

MARTIN BEHAIM

HIS LIFE AND HIS GLOBE

BY

E. G. RAVENSTEIN, F.R.G.S.

First Victoria Gold Medallist of the Royal Geographical Society

WITH A FACSIMILE OF THE GLOBE PRINTED IN COLOURS
ELEVEN MAPS AND SEVENTEEN ILLUSTRATIONS

LONDON

GEORGE PHILIP & SON, LTD., 32, FLEET STREET

LIVERPOOL: PHILIP, SON & NEPHEW, LTD., 45-51, SOUTH CASTLE STREET

1908

[All rights reserved]

MARTIN BEHAIM.

HIS LIFE AND HIS GLOBE.

INTRODUCTION.

MARTIN BEHAIM has been credited with having greatly advanced the art of navigation and with having made extensive voyages of discovery under the Flag of Portugal, but is best known as the author of a remarkable globe, which was making at Nuremberg whilst Columbus was crossing the western ocean in search of the riches of the East. The story of his life and life's work should consequently prove of great interest to students of the history of geography.

The materials for doing full justice to this subject are, unfortunately, very fragmentary, and there is little hope that the future will lead to the discovery of documents likely to shed additional light upon this matter. The legends upon the globe, supplemented by a short account in Hartmann Schedel's 'Liber Chronicorum,'¹ give us Behaim's own version of a voyage along the west coast of Africa, when he claims to have commanded a Royal vessel; but diligent searches in the archives of his family and of his native town have failed to bring to light information on a subject which interests us equally much, namely, his claim to be numbered among the great mathematicians and cosmographers of his age.

My own inquiries at Nuremberg have enabled me to supplement to a slight extent the information already gathered by Ghillany and Dr. Günther, but neither the "archive" of the Behaim family, nor the search kindly undertaken by Lieutenant Hans von Imhof among old family letters still preserved by him, yielded anything

calculated to throw light upon Behaim's doings whilst in Portugal. Baron Holzschuher referred me for information to Gatterer's 'Historia Genealogica Deminorum Holzschuerorum' (Norimb., 1775),² but although that valuable work contains some details about George Holzschuher, who helped Behaim with his globe, it ignores the members of the family who resided at Lisbon.

Searches in the Torre do Tombo, the Record Office at Lisbon, were no more successful than at Nuremberg. Sebastião Francisco de Mendo Trigozo tells us that when he proposed to write a Memoir of Martin de Bohemia he thought that the Royal Archives might yield some notices of which he stood in need, but that all his research proved unfruitful.³

Dr. Friedrich Kunstmann, the tutor of Princess Amelia of Brazil from 1841-46, had free permission to search, but found nothing to aid him in his historical work.⁴

Prof. Carl von Reinhardtstöttner, the learned author of a work on Camoens' 'Lusiadas' (Strassburg, 1874), applied for information to the Ministerio da Marinha, on behalf of Dr. S. Günther, but was regretfully informed that they had nothing to offer him.⁵

I am myself indebted to my friend Captain Ernesto João de Carvalho e Vasconcellos and to Sr. Gabriel

² Joh. Christ. Gatterer, a distinguished historian and geographer, was born at Lichtenau, near Nuremberg, in 1727. He died 1799.

³ 'Mem. de Litt. Port.,' VIII., 1812. 2nd ed., 1856, p. 365.

⁴ Ghillany, P. III. Kunstmann was born at Nuremberg, took Holy Orders, and died 1867. He is the author of 'Die Entdeckung Amerikas' (Munich, 1859), and of several papers dealing with the history of Portuguese explorations.

⁵ On Reinhardtstöttner (b. 1847) see Manuel Bernaldes Branco, 'Portugal e os Estrangeiros' (Lisbon, 1879), with portrait.

¹ Dr. Hartmann Schedel (b. 1440, d. 1514) was an indefatigable collector of codices and inscriptions. He settled at Nuremberg in 1484. His library was sold in 1552 to Hans Jacob Fugger of Augsburg, and the bulk of it is now in the R. Library at Munich (R. Stauber, über die Schedel'sche Bibliothek in H. Grauert's 'Studien u. Darstellungen a. d. Geb. d. Gesch.,' VI., 1908). His famous chronicle was published in 1493.

Pereira of the Bibliotheca Nacional for valuable information, but none bearing upon Behaim's scientific labours.

It seems that the only official document discovered up till now which contains the name of Behaim is a Letter of Pardon—Carta de Perdão—of November 16, 1501, which King Manuel addressed to Fernão d'Evora, whom Joz d'Utra, jun., the Captain donatory, had sent in chains to Lisbon because he had "found him with one of his sisters, the wife of one Martin de Boeme."¹

It is of course quite possible that documents referring to Martin Behaim may have existed formerly in the 'Casa da Mina e India,' but like other documents of even greater interest they were either destroyed by fire or during the great earthquake of 1755, a loss now quite irreparable.

Not a single contemporary Portuguese writer mentions the name of Martin Behaim, not even Ruy de Pina² or Garcia de Resende, the authors of 'Chronicas' of João II., who must have known him personally, if not intimately, if he really was such a *persona grata* with the King as is claimed on his behalf by all his biographers and by members of his own family.³

Valentin Fernandes, or Ferdinand,⁴ the German printer, who settled at Lisbon before 1490, and acted as interpreter to Hieronymus Monetarius during his visit to Portugal in 1494, must have had personal knowledge of his countryman Martin Behaim, and heard about his African voyage and his supposed scientific attainments. Yet in the valuable accounts of Portuguese explorations which he collected up to the year 1540, the name of Behaim is not to be found.

