

entirely beyond the disturbing influence of some artificial cause near the place where by law the line had to be established, special magnetic observations were made at some point near the town where there was no reason to suspect a local disturbance and the result of these observations likewise furnished to the county commissioners.

The Frederick and Wicomico lines were established in the fall of 1896 and the remainder in the spring of the present year. More detailed reports of each line have been prepared and sent to the respective county commissioners and will, doubtless, be published in some other connection.

Numerous inquiries have been received by the Maryland Geological Survey with regard to simple methods for the determination of true meridian lines—such methods as could be employed with the average instrumental equipment of the surveyor.

In the hope that the furnishing of this information to the surveyor will be instrumental in inducing him to determine the magnetic declination or “variation of the compass” more frequently than is his custom, I take pleasure in complying with the requests for this information and have accordingly added the following article.

The method used in the magnetic survey—that of determining the true bearing of some distant mark by solar observations—while more expeditious for the work of the survey is not one that the surveyor in general can employ with success. I have therefore omitted an explanation of this method.

SIMPLE METHODS FOR DETERMINING A TRUE MERIDIAN LINE.¹

I.—TO DETERMINE THE TRUE MERIDIAN BY OBSERVATION ON POLARIS AT ELONGATION WITH THE ENGINEER'S OR SURVEYOR'S TRANSIT.

1. Set a stone, or drive a wooden plug, firmly in the ground and upon the top thereof make a small distinct mark.
2. About thirty minutes before the time of the eastern or western

¹The descriptions of the four methods given under this heading are borrowed almost entirely *verbatim* from the U. S. Land Office Manual of Surveying Instructions, Washington, 1896. I have made a few revisions and have referred the tables to the present year.—L. A. B.