

the original name "Heemskerck Reef" has since been changed to "Nanuku Reef" and discourses on the pity of changing original names. Chapter VII deals with Captain COOK's second voyage to the Pacific in 1772 when in command of the two ships *Resolution* and *Adventure*; and chapter VIII with BLIGH's voyage in the launch of the *Bounty* in 1789 after the famous mutiny. It is compiled chiefly from his log-book, a signed copy of which is in the Mitchell Library, Sydney. Chapter IX deals with BLIGH's second visit to Fiji in 1792 in H.M.S. *Providence* with the *Assistant* as consort, and the following chapter is devoted to a discourse on the character of BLIGH and of Fletcher CHRISTIAN and the other mutineers of the *Bounty*.

Chapter XI describes the discoveries of Captain James WILSON in 1797 when in command of the missionary ship *Duff*, chiefly from information contained in a "Narration of the Voyage compiled from Journals of the officers and missionaries, etc." and Chapter XII those of BELLINGSHAUSEN, sailing in the service of the Russian Government in 1820 in command of the two sloops *Vostock* and *Mirnyi*, compiled from his journal, a translation of which into English was completed in 1930 by the Royal Geographical Society, London. Chapters XIII and XIV are devoted to "Alleged Discoveries", under which heading are included the voyages of Mr. OLIVER, Master's Mate of H.M.S. *Pandora* 1790-1, Captains BARBER of the *Arthur* 1794, Bentley of the *Ann and Hope* 1799 and DUMONT D'URVILLE of the *Astrolabe* 1827, the author remarking that although they sailed through the archipelago it is doubtful whether they can be considered as *discoverers* of any part of it except perhaps in the case of Captain BENTLEY who was the first white man to see Vatu Leile Island, the south-west corner of Viti Levu, and Malolo Island with its neighbouring islets and reefs.

Chapter XV compares the various discoveries with the object of awarding pre-eminence to one or the other. Finally the sources of information in compiling the book are given, with notes on manuscripts, charts, illustrations and local investigations. The book contains numerous reproductions of original charts and of portions of modern charts on which the tracks of the discoverers have been plotted, also other interesting illustrations such as "a double page from BLIGH's Log of the launch of the *Bounty*", portraits of the Explorers and pictures of their ships.

J. D. N.

DIE VERSCHOLLENE COLUMBUS-KARTE VON 1498 IN EINER TÜRKISCHEN WELTKARTE VON 1513

(THE LOST MAP OF COLOMBUS, 1498. IN A TURKISH GENERAL CHART OF 1513).

by

PAUL KAHLE.

(8vo. Walter DE GRUYTER & Co., Berlin and Leipzig, 1933, 52 pp. 9 facsimile charts.
Price : 5 Rm.).

While engaged in researches in the Seraglio Library at Constantinople, Dr. Paul KAHLE of Bonn, already known for his book in 1926 on the sailing directions for the Mediterranean compiled in 1521 by the Turkish Admiral PIRI RE'IS, discovered the general chart showing the western part of the world drawn in 1513 by Admiral PIRI RE'IS. This chart is of particular interest in that it bears an inscription indicating that use was made of various charts in compiling it — two world maps, an Arab map of India, four up-to-date Portuguese charts, and finally CHRISTOPHER COLUMBUS' MAP.

Dr. KAHLE has come to the conclusion that the last is none other than that which the celebrated navigator sent to Spain in 1498 and which was lost. It is possible that Admiral PIRI obtained this chart, as indicated by a legend on his map, through one of his uncle's (KEMAL RE'IS) Spanish slaves who had sailed to America several times with COLUMBUS. The date of this capture would be about the year 1501, when KEMAL RE'IS had fought seven Spanish ships off Valencia.

