

the anthropogeographer of the influence of physical environment, for nowhere else in modern times has that progressive Anglo-Saxon race been so long and so completely subjected to retarding conditions; and at no other time could the ensuing result present so startling a contrast to the achievement of the same race elsewhere as in this progressive twentieth century.

JORIS CAROLUS, DISCOVERER OF EDGE ISLAND.

A FORGOTTEN ARCTIC EXPLORER.

By Sir MARTIN CONWAY.

IN the year 1614 one Joris Carolus claimed to have reached lat. 83° N. I propose here to make a brief examination of his claim. He was by no means an unimportant person. Apparently a native of Enkhuizen, he took part in the wars of his time, and lost a leg at the siege of Ostend, whereupon he gave himself up to the art of navigation, and became a pilot. He describes himself always as Joris Carolus, Stierman. The stierman was responsible for the navigation of the ship and kept the log. In theory he was the next officer after the captain, but practically Barents and Carolus seem to have been the leaders of their expeditions. Carolus spent many years in the Indies in the service of the Oost-Indische Compagnie. He was a man of scientific mind, who collected all the information he could about matters concerning his art. When at length his years and growing feebleness prevented him from voyaging, he settled down at Amsterdam as teacher of navigation, and published a book of charts and sailing directions, now very rare, entitled *Het nieuw vermeerde Licht, ghenaeemt de Sleutel van't Tresoor, Spiegel, Gesicht, ende vierighe Colom des Grooten Zeevaerts. Dat is claer ende seeckere beschrijvinghe van de Oost, West, Suydt ende Noordsche Navigatie, verciert met alle noodige perfecte ende duidelycke Pas-kaarten, Opdoeninghen der Landen, Haven, Kapen ende Rivieren, aenwysinghe der Drooghten, Landen, Clippen ende Ondiepten; verscheijdentheijt der plaetsen, 800 deselve in mijlen, graden ende Compasstreecken van den omderen syn ghelegen. Alles van nieuws oversien, verbeteret ende vermeerdert, door Mr. Joris Carolus. Stierman. Leermeester ende Caert-schryver van de groote en cleyne Zeevaert binnen de vermaerde Coopstadt Amsteldam. Ghedruckt tot Amsteldam. By Jan Janssen Boeckvercooper op't Water in de Paskaert. Anno 1634.* Of this work I can find no copy in England, but there is one in the Hague Archives, and I dare say there may be more copies in other Dutch libraries. The book contains one or two autobiographical passages.* Carolus states (p. 2)

* Quoted, in connection with the above information, by S. Müller, 'Geschiedenis der Noordsche Compagnie.' Utrecht, 1874, p. 168, *vide* also p. 195.

that all the soundings, measurements, and drawings of the European coasts comprised in this extensive book of maps were not derived from the account of others, but from his own observations. When writing about Greenland (p. 147), he states that he does not believe it to be connected with Spitsbergen, because a constant current flows along the coast of Spitsbergen, coming from the north. "This I observed in the year 1614, in which year I was as far north as 83°," whereby he concluded that a route might be found that way if it were sought for.

