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 RUYSCH'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-

liament offered a reward for a method of determining longitude; in 1731 John HADLEY in England and Thomas GODFREY at Philadelphia invented the present form of the sextant.

Commander McGUIRE winds up his article on *Navigational Antecedents* by recalling for us, in racy style, the fight between the methods for the determination of longitudes — the astronomical method of lunar distances championed in 1763 by the Astronomer Royal, Nevil MASKELYNE, and the mechanical method with the chronometer championed by John HARRISON.

H. B.

THE NEW INTERNATIONAL CODE OF SIGNALS.

Codes of signals for the use of mariners have been published in various countries since the beginning of the nineteenth century. The most important of these are :-

Marryat	1817
Lynn	1818
Squire	1820
Raper	1828
Rohde (Danish)	1835
Phillips	1836
Walker	1841
Watson	——
Rodgers (American)	1854
Reynold (French)	1855

The best known is Captain MARRYAT's, which was used by many nations and can probably claim to be the first International Code of Signals. Captain MARRYAT used flags representing the numbers 0 to 9, a "Rendezvous" (geographical) flag, a "Telegraph" flag, a "Numeral" pendant, two "Distinguishing" pendants (Substitutes) and the Union Jack. No signal contained more than four flags, which limited the number of available signals to 9,000. This amount was insufficient, so use was made of the same groups in different tables with one of the special flags above-mentioned to indicate from which table the group should be decoded.

In 1855, a Committee was set up by the British BOARD OF TRADE "to enquire into and report upon the subject of a Code of Signals to be used at sea". This Committee put forward a draft code which contained 70,000 signals. The flags, therefore, were increased to 18, which represented the consonants of the alphabet, with the exception of X and Z.

This new code was published by the BOARD OF TRADE in 1887 in two parts. The first part of the book contained universal and international signals, and the second part British signals. The book was adopted by most of the sea-faring nations and, contrary to the intention of the framers of the code, translations were made of the British, as well as the international signals.

This edition lasted for roughly 30 years, and a Committee was again set up by the British BOARD OF TRADE in 1887 "to bring the international signal book up to date." The first report of the Committee was published in 1889, and its proposals were discussed by the principal Maritime Powers and at the International Conference in Washington in the same year.

As result of these discussions many changes were made in the Committee's Report. The flags were increased to 26, one for each letter of the alphabet, and the code or answering pennant. As a result of this increase in the number of flags, many of the more important signals could be made by single or two-flag hoists, general signals by three-flag hoists, and geographical signals by four-flag hoists. This edition was completed in 1897 and was forwarded to all Maritime Powers, some of whom caused translations of it to be prepared.