

myself loaded with three arquebuses, as many paddles, my cloak (capote) and some small articles (bagatelles). I encouraged my men,' he continues, 'who were loaded yet heavier, but suffered more from the mosquitoes than from their burdens.' Thus encumbered and harassed, it would be easy of course for a person to drop out of his pack a scientific instrument or other things at some point in the toilsome way without observing the loss. Very possibly this article was among the 'bagatelles' taken charge of by Champlain himself. The language of his journal implies, as we shall see, that he had with him an instrument for taking latitudes; and that it was what the French scientists of the day termed an astrolabe is likely from the fact that Champlain in an extant treatise of his on the Art of Navigation, advises all his readers to become familiar with the use of the 'astrolabe.' It is therefore pretty certain that he himself would be provided with one when on a tour of exploration.

Under date of May 30th, 1613, when at the entrance of Lake St. Louis on the Ottawa, Champlain writes in his journal—'I took the latitude of the place, and found it  $45^{\circ}18''$ ;' and under date of June 4th, when at the Falls of the Chaudière he says: 'I took the latitude of the place, and found it to be  $45^{\circ}38''$ . And again, on the 6th of June, when at Portage du Fort, he says: 'I took the latitude of this place, which was  $46^{\circ}40''$ —words in each instance implying the use of a scientific instrument. But after the 6th of June, it is observable that his language changes. He does not again speak of 'taking' a latitude. His words become less precise, suggesting calculation perhaps by distance conceived to have been travelled. Thus, of Allumette Island or foot of the Upper Allumette Lake, he says—'It is about the 47th degree of latitude,' in which statement, it appears, he was wrong by more than a degree, the true latitude of the spot being  $45^{\circ}50''$ . Hence it is conjectured that his instrument for taking latitudes was now not at hand. Mr. Russell, of Ottawa, sees a further reason for supposing the absence of an instrument when at the foot of Upper Allumette Lake in the fact that Champlain was by some chance wrong in his figures at Portage du Fort, which he sets down as in lat.  $46^{\circ}10''$ ; and this was an error committed while in possession of his instrument. For he says, 'I took the latitude of this place.' Now Mr. Russell acutely observes, if Champlain had been in possession of his instrument at the foot of Upper Allumette Lake, and had