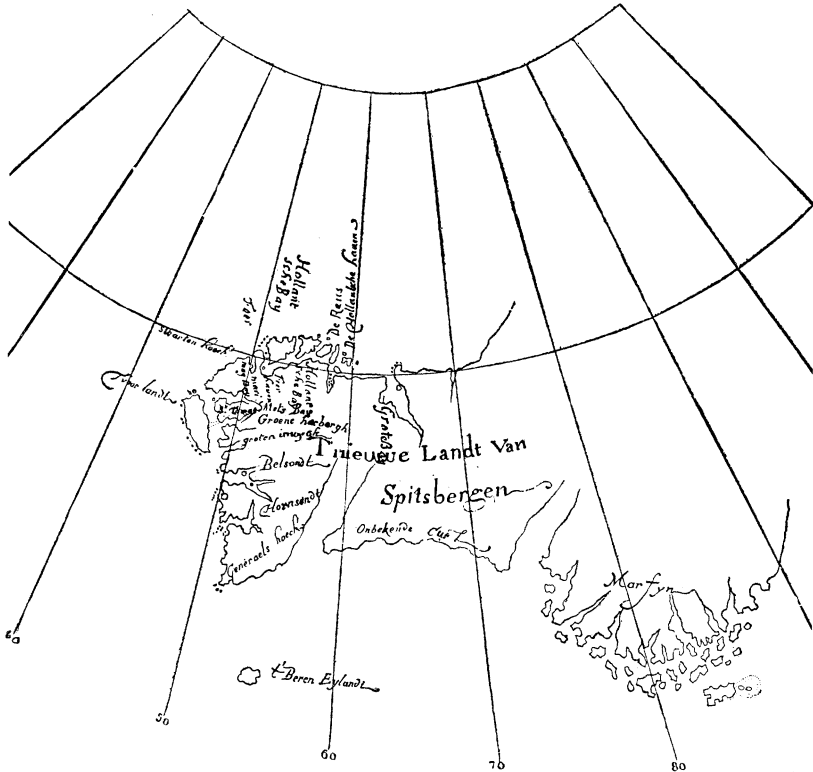
In the year 1614 the great Dutch whaling company, the Noordsche Company, was founded, and the fleet sent by it to Spitsbergen, under the command of Antonie Monier, was the first Dutch fleet strong enough to break down the English attempt to establish a monopoly there. Amongst the Dutch ships were two sent for discovery—*De goude Cath* of Amsterdam, Captain Jan Jacobsz. May, and *Den Orangienboom* of Enkhuizen, Captain Jacob de Gouwenaaer. Joris Carolus was doubtless pilot on the Enkhuizen ship. Fotherby, who was up in Spitsbergen with Baffin that summer, hastened to Fairhaven early in June, "and so much the rather wee hasted," he writes,* "because we understood that the Hollanders also set forth a ship on discoverie." On July 6 the Hollanders were riding "in the north harbour of Fairehaven, and were ready for the first opportunity to discover." Later (p. 95) he writes, "the ninth of August two ships of the Hollanders, that were appointed for northern discovery, were seene thwart of Faire Haven, sayling to the southwards." Thus the time during which the Dutch ships were absent from Fairhaven and when they professed to have reached lat. 83° N. was between July 6 and August 9.

It happens that we possess in Fotherby's journal an exact account of the state of the ice-pack off the north coast of Spitsbergen during the month in question. So far from its having been an open season, it was one in which the ice was so tightly packed down upon the coast that even a whale-boat could not be taken beyond Wijde bay (Sir Thos. Smyth's inlet). On July 6 Fotherby climbed a hill near Red-cliff sound (Monier bay), and "saw the ice lye upon the sea so farre as we could discerne, so that the sea seemed to be wholly toured with ice; save onely to the eastwards, we thought that we saw the water beyond the ice." On July 14 the edge of the ice was only 2 miles from Red beach. On landing "we beheld great abundance of ice that lay close to the shore and also off at sea so farre as we could discerne." On August 1 they were just able to row to the shore near Grey hook, but found the ice, off the mouth of Wijde bay, "so close packt together that wee could not proceede any further with our shallops." Finally, on August 11 to 14 they found the conditions unchanged. It is obvious, therefore, that during this period no ship can possibly have sailed from Fairhaven,

* Hakluyt Society's 'Baffin,' p. 84.

reached lat. 83° N., and returned, as (apparently) Joris Carolus claimed to have done.

Whether the figure 83° was an after-thought may be questioned. It is not incorporated in the following important resolution of the States-General of January 16, 1615.* “The request having been read of Mr. Jooris Carolus, Stierman, recently sailed to Spitsbergen with Commissary Monier, to the whale-fishery, and having advanced his voyage towards the north pole to seek whether a passage could be



MS. MAP OF SPITSBERGEN MADE IN 1614, AND SIGNED "JORIS CAROLUS STIERMAN CAERTSCHRYVER TOT ENKHUIZEN."

found by the sea of Tartary to China and Japan, according to the map made by him, which he has presented to their mightynesses, beseeching them to take his work into consideration, and offering them his services zealously at all times at their bidding to make further explorations; after deliberation it is resolved that, having regard to the supplicant's good will and zeal in the service of the land and the foregoing services which he has rendered, he be granted the sum of 72 guildens," etc.

* Printed by S. Muller, 'Noordsche Compagnie,' Appendix, p. 380.