¹ Published by E. do Canto, 'Arch. dos Açores,' IX., p. 195.

² Ruy de Pina's 'Chronica do Rey D. Joham II.' was first published in the 'Collecção de Livros ineditos,' t. II. (Lisbon, 1792). The author was Chronista mór of Portugal and Chief Keeper of the Torre do Tombo. He enjoyed the confidence of Kings John II., Manuel and John III., and died 1521. Garcia de Resende's 'Chronica do Rey Dom Ioam o II.' was printed at Evora in 1554. Both chroniclers were present at the King's death.

³ His brother Michael wrote to J. Pock on November 12, 1518, that Martin Behaim, "when young, was much liked by the old King (John II.), but how his affairs ended when he grew old you may know better than I" (Ghillany, p. 112).

⁴ Valentin Ferdinand was at first associated with Nicholas of Saxony. Among other works he printed a 'Livro das Viagens de Marco Polo' (1502). His accounts of Portuguese explorations are now in the Royal Library of Munich (Cod. Hisp., Cl. I., 27). The more interesting of the accounts referred to have been published by J. A. Schmeller, F. Kunstmann, Gabriel Pereira, and S. Ruge ('Abh. d. phil. Cl. d. Akad. d. Wiss.,' Munich, IV., VIII., IX.; 'Bol. da Soc. de Geographia,' Lisbon, XVII.; 'Revista Portug. Col. e Maritima,' Lisbon, 1900, Nos. 32-36; '27 Jahresh. d. Vereins f. Erdk.,' Dresden, 1901). A letter, describing a rhinoceros which Garcia de Noronha had brought from India in 1513, was written by Ferdinand to his "friends" at Nuremberg and is published by Count Angelo de Gubernatis ('Storia dei Viaggiatori Italiani,' Livorno, 1875, p. 389). An engraving of this rhinoceros by Albert Dürer is to be found at the British Museum (Add. MSS. 5220, f. 19). Ferdinand was a squire (escudeiro) of Queen Leonor and (since 1503) official broker (corretor) of the German merchants.

Duarte Pacheco Pereira,⁵ another contemporary, the "Achilles Lusitano" of Camoens (Canto x., 12), and author of an 'Esmeraldo de Situ Orbis,' a sailing directory for the coast of Africa as far as the Rio de Infante, occasionally refers to Cão and other explorers, but not once mentions the name of Behaim.

As to Behaim's "correspondence with numerous men of learning," it only existed in the imagination of Carlo Amoretti,⁶ the editor of Pigafetta's account of Magelhães' voyage. Some of these letters would surely have come to light had they ever been in existence.

Joachim Lelewel, one of the foremost authorities on the history of maps, would have us believe that "Behaim's renown was great in Germany, even in his lifetime," and that, though ignored in Portugal, "his name, in Germany, was in every mouth, occupied numerous pens, and the echoes of his glory resounded in Italy and in Spain."⁷ These assumptions are not supported by a single fact. Except in Schedel's 'Chronicle,' already referred to, his name will be sought in vain in the writings of his contemporaries. Conrad Celtes,⁸ who visited Nuremberg repeatedly between 1490 and 1493, that is during Behaim's stay in his native town, in his delightful book describing the Imperial city and its inhabitants, makes no reference either to the now famous globe or its author.

Even Dr. Hieronymus Müntzer or Monetarius, who gave Behaim a letter of recommendation to King John, in 1493, and who during a visit to Lisbon in 1494 was actually the guest of Behaim's father-in-law, does not mention the name of his old acquaintance, either in his 'Itinerarium' or in his 'De inventione Africae.'⁹

⁵ Duarte Pacheco Pereira was born at Lisbon in 1450, served on the Guinea coast, 1482-83, went out to India with Cabral in 1500, and again with Afonso de Albuquerque in 1503; returned to Lisbon in July, 1505; was governor of S. Jorge da Mina, 1520-22, and died 1533. He wrote his 'Esmeraldo de Situ Orbis' after 1505. It was published only in 1892 with an introduction by Raphael Eduardo de Azevedo Basto, Keeper of Records at the Torre do Tombo.

⁶ Carlo Amoretti, a learned priest, was born at Oneglia in 1741, was appointed head of the Ambrosian Library at Milan, and died in 1816. The 'Primo viaggio intorno al globo terraqueo' was published in 1800.

⁷ 'Géographie du moyen âge,' t. II., p. 137 (Brussels, 1852). Lelewel was born at Warsaw in 1786, had to fly Poland after the insurrection of 1830, and died in Paris in 1864.

⁸ Conrad Celtes, or Pickel, a peasant's son, was born at Wipfeld in 1459, won fame as a poet, patriot, geographer, and champion of Humanism. He died 1508. His 'De origine, situ, moribus et institutis Norimbergae libellus' (1495) was dedicated to the City Council, who awarded him 8 gulden (£4) as an honorarium, which he returned in disgust, whereupon the Council in 1502 sent him 20 gulden. On Celtes see B. Hartmann, 'Konrad Celtes in Nürnberg' (Nürnberg, 1889), and L. Gallois, 'Les Géographes allemands de la Renaissance' (Paris, 1890), pp. 173-180, where his merits as a geographer are dealt with.

