

world, and that the needle which pointed east of north on the shores of Europe, had pointed very much to the west of north before he reached those of America. From this time the fact was no doubt familiar to navigators; but I believe that the first known work, in which the importance to keeping a register of the variation in different parts of the world is enforced, is a treatise on navigation by Prince Maurice of Nassau, published in 1599. Only four years after this Champlain was exploring the coasts of New England and Nova Scotia, and that he was deeply impressed with the value of such observations is evident from the instructions he gives in his *Traité de la Marine*, and in the explanation of his maps. It had, indeed, in his eyes a greater importance than it would have had, if he had pursued his explorations some thirty years later, for it was not until after his death that the next great fact in magnetism was discovered, viz., that the variation was not constant in any place, but itself varied from year to year. This discovery we owe to three independent English observers, between 1633 and 1640; but when Champlain was making his survey of the coast, it was thought that, however much the declination might vary in different places, in any one place it was always the same. Had this really been the case the declination would have materially assisted in determining the position of important points, and under favorable circumstances it might even now be a guide to the mariner, as Basil Hall describes himself, whilst sailing along the coast of Peru, in thick weather, to have found his latitude with considerable accuracy by observations on the dip. But in Champlain's time, when the navigator had no means of checking his dead reckoning, except by an observation for latitude, the declination, had it been constant, would have been a most important addition to his knowledge. It is with this view, rather than with the object of correcting his compass-bearings, and certainly not with the intention of investigating the laws of terrestrial magnetism, that Champlain includes amongst his instructions to mariners:—"N'oublier souvent à apprendre les déclinaisons de la guide aymant en tous lieux, qui est de sçavoir combien elle