

features of a magnetic chart for any period will be best understood by conceiving that over about one-half of the globe the variation is easterly, and over the other half westerly. There are, therefore, two lines of no variation, removed from each other by nearly half of the circumference of the earth. One of these, at which, if you are sailing to the west, you will pass from an easterly to a westerly declination, is now situated in Asia, and is very irregular in its outlines. The other, where you pass from a westerly to an easterly declination, which forms a much more regular curve, is situated in America, and just touches upon the western extremity of Canada. The lines where the variation is 5° , 10° , 15° , &c., westerly, may be drawn to the eastward of the American line of no variation, and to the westward of the Asiatic one, and following the same general direction; but as these lines occur at greater intervals near the equator than towards the poles, the lines of equal variation proceeding from its two neutral lines, soon meet towards the equator, after which the next set of lines return upon themselves, and the variation increases as you go to the north or the south. These lines are constantly changing their position, and the question is, where were they situated in the time of Champlain? Now, as in Champlain's time the declination in France was about $8^{\circ} 30'$ east, and in sailing to America he passed the line of no declination, and then increased his westerly variation as he approached America, the neutral line which he so crossed would appear at first sight to have been that now situated in Asia. It is by no means impossible that this may have been the case, as we have no means of tracing it over the continent of Asia, from where we find it at the same date in China and Australia; but if so, instead of reaching the Northern Ocean, as now, near Archangel, it must have stretched very far over the Northern Atlantic; for if on the coast of Nova Scotia he had been nearer to the American line, the declination would have decreased as he sailed to the west and to the south instead of increasing as he found it. This position of the isogonous lines would also correspond very well with the increased declination observed by him in the St. Lawrence, and it