⁹ Hieronymus Müntzer was a native of Feldkirch in Vorarlberg, studied medicine at Pavia, and settled at Nuremberg in 1478. When Nuremberg was invaded by the plague in August, 1494, he fled the town and started upon a tour which, in November, brought him to Portugal. At Evora (November 16-26) he was introduced to King John and dined

The earliest Portuguese writer who mentions Behaim is the famous historian João de Barros,¹ and his statement in 'Da Asia' (Dec. I., lib. IV., c. 2) is indeed the only authority which connects him with the 'Junta dos mathematicos' appointed by King John II. It has been quoted, commented and enlarged upon by numerous later authors, and shall be fully dealt with by me in its proper place.

Almost equally controverted is the statement of Antonio Pigafetta,² the historian of Magellan's voyage, with respect to a chart showing a strait connecting the Atlantic with the South Sea, the authorship of which is ascribed by him to Behaim.

The only other early writer whom I need mention in this place is Dr. Gaspar Fructuoso,³ a learned Jesuit, the author of 'Saudadas da terra,' where are to be found a number of anecdotes, collected locally, and of doubtful authority.

The modern authors whom I shall have to quote as illustrating the history of Martin Behaim are very numerous. Foremost among them are Alexander von Humboldt, Cardinal D. Francisco de S. Luiz Saraiva,⁴ Dr. Arthur Breusing,⁵ Ernesto do Canto,⁶ Oscar Peschel,⁷ Dr. Sophus Ruge,⁸ Dr. F. von

Wieser,⁹ Harry HARRISSE,¹⁰ Eugen Gelcich,¹¹ and Hermann Wagner.¹²

I shall now mention the biographies of Martin Behaim which have been published up to this time.

Passing over the worthless biographic notice in the 'Bohemia docta' of Bohuslav Balbinus,¹³ published posthumously in 1776, the frivolous panegyric of J. Chr. Wagenseil,¹⁴ and the equally worthless publications of his blind followers, which are dealt with at some length in c. IX, the earliest biographer deserving to be mentioned is Joh. Gabriel Doppelmayr,¹⁵ the author of 'Historische Nachrichten von den Nürnbergischen Mathematicis und Künstlern' (Nurnb., 1730). He, too, accepts Wagenseil's gross perversion of historic truth, but we are beholden to him for the first facsimile of the globe, which, though on a small scale, is accompanied by copies of the most important of its legends. Christoph Gotlieb von Murr's¹⁶ 'Diplomatische Geschichte des portugiesischen berühmten Ritters Martin Behaims' (Nürnberg, 1773, 2nd edition Gotha, 1801), is the work of a conscientious author, well qualified for his task by preceding historian and antiquarian researches. His work is largely based upon documents; the claims put forward by Wagenseil on the false assumption that they would redound to Behaim's honour, are finally refuted, and even though the author mistook the birth-year of Martin Behaim the father for that of the son—a most inexcusable error considering that he had free access to the family archives—his little book fully deserved the honour of being translated into French and Spanish.¹⁷ It supplied weapons to those who, in after years, stood up for

four times at the Royal table. He again left Lisbon on December 2, 1494, and was back at Nuremberg on April 15, 1495. He died in 1508. See Schmeller ('Abh. d. bayr. Ak.', 1847), and Kunstmann (*ib.*, 1855). Dr. G. von Laubmann, who examined Müntzer's MSS. in the Munich Library, informed Dr. HARRISSE ('The Discovery of North America,' p. 397) that the name of Behaim is not to be found in them.

¹ João de Barros was born at Vizeu in 1496, was appointed governor of Elmina in 1522, and held the post of treasurer of the India House from 1532-63. He died in 1570. His official position gave him access to documents no longer available. Decada I., which alone concerns us, was published at Lisbon in 1552.

² Pigafetta was born at Florence in 1480, came to Spain in 1519, and after his return from the first voyage round the world, returned to Italy in 1534. Ramusio, in 1536, first published an account of his voyage.

³ Gaspar Fructuoso, S.J., was born at Ponta Delgada, S. Miguel, of wealthy parents, studied at Salamanca and was appointed parish priest of Ribeira grande, S. Miguel, where he died in 1591. His 'Saudadas' were utilized by Antonio Cordeiro, S.J. (b. at Angra, Terceira, 1641, died at Lisbon 1722) in a 'Historia insulana' (Lisbon, 1717). Manuel Pinheiro Chagas, 'Os descobrimentos Portuguezes e os de Columbus' (Lisbon, 1892), p. 164, speaks of this Cordeiro as "one of those historians who think it allowable to state what they know to be false as long as it redounds to the glory of their country."

⁴ 'Obras completas do Cardeal Saraiva' (Lisbon, 1875), t. V., pp. 180-3, 190-200, originally written in 1841.

⁵ A. Breusing was born at Osnabrück. From 1850 to his death in 1892, he was director of the Navigation School at Bremen (Wolkenhauer, in 'Verh. d. Ges. f. Erdk.' 1892): 'Geogr. Jahrbuch,' XVI., 1893, p. 478).

