

appear easy to trace with certainty the period of this discovery. Passing over certain legends of the Chinese, as at any rate not bearing upon the progress of European science,² the earliest notice of this property appears to be contained in the Poem of Guyot de Provence, who describes the needle as being magnetized, and then placed in or on a straw, (floating on water, as I presume:)

Puis se torne la pointe toute
Contre l'estoile sans doute;

that is, it turns towards the pole-star. This account would make the knowledge of this property in Europe anterior to 1200. It was afterwards found³ that the needle does not point exactly towards the north. Gilbert was aware of this deviation, which he calls the *variation*, and also, that it is different in different places.⁴ He maintained on theoretical principles also,⁵ that at the same place the variation is constant; probably in his time there were not any recorded observations by which the truth of this assertion could be tested; it was afterwards found to be false. The alteration of the variation in proceeding from one place to another was, it will be recollected, one of the circumstances which most alarmed the companions of Columbus in 1492. Gilbert says,⁶ "Other learned men have, in long navigations, observed the differences of magnetic variations, as Thomas Hariot, Robert Hues, Edward Wright, Abraham Kendall, all Englishmen: others have invented magnetic instruments and convenient modes of observation, such as are requisite for those who take long voyages, as William Borough in his Book concerning the variation of the compass, William Barlo in his supplement, William Norman in his *New Attractive*. This is that Robert Norman (a good seaman and an ingenious artificer,) who first discovered the *dip* of magnetic iron." This important discovery was made⁷ in 1576. From the time when the difference of the variation of the compass in different places became known, it was important to mariners to register the variation in all parts of the world. Halley was appointed to the command of a ship in the Royal Navy by the Government of William and Mary, with orders "to seek by observation the discovery of the rule for the variation of the compass." He published Magnetic Charts, which

² *Enc. Met.* art. *Magnetism*, p. 736.

³ Before 1269. *Enc. Met.* p. 737.

⁴ *De Magnete*, lib. iv. c. 1.

⁵ c. 3.

⁶ Lib. i. c. 1.

⁷ *Enc. Met.* p. 738.