The map in question does not appear to remain in the Dutch archives, but the same, or a manuscript copy of it, is in the "Département des cartes et plans de la marine" at Paris.* It is signed "Joris Carolus Stierman Caertschryver tot Enchn" (Enkhuizen), and dated 1614.

It may be objected that, though Carolus cannot have reached a high latitude between July 6 and August 9, he may have returned to the attack later in the season. But on August 9, the two Dutch ships in question were seen by the English passing the mouth of the South gat (where the English were anchored), and "sayling to the southwards." The map shows whither they went, and reveals a discovery which historians of arctic exploration have quite overlooked. East of, and in close proximity to Spitsbergen, it depicts two land-masses, divided by sounds from Spitsbergen and from one another. The western land-mass is named Onbekende Cust, the eastern Morfyn. Morfyn is a miswriting for Morsyn, by which the "Matsyn id est Plurimæ Insillæ" of Hondius' chart of 1611 is meant.† Matsyn we know to have been a part of Novaja Zemlja (Matoschin) shifted in longitude. Carolus did not know this. He merely had Hondius' chart before him, with a piece of land flanked by islands vaguely marked. Sailing round the South cape of Spitsbergen, which he named Generaels hoeck, and standing to the eastward he sighted land to the north (Whales point of Edge island). He erroneously made this land stretch almost across Wijbe Jans Water towards Spitsbergen. Continuing eastward, he passed Deicrows sound, and then sighted Negro point and the islands off it, especially noticing Halfmoon island, which he clearly marked on his chart. He erroneously exaggerated the width of the land he discovered, partly no doubt with the desire of bringing his Morfyn as nearly into the longitude of Hondius' Matsyn as he could. Thus it is certain that Edge island was discovered, not by Edge in 1616, but by Joris Carolus in 1614.

Matsyn was not invented by Hondius. It is marked on Gerardus Mercator's map of the polar regions, which includes Barents' discoveries, and therefore cannot be of 1569, as stated by Nordenskiöld in his atlas. It is also marked on the Molyneux globe in the Middle Temple Library, which marks Barents' wintering place of 1596-97, and cannot therefore be of 1592 as stated. Matsyn is likewise marked on other maps of about 1600, and on Gerrits' map in 'Detectio Freti' of 1612. In almost every case the coloration or shading indicates that Matsyn was regarded as belonging to Spitsbergen, whilst Willoughby Land is similarly connected with Novaja Zemlja. For this reason I am inclined to think that, though originally Matsyn was created out of Matoschin, it may

* Part of it is reproduced in E. T. Hamy, "Les Français au Spitzberg." Bull. de géog. hist. et descript. 1895 (Fig. 2). By his kindness in lending the cliché, we are enabled to republish the map herewith.

† In some maps Matsyn is written Marsyn, whence the transition to Morfyn is easy.

have been identified with Edge island and the Thousand islands even before Carolus' voyage of 1614.

From Edge island, where doubtless the ice-pack was encountered, the two Dutch ships sailed westward again toward Greenland. Running down the edge of the ice, they came in sight of Jan Mayen island, which they believed themselves to have discovered. It appears on Carolus' chart with the name Mr. Joris eylandt. There is likewise a cape called Jan Meys hoeck, and a bay called Gowenaers bay, after the captains of the two ships. Jan Mayen island was always getting discovered and named. Hudson first saw it in 1607, and named it Hudson's Touches. According to Scoresby, the whalers of Hull discovered it about 1611 or 1612, and named it Trinity island. The Dutch tradition, recorded by Zorgdrager, was that Jan Cornelisz. May discovered it in 1611; but this is a mistake, J. Cz. May of 1611 having been confused with J. Jz. May of 1614, and the name Jan Meys hoeck given by Joris having been transferred to the island in the form Jan Mayen. Jean Vrolicq, the Biscay whaler, claimed to have discovered it in 1612; he named it Isle de Richelieu. Finally, in 1615 Fotherby discovered it again, named it Sir Thomas Smith's island, and wrote the first detailed account of it.* The Dutch in the great days of the fishery always called it Mauritius island.