⁶ 'Arquivo dos Azores,' 1878-94.

⁷ Oscar Peschel, one of the most fertile and original writers on geography, was born at Dresden, 1826; was appointed Professor of Geography at Leipzig University, and died there in 1875.

⁸ S. Ruge, one of the foremost authorities on the history of geographical exploration, author of 'Geschichte des Zeitalters der Entdeckungen' (Berlin, 1881), was born at Dorum in 1831, held the post of Professor of Geography at the Technical High School at Dresden, and died there in 1903.

⁹ Wieser was born at Kufstein in 1840 and is Professor of Geography at the University of Innsbruck.

¹⁰ HARRISSE, the author of numerous fundamental works dealing with Columbus and the discovery of America, was born in 1830, and is still indefatigably engaged upon his fruitful researches.

¹¹ Gelcich, formerly director of the Nautical School at Lussinpiccolo, was born in 1854.

¹² H. Wagner, Professor of Geography in the University, Göttingen, and the foremost authority on the History of Maps, was born at Erlangen in 1840.

¹³ B. Balbinus, S.J., was born at Königgrätz in 1621 and died at Prague in 1688. His 'Bohemia docta,' edited by Raphaele Unger, was published in 1776.

¹⁴ Wagenseil, a man of much learning and great reputation, born 1633 at Nuremberg, died 1705.

¹⁵ Doppelmayr was born at Nuremberg, 1671, and died 1759.

¹⁶ Murr, the historian, antiquary and critic, was born at Nuremberg 1733, and died at Altdorf, 1811.

¹⁷ The French translation was made by H. J. Jansen, and was published in the 'Recueil des Pièces intéressantes concernant les Antiquités, les Beaux-Arts, les Belles-Lettres, et la Philosophie,' t. I. et II. (Paris, 1727). It was reprinted in 1801, as an appendix to a French translation of Amoretti's edition of Pigafetta. A third edition, revised by Murr himself, was published in 1802 at Strassburg and Paris. The Spanish translation is by D. Cristobal Cladera ('Investigaciones historicas,' Madrid, 1796, pp. 173-218).

Columbus and Magellan, when their claims as "discoverers" were called in question. Sebastião Francisco de Mendo Trigozo,¹ the author of a 'Memoria sobre Martin de Bohemia' ('Memorias de Litteratura Portugueza,' t. VIII., 1812; 2nd ed. Lisbon, 1856) is almost wholly dependent upon Murr for his facts.

After a long interval Dr. Friedrich Wilhelm Ghillany,² a man of learning and from 1841-53 Chief Librarian of the Town Library at Nuremberg, presented us with a 'Geschichte des Seefahrers Ritter Martin Behaim' (Nürnberg, 1853), an ambitious work, to which is prefixed an Essay by A. von Humboldt on the oldest maps of the new continent and the name 'America,' and which is illustrated by what claims to be an "exact copy of Behaim's globe on its original scale." Ghillany did his work with much industry; he dealt with Behaim's life and controverted points of his history as fully as the materials at his command permitted, and it might be supposed that the last word had been spoken on the subject. Such, however, was not the case, as is proved by Dr. Siegmund Günther's³ 'Martin Behaim' (Bamberg, 1890), which made known new documents which shed much light upon certain periods of Behaim's history, and thus produced a work at once popular and indispensable to the student of history. The account which Lucien Gallois renders of Behaim's life and work,⁴ as we have a right to expect from its gifted author, is instructive, but fails to shed fresh light upon subjects in dispute; the article in the 'Allgemeine Deutsche Biographie,' by J. Löwenberg⁵ is disappointing, if not worthless, and it seems a pity that this biography was not entrusted to a more painstaking writer; whilst A. Reichenbach's 'Martin Behaim, ein deutscher Seefahrer' (Leipzig, 1869) may be a good 'Volksbuch,' but cannot be appealed to as an authority.

In the work which I now venture to present to the public I shall deal with sufficient fulness with Martin Behaim's private life, his supposed scientific attainments and his voyage along the coast of Africa, and I shall give equal attention to a full description of his globe, which is still preserved at Nuremberg, and which, whatever its defects, is one of the most valuable and interesting

¹ S. F. de Mendo Trigozo wrote in 1812.

² Ghillany was born at Erlangen in 1807 and died in 1876. Already in 1842 he had published a pamphlet, 'Der Erdglobus des Martin Behaim vom J. 1492, u. der des Johann Schoener vom J. 1520,' with a reduced facsimile of the Western Hemisphere by Heidehoff, a drawing master.

³ S. Günther, Professor of Geography at the Technical High School of Munich, is one of the great authorities on mathematical and historical geography. He was born at Nürnberg in 1848.

⁴ 'Les géographes allemands de la renaissance' (Paris, 1890), pp. 25-37. L. Gallois, Professor at the École normale supérieure at Paris, was b. 1857.

