

This line lay a little to the west of Fayal Island of the Azores.¹ It will be remembered that this line figured quite prominently for many years in political geography as the line of demarcation between the kingdoms of Portugal and Castile.

It is only lately that Columbus has been properly credited with this discovery. Generally he is given credit merely for the discovery of the line of no declination. This is due to an error made by an Italian, Formaleoni, who declared that the compass charts in Bianco's famous atlas of 1436 contained on them values of the magnetic declination. Humboldt, relying on Formaleoni, repeated the error in his "Cosmos." Later researches have shown beyond a doubt that Formaleoni was wrong, having misinterpreted a diagram on one of the charts. So likewise has it been conclusively proven that the value of 5° E. for the magnetic declination at Rome in 1269, which had been ascribed to one Petrus Peregrinus, had been inserted in the Leyden manuscript in the early part of the sixteenth century.

An examination of the early compass charts made by the writer would indicate that during Columbus' time and a century or two before, the needle pointed approximately to the true north or by a small amount *east* over the entire Mediterranean. For this reason, probably, the magnetic declination was not discovered for so long a time after the European mariner had begun to rely on the bit of magnetized steel to guide the wanderings of his ship. Frequently statements are seen, with deductions based on them, that the needle pointed by a large amount (15° – 20° and more) *west* in the Mediterranean in about the 14th or 15th century. This, however, cannot be the case.

It was not until near the middle of the sixteenth century that the fact of the "misdirection" of the needle—to translate literally the German word, *missweisung*, for magnetic declination—received general acceptance. It was believed, namely, that the needle's deviation from the true north was due to mechanical imperfections, and the compasses of

¹ According to Mr. Schott's computations, the place on Columbus' voyage where the needle pointed true north was in north latitude $28^{\circ} 21'$ and in longitude $29^{\circ} 16'$ west of Greenwich.—Coast and Geodetic Survey Report for 1888, Appendix 7, p. 305.