

have a confused notion that the difference arises from the spherical form of the earth—that if they had been sailing on a plain surface the compass would have been a correct guide, but that as the surface of the earth is curved the compass varies, and the further north you go, and the greater the curvature of a parallel of latitude, the more rapidly the declination varies.

To return, however, to Champlain's records of observed declinations. His method of making the observations is described in his *Traité de la Marine*, and it is a rude kind of observation of equal altitudes. He placed a board perfectly horizontal in which was a perpendicular pin. In the morning he marked the place of the shadow of the top of the pin on the board, and describing a circle from the pin, he marked the point in the circle where the shadow of the pin touched it again in the afternoon. The line bisecting the angle thus formed was due north, and with this he compared his compass.

The localities where the observations were made are the following:—

Isle Madame, apparently in the entrance to the Gut of Canso, for which he gives lat. $45^{\circ} 45'$; dec. $14^{\circ} 50'$.

Cap La Heve, which retains its name with a somewhat different spelling, lat. $44^{\circ} 11'$; dec. $16^{\circ} 15'$.

Ste. Marguerite, clearly from the description inside of Digby Neck in the Bay of Fundy, probably the small bay called Sandy Cove, for which he gives lat. $45^{\circ} 30'$; dec. $17^{\circ} 16'$; but there appears to be an error of a whole degree of latitude, the real latitude being about $44^{\circ} 30'$. The error is probably a clerical one, for he is generally pretty correct in his latitudes.

Port Royal, in Annapolis Basin, lat. 45° ; dec. $17^{\circ} 32'$.

Isle Ste. Croix, in Passamaquoddy Bay. I do not know that the exact situation of the small island has been ascertained. Lat. $46^{\circ} 20'$; dec. $17^{\circ} 22'$.

The entrance to the Norembegue or Penobscot river, lat. 44° ; dec. $18^{\circ} 40'$.

Isle aux Tortues, at the entrance of Kennebec river, lat. 44° ; dec. $19^{\circ} 12'$.