

Emmitsburg and Edgemont would be in Pennsylvania and Hancock on the boundary. The maximum deviation from Mason's and Dixon's line—about  $2\frac{1}{2}$  miles—would have occurred near Leitersburg and the west end of the line would be too far south by nearly a mile.

If now a magnetically east and west line were re-run at the present time, starting again from the east end, the line, as will be seen, would run considerably south of the true boundary. The rich coal regions of Allegany and Garrett counties would now lie almost entirely in Pennsylvania and the west end of the line would be just about at the middle point of the west boundary line, or in other words about 19 miles too far south!

This illustration brings the fact of the secular change of the *magnetic* meridians in the course of one century vividly before the mind. Fortunately, the Mason and Dixon line was run true east and west, and hence will be fixed forever.

Now let us suppose that a surveyor were called upon at the present time to re-run the magnetic east and west line of 1800. Then the question of proper allowance of secular variation would enter in and be the dominating factor in the accurate re-running of the line. Making the most favorable supposition possible, the *precise* position of the 1800 magnetic east and west line would never again be regained. Under favorable suppositions a skillful surveyor might approximate quite closely to the line, but assuming that conditions exist similar to those prevailing in the greater portion of the state, even the skillful surveyor might run a line which would be so far out as to make it doubtful whether certain towns belonged to this state or the adjoining ones. His line might be a fruitful cause of litigation for ownership of valuable districts, *e. g.*, the coal regions. This is precisely the condition of things in many parts of Maryland to-day, hence the practical importance of making our secular variation data as accurate as possible. During the present year special effort will be made to increase our knowledge of the secular change.