⁵ J. Löwenberg, a writer on the history of geographic exploration, was born at Strzelno (Posen), and died at Berlin, 1853.

geographical monuments of the age immediately preceding the discovery of America. This globe, up till now, has not been fairly dealt with. Its legends, indeed, have in part been quoted and a few of its geographical names, but no real facsimile of it has ever been published, still less have the authorities been traced and analysed upon whom its delineation of the earth's surface is based. The facsimile which I now present to the public may not be the best that could have been produced, but it is at all events on the scale of the original, and contains all its legends, names and miniatures not to be found in any of the pseudo-facsimiles published hitherto. In my work I also deal in some detail with the materials available in 1492 for compiling a map of the known world, thus enabling the reader to form some judgment of the skill with which the cartographers of that period have availed themselves of the materials which were at their disposal.⁶

In conclusion I feel it my duty to express my thanks to a number of gentlemen who have kindly given me their assistance. At Nuremberg my thanks are especially due to the Barons F. and W. Behaim, who not only allowed me to take photographs of the globe, of the portrait of their kinsman, and of a letter written by him, but also permitted to be printed from an original block by Albert Dürer a design of their coat of arms. They likewise afforded to myself and my kind friend, Professor M. J. Rackl, repeated opportunities for examining the globe. Facilities for research were most courteously granted me by Dr. G. von Bezold, Director of the Germanic Museum, Dr. E. Mummenhof, Keeper of the City Records, and Dr. E. Reicke, city librarian. Dr. G. von Laubmann, Director of the Royal Library at Munich, and Sr. Gabriel Pereira, of the Bibliotheca Nacional, have most readily responded to my numerous inquiries for information. Dr. K. R. Scheppig, Director of the Anthropological Museum at Kiel, has generously placed at my service valuable information collected by himself for a work on Behaim upon which he is engaged. M. G. A. Marcel, Keeper of Maps at the Bibliothèque nationale at Paris, has afforded me every facility for making a copy of the real facsimile of Behaim's globe in his charge. Among many others my thanks are due more especially to Sr. Raphael Eduardo de Azevedo Basto, chief of the Torre do Tombo, Consul-general H. Daenhardt, and my friend Captain E. J. de Carvalho e Vasconcellos at Lisbon; the family of Count Mirbach of Schloss Harff, D. Jules Mees, Professor Albrecht Penck, Dr. Henry Vignaud and others.

⁶ The present work supersedes as a matter of course the author's essay, 'Martin de Bohemia,' 8vo, pp. 68, published in the 'Bibliotheca da Revista Portugueza colonial e maritima,' Lisbon, 1900.

JAVA MINOR.

Java minor dise jnsel hat umbfangen 2,000 welsch meil und hat in ir acht konikreich und haben ein besondere Sprach und betten abgötter an do wechsl auch allerlei Specerey in den konikreich bosman genant find man vil ainhörner helfanten und affen die menschen angeficht und glidtmafs haben jtem wechsl kain korn da sy machen aber prot aufs reis an weinstatt trinken sy safft der aus paumen tropft den man findt rot und weifs und ist ain reddlich guet getranck von geschmackh defs haben sy nach notturfft genug in dem konikreich Samara aber in konikreich genanth Dageram ist gewonheit so ir abgott sagt dafs ein krancker mensch sterben soll so erficket man dea kranckhen bey zeit und die freundt kochen das flaisch irs krancken freundt und essen jne mit einander mit grossen freudten auf dafs er den Wurmen nit zuthail werde. Aber in konikreich Jambri haben die leutt man und frauen hinden schweuz gleich die hundert do wechslt uber trefflich vil Specerey und allerlei thier als ainhörner und andere jm andern konikreich fanfur do wechslt der best camphor in der welt den man mit gott abwiget dafelbst findt gross gewachsen paumen da zwischen holz und rinden aufs dem Safft mehl würdt dafs guet zu essen ist und marco polo schreibt in seinem dritten buch am dem 16. Capittel er sey fünf monath in diser jnsell geweest (J 42 s).

The *Java Minor* of Marco Polo is Sumatra. The information given in the above legend is derived from Pipino's version book III. 13-19. The reference to a five months' residence is to be found in c. 16 as stated. The eight kings are made to dwell in four tents. The little monkey on the south coast is referred to in c. 15.

felech (J 36 s) (perta or pertes of Jom and Ghil), called *ferlach* in Pipino's version, has been identified with *Perlak*.

bofna (J 36) (Pipino's bosman, the basma of others) has been identified with *Paseir*, on the north coast.

fama, *Samara* (J 39 s), corrupted by Ghil into *fomat*, the modern *Samalanga* on the north coast.

dragojan (J 41 s), called *dageram* in a legend, corrupted by Jom and Ghil into *reagasio* or *reagario*. Yule places it near *Pedir*.

lambri (J 38 s), *Jomard's Cambia*, a place on the west coast, south of *Achin*.

fanfur (J 40 s), or more correctly *fanfur*, the modern *Baros* on the west coast.

camba (J 38 s) is not named by Marco Polo, but shown by Jom and Ghil. It may be a duplicating *lambri*.

Java Minor. This island has a circumference of 2,000 Italian miles, and within it are eight kingdoms. They have a language of their own and worship idols. Various kinds of spices grow there. In the kingdom of Bosman are found many unicorns (rhinoceros), elephants and monkeys, who have human faces and limbs. No corn grows there, but they make bread of rice, and instead of wine they drink the sap which trickles from trees; it is found red and white, and furnishes a tasty good drink, of which they have as much as they need in Semara. In the kingdom of Dageran it is the custom that when their idol says that a sick person is about to die they suffocate the patient in time, and his friends cook the flesh of their sick friend and eat it with much rejoicing in order that the worms may not have it. But in the kingdom of Jambri men and women have tails like dogs. Excellent spices grow there and various animals are found, such as unicorns and others. In the kingdom of Fanfur is found the best camphor in the world, which is worth its weight in gold; there are tall trees, the sap of which, between the wood and the bark, is converted into flour (sago), which is good to eat. Marco Polo, in the 16th chapter of the third book, says that he spent five months in this island. (M. Polo's five months refer to Samara only.)

