat.—62° 30' S. lat. 7 ft. 2 in. by 4 ft. 5 in. Coote writes on p. 17, "The labour of compiling and adorning this *mappemonde* of 1550 must have been immense, and from a pictorial point of view is undoubtedly the finest of the whole group."

See also V. A. Maltebrun, *Un géographe français du XVI<sup>e</sup> siècle retrouvé, Pierre Desceliers et ses deux portulans*, 'Bull. Soc. de Géographie' (Paris, 1876), T. XII. pp. 295-301.



whilst the maps of 1536 (?) and 1546 contained many French translations of Portuguese names, the map of 1550 leaves the names untranslated. This circumstance, combined with the consideration that the French were not in the Moluccas in the first half of the sixteenth century, renders it almost absolutely certain that the French maps from Dieppe owe their existence to Portuguese originals. Before concluding, let me observe that Desceliers' map of 1553 had disappeared after 1878, according to Coote (*loc. cit.*, 1898, p. 18); but Teleki \* (1909, p. 28) stated that it had been found again, and that the Bibliothèque Nationale at Paris and himself are in the possession of photographic reproductions. It has not come to my knowledge what the Archipelago looks like on this map.

In summing up, we may state that the discoveries of the Portuguese and the Spaniards in the first half of the sixteenth century have been the origin of the oldest essential cartography of the present Netherlands East Indian Archipelago, *i.e.* of that science as far as it is based on observation. It developed on two lines, viz. by the Portuguese school in Lisbon and the Spanish school at Sevilla. The latter is by far the less important of the two, which is explained by the thrice-repeated expulsion after a short stay of the Spaniards from the Archipelago by the Portuguese. Unfortunately, there remains but little of the primary Portuguese line: nothing but the starting and the final points; and the secondary Spanish line, of which different stages have been preserved, can in no way assist us to fix the missing links in the primary line, in consequence of the strong rivalry between the two nations of the Iberian peninsula.

Fortunately, a compiler of maps of the very first rank, Pierre Desceliers, lived at that same period in France, at Dieppe, where he must have had excellent Portuguese models at his disposal. To him we owe that the missing links in the ancient Portuguese cartography of the Archipelago, which started with the land cartographer Francisco Rodrigues in *c.* 1512 and terminated with the official and eminent compiler of maps, Lopo Homem, in 1554, have been supplemented in two important places. Those are the milestones founded by the "Harleian mappemonde" of about 1536 (?) and by Desceliers' maps of 1546 and 1550.

I hope to have demonstrated by these remarks that the following discoveries are of the highest importance for the historical cartography of the Netherlands East Indian Archipelago during the first half of the sixteenth century: firstly, of original maps by land-surveyors, ship's captains, officers, pilots, etc., the chance of which is probably not very great owing to the great fire at Lisbon of 1755; and secondly, of maps of official map-drawers, in the first place of Lopo Homem, the chance of which seems much more favourable if we may judge by the lucky find at Florence, to which we have referred above.

\* Paul Count Teleki, *Atlas zur Geschichte der Kartographie der Japanischen Inseln*, Budapest, 1909.

NOTE.—It may be of interest to call attention to an early Portuguese chart on vellum in the possession of the Society, which from its very close resemblance to the corresponding section of the newly found Lopo Homem chart may almost certainly be put down as connected with the type of Portuguese official cartography to which M. Abendanon refers, and of which he hopes that further specimens may be brought to light. The chart, which is anonymous, embraces the basin of the Atlantic and the lands on either side from Scotland to the Cape of Good Hope, and from Newfoundland to the Rio de la Plata. Unfortunately it is in a bad state of preservation, but the writing is mostly legible, if with some trouble. The general style closely resembles that of other known Portuguese charts of the sixteenth century. It may also be mentioned that through the kindness of Dr. Wieder, the finder of the Lopo Homem map, the Society possesses a photographic copy of the portion of that map embracing North America, the West Indies, and the northern part of South America. The style of Lopo Homem's drawing and writing can therefore be studied without the necessity of a visit to Florence. It is this copy which enables us to trace the resemblance between Lopo Homem's map and the Society's chart, especially as regards the outlines of the coasts and islands. The Society's chart also shows distinct affinities with a map of 1558 by Bastiam Lopes in the British Museum, which seems to have escaped general notice, and also with the maps in the anonymous Portuguese atlas in the Biblioteca Riccardiana at Florence, reproduced by Kretschmer in his atlas, and thought to date from about 1540. The Society's chart must be somewhat later, as it indicates the mouth (only) of the "Rio d' Amazonas"—the designation bestowed during Orellana's voyage of 1540. Lopo Homem inserts the whole course of the river in the conventional curves shown in so many maps of the period, but with a fuller nomenclature, based on Orellana's voyage, than is to be found in most.

M. Abendanon's insistence on the use of official Portuguese sources for the archipelago by the Desceliers school bears out the recognized affinity of such French maps with a Portuguese type in their representation of other parts of the world—notably the Brazilian coast, with the Gulf of Maranhão and the rivers debouching thereinto. Links with official Portuguese cartography have not, perhaps, been so entirely wanting here as in the Malay Archipelago. Besides the Riccardiana maps above mentioned we have that of Gaspar Viegas (1534) and one or two anonymous Portuguese maps which can hardly be relegated to the domain of fantasy, in which M. Abendanon (perhaps somewhat harshly) places those of the Reinels. Even the Desceliers maps, which no doubt merit his encomiums for the excellence of some of their sources, surely display a good deal of fantasy too, in parts where such sources are not available (see paper by the present writer on the Discovery of Australia in the *Journal* for October 1899).

E. HEAWOOD.

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## REMINISCENCES OF THE MAP OF ARABIA AND THE PERSIAN GULF

Lieut.-Colonel F. Fraser Hunter, D.S.O., I.A.

IN 1904-05 British relations with Russia and Germany's growing ambitions in the East brought the Persian Gulf into political prominence. Lord Curzon, then Viceroy of India, during a tour of the Gulf