We thus find that the claims of Joris Carolus to have sailed to lat. 83° N. and to have discovered Jan Mayen island cannot be maintained; but in compensation he deserves to be credited with the discovery of Edge island, which he did not claim. It might be known by the name Morfyn, which he gave to it.

Muller (p. 171) has shown that, in the following year (1615), Joris Carolus made an important voyage to the north-west, which likewise has been forgotten. As in 1614 he anticipated Edge, so in 1615 Muller claims (p. 171) that he anticipated Baffin. In the service of the Noordsche Company, it appears he sailed through Davis strait, and reached lat. 80° N. The results of the voyage were depicted on a chart presented to the States-General, and referred to in a resolution of November 26, 1615.† This chart has not been found. In his 'Nieuw vermeerde Licht' (p. 148), Carolus describes Baffin's bay, and seems to imply in a rather vague fashion that he was there. He says it extends to 79°, and is then closed by land. That a Dutch expedition did penetrate north through Davis strait in 1615 is certain, but I think Carolus' presence on board is doubtful, whilst after the disproved claim of having reached 83° north of Spitsbergen, all other claims to exceptionally high latitudes must be discounted. We have to bear in mind that the object of voyages of discovery at this time was to find new trades, and

* Fotherby in Purchas, vol. iii. p. 729.

† Printed in Muller's Appendix, p. 381.

appropriate the monopoly of them to the country, or even the company of the discoverer. Hence the exaggerated latitudes claimed. Not the cold veracity of science, but the lax morality of competitive commerce, inspired the records of these expeditions. The reports of pilots exploring for trading companies are not scientific documents. Geographers must distrust them, much as geologists distrust the reports of mining prospectors.

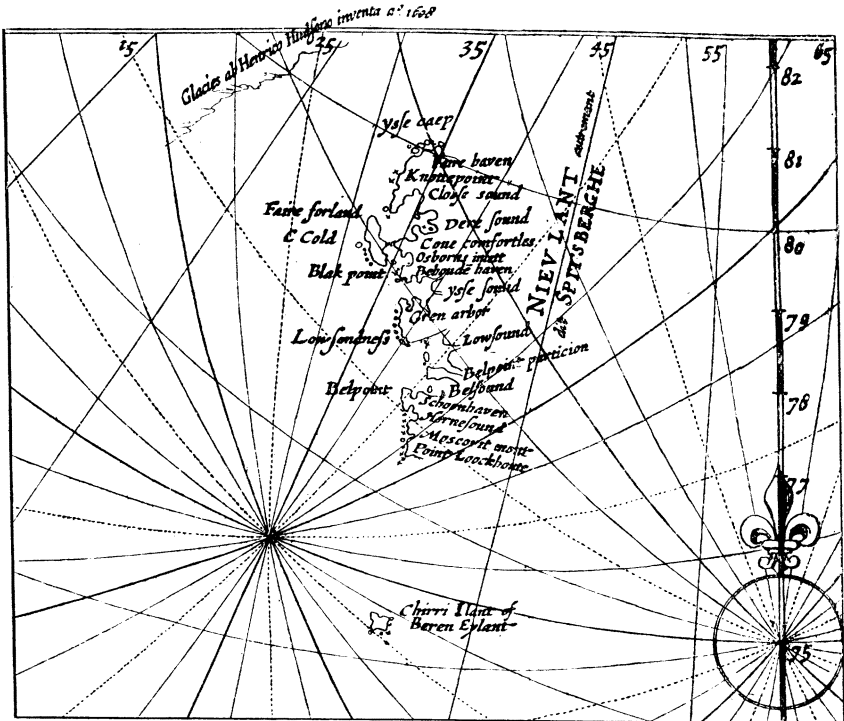
In 1617, Muller shows that Joris Carolus was again sent on discovery by the Delft, Hoorn, and Enkhuizen chambers of the Noordsche Company. This time he claimed to have found two islands. The first, named New Holland, was between lat. 60° and 63° N. Unless this was a pure invention, it must have been a known part of the east coast of Greenland. The other, named Opdams island, was in lat. 66° N., and 20 Dutch miles east of Iceland. The Noordsche Company applied to the States-General for the monopoly of fishing off these islands, which were depicted on a map supplied by Carolus. The monopoly was granted by a resolution of October 28, 1617.* We are thus driven to doubt Carolus' veracity. The single important discovery with which he ought to be credited was one which he appears never to have taken the trouble to claim.