JAVA MAJOR.

Java major (K 17 s), with a royal tent; mod. Borneo. *vilangat* (K 21).

fidama (K 27).

soipo (K 22), Ghil: Scipo.

On the coast a *pfeffer walt* (K 25 s) or "Pepper woods." It need hardly be mentioned that the plant yielding our pepper is a creeper or a climbing plant.

Item als man aus des grosen koniks in cathay landt von dem konikreich ciamba gegē orient genant fährt 1,500 welscher meiln, so kumbt man in dise jnsell gefaren genant Java major die hat umbfangen 3,000 welsche meiln der konik diser jnsell ist niemandt unterworfen und petn abgotter an man findt auf diser jnsell allerley specerey als pfeffer muscat plüet spinart galgan cubebon gariofilli negel zimeth und allerlei würz vast diejenige die man da verkauft darnach aufsthailt in alle welt darum gewonlich vil kaufleuth dafelbst ligen (K 16 s).

If one sails out of the kingdom Ciamba, which is in the country of the great King of Cathai, 1,500 Italian miles to the east, one arrives at this island, called Java Major, which has a circumference of 3,000 Italian miles. The King of this island is subject to no one; the inhabitants worship idols. Various spices, such as pepper, mace, spike-nard, galangale [which yields a kind of ginger], cubebes, caryophylli [and] cloves, cinnamon abound, and those sold are afterwards distributed throughout the world, for which reason many merchants are generally to be found there.

The following legend stands between Java Major and Neucuran:—

In disen jnseln wachsen vil rubin smarackhen topaffen und saffiren auch perlein oriental fast vil (J 20 s).

In these islands grow many rubies, emeralds, topazes, sapphires, and oriental pearls in plenty.

Java Major may safely be identified with Borneo, known to the natives, according to Sir Thos. Stamford Raffles ('The History of Java,' Lond., 1817, I., p. 1), as Gana or Nusa Jawa, the land or island of Java.

The contents of the first legend are wholly derived from Marco Polo (Pipino's version III 10), with only this exception, that the famous traveller does not include cinnamon among the products of the island.

PENTAN.

Jnsula pentan, *Jnsel pentan*, with a royal tent (J 27 s).

Als man segelt vom konikreich genant loach gegen mittagwarz kumbt man in dise jnsel pentan in der groys wäldt und von köstlich geschmackh [geruch, odoris] das möer hier umb ist niederer über zehen schritt dis schreibt marco polo am 9 capitel im drittem buch dafs volkh geht alles nacket (J 17 s).

If you sail from the kingdom of Loach to the southward, you reach this island Pentan, where there are large forests of delicious perfume. The sea around is less than ten paces deep. Thus writes Marco Polo in the 9th chapter of the third book. All the inhabitants go naked.

Pentan has been identified by Marsden and Yule with *Binteng* in the Strait of Malacca.

Behaim in this instance quotes Ramusio's version. Marco Polo gives the sea a depth of four fathoms (Pipino: passus) or 20 feet; he says nothing about the people going about naked.

kalt das di leut ihre heuser machen in gruben unter das ertreich und bedeckens mit pein [thier] heuten und steigen mit leidern in die heuser hinab (F 65).

Marco polo am 48 capittel jm drittē buch am endte schreibt ens das die gegent tramontana in dem gepürg und wildnuß umb den meer stern sey ein volkh wonhaft von tartaren genant permiani welche anbetten ain abgott von filz gemacht genant natigay dīses volks nahrung ist pin fum mer ziehen sj nortwärts in das gepürg unter den stern polus arcticus genant und fahen die zobel mader und harmelin lassiz fuchs und ander gethier dafs flaisch davon ist ir speiße und die heute find ire klaiden im sommer wonen sj in den felsen umb der jegerey willen und so es wintter will werden en so ziehen sj gegen mittag wartz gegen reuffen und haben ire heuser in gruben under der erdten umb des kalten windes willen genant aquilon und bedeckhen die gruben mit gethierheuten und bei in ist es im winter selten tag aber in summer verliefte sj der sunnen schein die ganze nacht nimmer als bei uns miten summer ist so wechset bei inen ein wenig gras und kreutter die sj effen aber korn noch wein noch obs wil daselbst nit wachsen umb des grofen frosts willen (J-M 76°N.).

Item als die reuffen in dasselbe land wollen das köstlich fehwerk zu holen so müssen sie auf schlitten fahren um der weffer (moffer) und tieffen snees willen welche von grofsen hunden gezogen werden (K 50).

Near the North Pole we read:—

das lant ist bewont im somer (H 84).

hie fecht man weisen valken (J 85).

so cold there that the people have their houses in pits underground, which they cover with hides, and into which they descend on ladders.

