

men. That means it took four men to obtain 121 mean declinations in 36 working days, or one man for 30 declinations in 36 days, or roughly, it took one man and one day for one declination, which was the mean of several made over a locality covering but a few square miles of area. Now a skillful magnetic surveyor equipped with special magnetic instruments, if the weather is favorable, can occupy two stations a day, distant say 10 to 15 miles from each other, and observe besides *all* the magnetic elements, not simply declination. He can certainly easily average one complete station a day, if the weather is fairly propitious. This has been repeatedly done. Dr. Rijkevorsel, for example, in his survey of Holland, between the end of July, 1889, and first days of October of same year, without an assistant, observed the three magnetic elements at nearly 80 stations, or on the average about  $1\frac{1}{3}$  stations a day. Counting out the days which the observer of the magnetic survey of Maryland had to devote to other duties, it is found that he averaged one complete station a day, and this, too, with stations so far from each other that the aggregate mileage traveled was about 2000 miles. In some instances, owing to the inaccessibility of the stations, it took more than a day to reach them. These facts are merely mentioned in order to bear out previous remarks, *that if the magnetic instruments can be procured, it will be found that there will be practically little saving in time or money to make only a partial survey.* The New Jersey survey was a beautiful piece of work as far as it went, but no further use, from a geological standpoint, can be made of it than as an indicator of a certain class of local disturbances. If that work be supplemented in the near future by inclination and intensity data, New Jersey will have made a noteworthy contribution to the advancement of our knowledge with regard to the correlation of disturbances in geological structure and disturbances in magnetic distribution.

The next chapter is devoted to a special account of the Maryland magnetic survey. It will be seen that this survey embraces the determination of the three elements and is more detailed than any state magnetic survey thus far made in this country. There is probably no state that includes within so small an area—less than 10,000 square