As an author Carolus was really more important than as an explorer, but in this matter also fame has been unkind to him, and others have reaped his proper renown. His book, 'Het nieuw Vermeerde Licht ende vierighe Colom des Grooten Zeevaerts,' has been practically forgotten, or rather the fact that the book was his has been forgotten. The book itself was issued again and again in different editions and translations, each of which was boldly appropriated by its editor as his own work. The original edition was published in 1634. Anthony Jacobsz, of Amsterdam, issued a new and revised edition of it in 1645, under the title 'De lichtende Colomne ofte Zee Spiegel.' In 1548, Jacob Aertsz. Colom published it likewise at Amsterdam, and claimed to be its author. He entitled it 'De Vyerighe Colom, etc. . . . samengebracht en beschrieven door J.A.C.' In the following year he published an English edition: 'The New Fierie Sea-Colomne Wherein the faults, and mistakings of the former contrefaited Lichtning Colomne, are plainly discovered, and corrected.' J. A. Colom's second Dutch edition was issued in 1654. In 1655, Hendrick Donckers, of Amsterdam, stole, revised, and issued it. Finally, in 1671, John Seller, of London, published a slightly revised translation of Donckers' edition, under the new name, 'The English Pilot.' Of all these editions the first is the only one that contains the original author's name.

The first edition is most interesting, not alone for the text with its personal touches, but for the maps. The map of Spitsbergen, here

* Printed in Müller's Appendix, p. 382.

reproduced, is the original. It was copied again and again, often very faultily, by all manner of map-makers for a long series of years. It appears between pp. 146 and 147 of 'Het nieuw Vermeerde Licht.' This map, however, is not really by Carolus, but is a copy with some additions of the lost chart by the Englishman John Daniel. We have no information at all as to who John Daniel was, except that he was an Englishman, and that he drew his chart in London in 1612. These facts are stated in Hessel Gerrits' 'Histoire du pays nommé Spitsberg' (Amsterdam, 1613) and in I. Commelijn's 'Begin ende Voortganh



JOHN DANIEL'S CHART OF SPITSBERGEN.
 Published in Hessel Gerrits' 'Histoire du pays nommé Spitsberg' (Amsterdam, 1613).

vande Nederlandtsche Oostindische Compagnie' (Amsterdam, 1644). In the former the chart is published, as originally drawn, by Daniel (here reproduced); but Commelijn's issue of Daniel's chart is a copy of Carolus' chart of 1634 (likewise here reproduced). Thus Carolus' chart of 1634 is merely Daniel's with some additions to the north and east.

We know that in the year 1612 the first Dutch whaling ship went to Spitsbergen under the command of William Cornelisz. van Muyden and piloted by an English deserter named Allen Sallowes, "a man employed by the Muscovia Companie in the Northerne Seas for the space

of twentie yeeres before; who leaving his country for debt, was entertained by the Hollanders, and imployed by them to bring them to Greenland [Spitsbergen] for their Pylot." Doubtless Daniel's chart went over to Holland in Sallowes' pocket. As that chart includes the English discoveries of the year 1611, Daniel (if he was not a mere draughtsman who had access to some of the materials afterwards worked up by Edge) must have taken part in the expedition of that year.

Daniel's original chart only depicts the west coast from South cape or Point Look-out to Fairhaven in the extreme north-west. It is thus the original authority for the original nomenclature of the west coast.

The second edition of Daniel's chart, which I have yet found, is included in a map of Europe, engraved by Abraham Goos of Amsterdam in 1620, and published in 1621 under the following title: *Nieuwe Pascaerte van alle de Zeecusten van geheel Europa . . . perfectelijck afgeteikent door Harmen en Marten Iansz. vermaert Caartschrijvers tot Edam ende gedrukt t'Amsterdam bij Ian Eversz. Cloppenbg. op't water in den vergulden Bijbel bij de Corenmarkt. Anno 1621.* The only copy of this chart that I have seen is one in the possession of Baron A. E. Nordenskiöld, who permitted me to take a tracing of it. Here the west coast is copied with little change from Hessel Gerrits' Daniel, but the nomenclature is Dutch. Two bays are added along the north coast, and the mouth of Wybe Jansz. Water is indicated, whilst away to the east is Swartheock, as though it had no connection with the east coast of Wybe Jansz. Water. Hoop eylant is marked near it.