Marco Polo in the 48th chapter of the 3rd book, at the end, says that in this region Tramontana in the mountains and the barren grounds around the Pole Star, there lives a people called Permians by the Tartars, who worship a god made of felt and called Natigay. The food of this people is [here several words have been omitted] In the summer they move northwards into the mountains under the star called Polus arcticus, and catch sables, martens, ermines, weasels, foxes and other animals. The flesh of them is their food, and the skins furnish their clothing. In summer they live among the rocks for the sake of hunting, but on the approach of winter they move south, towards Russia. Their houses are in underground pits, because of the cold aquilon (North) wind, and they cover the pits with hides, and in winter daylight with them is rare, but in summer the sun shines the whole night through. When it is midsummer with us, a little grass and herbage grow with them, which they eat, but neither corn, nor wine, nor fruits grow there because of the great cold.

Item, when the Russians wish to go to this country, to fetch the valuable peltry, they are obliged to travel on sledges drawn by big dogs, because of the waters (swamps) and the deep snow.

The information given above has, in the main, been taken from chapters 48 and 49 of book III. of Pipino's version of Marco Polo. The God Natigay is referred to in Book I., c. 58, and the hawks are spoken of in Book I., c. 62. Identical information on the Permiani is given on Fra Mauro's map. See also the legend on Mangu-Khan.

CATHAI.

cathai (K 44), *cathajo* (K 43), *cathai* (M 40), the last an island in the eastern ocean.

hie hebt sich dz lant cathaja (J 40). Here begins the land cathaja.

Cathai was the mediæval name for northern China, thus called after the Khitai, a Manju tribe, on its northern

border, and its rulers, as the Leao or Iron dynasty, up to 1223.

tenduk (J 37), *og* (J 38), and *magog* (J 34); see Prester John, pp. 95, 96.

sindichin (K 45), M. Polo I 65, mod. Slen-hwa-fu.

Jdifa (K 47), or Ydifa, Yelifu, probably in the mountains N.E. of Kalgan, *ein böses gebirg* (difficult mountain) on the globe.

cianga nor (J 31), the "white sea," now ruins of a royal palace at Chagan Balgasum, 30 m. north of Kalgan.

vandu (J 31), Pipino, I 66, spells more correctly Cyandu, Ramusio Xandu. A famous royal palace, built by Kublai Khan, formerly known as Cle-men-fu, which is clearly the *clementi* of the globe (H 41), which M. Polo refers to in book I 6.

kambalu (K 42), *kazabula*, a little to the west, a misprint, the famous capital of Cathai (M. Polo II 10), now known as Peking.

taidu (K 41), or more correctly Tatu, the Tartar quarter of Peking, to the north, not south as shown on the globe (M. Polo II 11).

giogiu (K 43), *gingui* (J 40), Pipino's Juju, south-west of Peking, now Cho-chau in Pechili.

tainfu (K 40), now Tai-yuen-fu in Shansi.

achbalak (K 45), M. Polo II 28, now Ching-ting in Chili.

pianfu (K 39), M. Polo II 29, now Pin-yang-fu in Shensi.

taigin (K 37), M. Polo II 30, now Tai-ching-kwan on the Hwang-ho in Shansi.

kacianfu (K 39), *kocianfu* (K 39), M. Polo II 32, now Pu-chau-fu in Shansi.

ciangli, *cianglu* (K 34), M. Polo II 50, now Tsi-nan-fu in Shantung.

quenzanfu (K 33), M. Polo II 33, now Si-ngan-fu in Shensi.

kunkin (K 32), M. Polo II 34, a district on the Wei or the Han in Shensi.

pazanfu (J 39), M. Polo II 49.

tagiu p. (I 38), Jom and Ghil: *tagni p.*, *tagui p.* This seems to be Marco Polo's taigui (Pipino's version, II 30) or taigin (Ram. II 31), where Jinghis Khan was killed, and which Yule identifies with Ho-chau in Se-chwan.

MANGI.

konik v. mangi (K 35), King of Mangi in his royal tent, still traceable on the globe, but omitted on the Paris facsimile. Mangi or Manzi, corrupted from Men-tseu, i.e., Barbarians, is the name given by the Northern Chinese to their southern kinsmen (Cordier).

koilgan (K 31), M. Polo II 55: chorgungiu, now Hwai-ngan-dan on the Imperial Canal.

kain (K 30), M. Polo II 56, now Kao-yu-chau, east of the canal.

jang-gui (K 29), M. Polo II 57, now Yang-chau.

nang-hin (K 28), M. Polo II 57, now Ngan-king.

Of another legend, placed near a lake called Coromachus on Waldseemüller's map of 1507 (J 27), only the following words are still legible:—

vil long dj . . .

The legend may have referred to the presence of the rhinoceros or unicorn in Mien (mod. Awa), which is not, however, named on the globe (M. Polo II 43). Another legend is of too general a tenour to be allotted to a particular district:—

hirin find vil städt und wälder von specerej auch vil konik und mancher lei landes (J 5). Here are many towns and woods of spices, also many kings and various kinds of land.

The following are the rivers of Chatai and of Mangi:—
quian das wasser, quian fl, quinen (K 45-48), M. Polo II 35, 59, the Yangtsekiang.

brinf fl. (K 30), M. Polo II 38: brius, Kin-sha or Upper Yang-tse-kiang.

kirumaru (K 37), M. Polo II 31: caramoran, the Karamuran or Hwang-ho.