Dr. KAHLE states that the north-western portion of PIRI's chart, which shows just those waters traversed by COLUMBUS, is evidently based upon older material than the other parts of the chart. The portion embracing the Lesser Antilles, Virgin Islands,

Porto Rico and Trinidad represents unmistakably the great navigator's discoveries, and most of the names are those given by COLUMBUS. For Haiti and Cuba there is no such obvious agreement: Haiti is in fact shown with its major axis North and South. Dr. KAHLE suggests that, as COLUMBUS imagined he had reached the island of Zipango (Japan), which is thus shown on Martin BEHAIM's globe of 1492, he had therefore been content to leave it thus on his map. To the West there is a continuous continental coast running also North and South, which Dr. KAHLE identifies with Cuba. No doubt COLUMBUS did at one time regard that island as forming part of the continent of Asia. Dr. KAHLE supposes that Christopher COLUMBUS marked his own discoveries on this map, which already bore certain of the more or less legendary details which appeared in these waters on earlier maps.

In connection with this book it is of interest to recall the paper entitled *The Landfall of Columbus: An Old Problem Restated*, by Lieut.-Commander T. R. GOULD, R.N., in the *Geographical Journal*, Vol. LXIX, No. 5, London, May 1927. In that article Lt.-Comdr. GOULD states that in default of the actual charts which COLUMBUS had, he used the précis of the great navigator's journal given in LAS CASAS' *Historia de las Indias* to reconstruct the tracks sailed by COLUMBUS from his landfall as far as the coast of Cuba. When these are combined in the form of sketch-charts and superposed on the modern charts of the Bahamas, the most likely position for Guanahani or San Salvador, the island of the celebrated landfall of the night of 12th October 1492, appears to coincide with Watling Island.

In the *Geographical Journal*, Vol. LXXXII, No. 3, September 1933, Mr. Edward HEAWOOD reviewed Dr. Paul KAHLE's book on the World-Chart of PIRI RE'IS, 1513. The book reviewed, besides a facsimile of PIRI RE'IS' chart, contains various interesting plates, notably a reconstruction of TOSCANELLI'S 1474 chart by H. WAGNER; a reproduction of part of Martin BEHAIM'S 1492 globe by E. G. RAVENSTEIN; one of part of Juan DE LA COSA'S 1500 chart by KRETSCHMER; one of CANTINO'S map of America (1501-02) by H. HARRISSE; a sketch of the New World by Bartholomew COLUMBUS (1503); America from CANERIO'S 1504 chart by KRETSCHMER; a reproduction of America from RUYSCHE'S world map (1508), and finally a reproduction of part of WALDSEEMÜLLER'S 1516 chart by J. FISCHER and F. v. WIESER.

NAVIGATIONAL ANTECEDENTS

Under the title of *Navigational Antecedents* Commander H. D. McGUIRE, U. S. Navy, has written a very succinct review of the origins and evolution of methods of navigation in the olden days, which appears in Vol. 59, No. 363, May 1933, of the *United States Naval Institute Proceedings* (pp. 705-17). Starting from the dim past, Commander McGUIRE transports us in a most imaginative way to the roof of the library of Alexandria, where we find ERATOSTHENES measuring the latitude with a gnomon prior to making the first map worthy of the name. We then pass to HIPPARCHUS, who has adopted the astrolabe for measuring altitudes, which enables him to improve his maps and introduce to them the scale of parallels which he called *climata*.

Next, Commander McGUIRE gives us PTOLEMY using the works of MARINUS OF TYRE in the preparation of the maps of his *Geographiki Syntaxis*, which was the standard geography throughout the Middle Ages.

We pass on to a study of the origins of the magnetic compass and to a description of it by an Arab writer of 1242 who had travelled from Tripoli to Alexandria; the use of the compass led subsequently to the construction of the track charts for sea travel known as *portolans*. With the great advances made in navigation at the end of the XVth century, methods became more perfect; observing instruments developed; the old cross-staff was superseded first by the quadrant, then by the octant and finally by the sextant; astronomers endeavoured to provide the navigator with the means of determining his longitude; observatories were founded; governments took up the question and opened schools of navigation; and in 1675 the British Government founded Greenwich Observatory and appointed John FLAMSTEED as Astronomer Royal. In 1714 the British Par-