This was the form of Daniel's chart copied by Jean Guérard of Dieppe in 1628, and by Joris Carolus in his 'Nieuw vermeerde Licht' of 1634. There would be nothing remarkable in this fact were it not for the existence of Carolus' own original chart of 1614 (above reproduced). I can suggest no explanation for the total omission by Carolus in 1634 of the south coast of Edge island and of the islands off it which are so elaborately indicated from his own survey in his map of 1614. It was only on maps copied from Edge's that Edge's land and the coasts of Wybe Jansz. Water were duly indicated till about the year 1660, or even later.

Carolus' version of Daniel's chart became one of the two typical Dutch representations of Spitsbergen for about thirty years. It was copied, as I have stated, in Commelijn's book in 1644. It was copied again in 1648 in Jacob Aertsz. Colom's edition of Carolus' Atlas, and in at least one manuscript chart (Brit. Mus., S.T.A. (2) f.). It was copied by Pieter Goes and Cornelis de Leeuw in 1650 (Brit. Mus., 982 (13)), and by Janssen of Amsterdam about the same date (Brit. Mus., 982 (11)). It is found in W. Js. Blaeu's 'Zeespiegel' (Amsterdam, 1652), and, as an inset, in a 'Pascaerte' drawn by Cornelis Doedsz. of Edam, and published by Willem Jansz. (of Amsterdam) perhaps about the same time. Its last appearance, as far as I know, is in Constantin de

Reneville's 'Voyages' (vol. i. p. 94) and in the English translation of some of them (London, 1703).

The vitality of Daniel's chart is extraordinary, in view of the fact that it was utterly surpassed in accuracy and completeness by Edge's map, which was published by Purchas in 1625, and in Pelham's 'God's Power and Providence' in 1631, both works that obtained a wide circulation. Moreover, Edge's map was not forgotten. It was reproduced in numerous editions, and with various degrees of inaccuracy.* It was the one that gradually grew to better accuracy under the hands of Pieter Goos (c. 1666) and the Van Keulens, and was finally revised by the Captains Giles and Rep after 1707. But while that process of development was going on, Daniel's chart kept being reissued with little or no modification and by some of the publishers who were simultaneously issuing revised versions of Edge's!

SIR T. HOLDICH'S 'THE INDIAN BORDERLAND.'—REVIEW.†

By Sir GEORGE S. ROBERTSON, K.C.S.I.

THIS is a good book. It is well written, well arranged, well balanced. It abounds in graphic narration, in picturesque details, and is so full of information of every conceivable kind about the north-west frontier country of India, that a careful student of its chapters, even if he were never to stir out of London, might set up as an average expert, only with more than an average expert's knowledge, of the borderland so vividly painted. If, in addition, this careful student were to follow out the broad paths and the by-roads, which Sir Thomas Holdich has only the space to indicate by finger-posts, he might soon qualify as one who really knew his subject. After long days spent in actual survey work and in local study of this Indian frontier—from 1878 to his retirement a year or two ago—the author, in his statements of opinion concerning the great questions of the time, maintains always a high standpoint and a comprehensive outlook. Therefore his judgments, clear and simple, are invariably thoughtful and suggestive, however unable one may be to see eye to eye with him in all things. And what a romantic life that of this Indian survey officer has been! His pages are as full of adventure as a book for boys. Perils of all kinds are set down with the true natural touch—perils by flood, perils by cold, perils by sun flare and drought, most of all perils from

* In the following: Sir Robert Dudley's 'Dell' Arcano del Mare' (Florence, 1630); W. Blaeu's Atlas, c. 1660, and other editions; H. Hexham's Atlas, 1636; 'Pascart,' by Johannes van Loon, c. 1660; 'Spitzberga,' by G. Valk et P. Schenk, no date; 'Pascaarte . . . van Europa,' W., P., and J. Blaeu (Amsterdam, 1677).

† 'The Indian Borderland: being a Personal Narrative of Twenty Years.' By Sir T. H. Holdich, K.C.I.E. Methuen & Co. 1901.