The following names are not mentioned by M. Polo: *jndia (K 29), jndie ptolemäus (K 27), jn hoch jndia (J 5), and jndia silva im orient (K 26).*

Hoch jndia (Indian superior) is a term used vaguely by mediæval authors. On the Borgia map (1450) it begins beyond the Indus and includes St. Thomas' Land, but the mendicant friar, who wrote about the same time, shifts it far to the east, and makes it to include Mangi.

As to *Indie ptolemäus* I can give no explanation, unless ptolemäus stands for toloman.

Murr, instead of the unintelligible *India silva im Orient* of the original, ventures to emend: *India sive pars Indie extra Gangem.*

mazin, mazin (H 22), which Behaim places to the west of the Ganges, is in reality a contraction of *Maha Chin*, the "great China," the *Macinus* or *Mangi* of N. de Conti, the *Mieng* of M. Polo, the capital of which was *Ava*.

birma (K 45).

sandula (K 41), a tributary of the *Caramoran* or *Hwang-ho*.

OPHIR AND HAVILAH.

The following legend is placed immediately to the south of the mouths of the Ganges (H 19):—

jn dem buch genesis findt man das dislandt da der ganges laufft gehaißen ist hevilla da foll da foll wachen das best golt in der welt ist jn der heilige geschrift im 3 buch der konik in den 9 und 10 capitel ist geschriebe das konik salomon seine schiff hie her schicket und liefs holen dieses goldtes und köstliche perlsin und edelgestain von ophir gen jerusalem dis landt gülat und ophir da der fluff ganges oder das wasser gion durch fleuft hat zusamm gehört.

In the Book of Genesis it is stated that this country through which flows the Ganges is called *Havilla*. The best gold in the world is said to grow there. In Holy Writ, in the 3rd book of Kings, chapters 9 and 10, it is written, that King Solomon sent his ships hither and had brought from Ophir to Jerusalem of this gold and valuable pearls and precious stones. This country of *Gülat* and *Ophir*, through which flows the river Ganges or the water of *Gion*, belonged together.

In Genesis ii. 11, we are told that the *Pison* "encompasseth the whole land of *Havilah*, where there is gold." From the 1st (not the 3rd) Book of Kings we learn that the "navy of *Tharshish*" came from *Ophir* once every three years bringing gold and precious stones and other merchandise. Pearls are not mentioned. *Havilah* or *Hevilka* is called *Evilath*, of which the *Gulat* of the legend is a corruption, in the 'Rudimentum novitorium.' The *Gihon* (*Gion*) is not the Ganges, but the Nile (Gen. ii. 13), "which encompasseth the whole land of *Ethiopia*." Certain Fathers of the Church have identified *Havilah* with Ptolemy's *Avalita*, but I have never heard of *Havilah* and *Ophir* being placed in juxtaposition. Colonel C. R. Conder identifies the *Gihon* with the *Araxes*, the *Pison* with the *Acampsis* of *Colchis*; he places *Havilah* in *Armenia*, and *Ophir* in *Southern Arabia*.

ST. THOMAS.

The history of *St. Thomas* is referred to in several legends to be found upon our globe. This apostle is popularly supposed to have been martyred in *India*, and upon *St. Thomas' Mount*, near *Madras*, the supposed site of his martyrdom, a church has been built by the Portuguese. *St. Thomas*, however, never wore the crown of the martyr, but died a natural death at *Edessa*.¹ His supposed missionary activity has caused his name to be introduced into the history of the *Three Kings*, for he is supposed to have converted one of them, *King Gathaspar* or *Caspar*, who has been identified with *Gundaphoras*, a *Parthian* ruler at *Peshawar*.²

Maabar, ein konikreich (I 35). Maabar, a kingdom.
jn disen konikreich war S. thomas mit ein pfeil erschoffen. In this kingdom *St. Thomas* was killed with an arrow.

Maabar lies on the *S.E.* coast of *India*, and in it is *St. Thomé Mount*. The information is from *Marco Polo*, III 27.

calmia (I 20 s), the *Calamina* of ecclesiastical tradition,³ where *St. Thomas* was martyred and buried according to *Mandeville*. This fabulator places it in *Maabar* (*Mabaron*), but Behaim has shifted it to northern *Coilur*.

coilur (I 24 s), the *koulam* of *Ramusio's* version (III 25).

jn diser insel coilur ist sant thomas der zwelff bot gemartert vorden. In this island *Coilur* *St. Thomas* the Apostle was martyred.

Coilur, the *Coylü* of *Pipino's* version of *Marco Polo* (III 31), is identified by *Yule* with *Quillon*. Neither *Marco Polo* nor *Mandeville* are responsible for the statement that *St. Thomas* was martyred at that place.

¹ Thilo, 'Acta S. Thomae apostoli,' Leiden, 1823. R. A. Lipsius, 'Die apokryphen Apostelgeschichten,' Leipzig, 1883, I., 223.

² Gutschmid, Rhein, 'Mus. f. Philologie,' 1864.

³ Pseudo Isidor, 'De vita et obitu . . . Sanctorum.' (Monum. S. Patr. orthod., Basilea, 1539, p. 598.)

