lines of equal magnetic declination (variation) run very irregularly over the region embraced by the Piedmont Plateau (central and northeastern Maryland), while over the Coastal Plain (southern and southeastern Maryland) they are fairly regular. The counties that are especially disturbed are Cecil, Harford, Baltimore, Carroll, Howard, Montgomery and Frederick. In the regions covered by these counties the density of the stations must be greatly increased before we can be sure of giving a true representation of the distribution of the earth's magnetism as manifested by the declination.[1] Additional observations made since the drawing of these lines, especially in Harford County, clearly demonstrate that little dependence can be put upon lines constructed from a small number of stations. The line 6° W. as at present sketched must be regarded as but a rough approximation to the truth. A more detailed investigation in this region will result in a number of closed areas, where the values will be smaller or larger than those obtained by direct interpolation. Thus east of line 6° W. there are a number of places where the declination drops down to 5½° and less, whereas the values should have been greater. For example, Elkton gives but 5°.4 for 1900. The line 6° W., as at present projected, is doubtless not far from the position which the line would have were it not for the marked disturbances referred to. Its general direction harmonizes with that as indicated by the distant observations in Pennsylvania.

The same marked anomalies in the distribution of the earth's magnetism have been revealed by the other preliminary magnetic map, viz., the map giving the lines of equal magnetic inclination and the (Plate XVI) *lines of equal horizontal magnetic force.* These preliminary maps have served a useful purpose in guiding me in the map-

[1] The results thus far obtained from the work of the present year clearly indicate that the curves presented in this report have not exaggerated the amount of disturbance in the distribution of the earth's magnetism over the counties enumerated. Thus, for example, the declinations observed at Linden and Rockville—both in Montgomery county and distant from each other seven miles—differ from each other by nearly two degrees. At Linden the declination for January 1st, 1900, will be 3°.6 and for Rockville 5°.5. It will be seen that the isogonic line (4½°)—drawn before the Rockville observations were made—would represent a *mean* of the two stations for this locality quite satisfactorily.