

We thus see that the line of no declination entered the state in about 1769 and thereupon marched eastward until it reached an extreme easterly position a few miles east of Washington in about 1805. It then began to recede, now marching westward until in about 1850, when it left the state. The average annual motion in longitude for the forward and the backward march was about the same— $0^{\circ}.7$, or about 37 miles. The next map (Fig. 7) exhibits the motion of the agonic line over the eastern part of our country for various epochs, as drawn by Mr. Schott. It will be noticed that our deductions are in harmony with the facts set forth by this map.

It would appear, then, as though the needle did not point east of north between 1700 and the present date in the greater part of Maryland. It should be mentioned, however, that there may have been regions east of the extreme easterly position assumed by the agonic line where the needle in the early part of the eighteenth century was either "true to the pole" or bore by a small amount east. This occurred in the magnetically disturbed areas of Maryland and was due to the fact that in those regions the declination has a smaller value than it would have if the causes of the disturbances did not exist. Thus, for example, we find that at Elkton in about 1800 the direction of the needle practically coincided with the true meridian, whereas if the declination had been normal it would have been about $1\frac{1}{2}^{\circ}$ west. It is this fact undoubtedly which makes the matter of re-locating old surveys of such especial difficulty in the northeast counties. There are disturbed and undisturbed areas in these counties. Over the former the needle may have pointed east at beginning of present century; over the latter, which may be within a very short distance of the former, the needle pointed west. Granted that over this region compass surveying should be prohibited in the future by the state, the difficulty will always remain in the proper re-location of the old surveys referred to compass bearings.

THE EFFECT OF THE SECULAR VARIATION OF THE MAGNETIC MERIDIANS.

If in the year 1800 the northern boundary of Maryland—the famous Mason and Dixon line—had been laid out with the compass