The dip of the needle or the magnetic inclination is the second element involved in a magnetic survey. Scientifically defined *the magnetic inclination is the angle, measured in the vertical plane passing through the magnetic meridian, which a magnetized needle, mounted so as to move freely about a horizontal axis, makes with the plane of horizon.* The dip measured in the plane at right angles to the magnetic meridian would be 90°, *i. e.*, the needle would stand exactly vertical, while in the plane of the magnetic meridian it would have a *minimum* value for the place at which the measurements are made.

At the so-called " magnetic equator " the dip is zero, and hence the dipping needle perfectly horizontal. As we advance northward along a magnetic meridian of the earth the north end begins to dip downward by an amount continually increasing until we reach that point on the earth's surface usually designated as the north magnetic pole; here the needle stands precisely vertical with the north end down, just as it did at any place in the plane of the magnetic prime vertical—in the plane at right angles to the magnetic meridian. In the southern hemisphere the *south* end is the one which dips down, and precisely the same phenomena are exhibited by the south end in the magnetic southern hemisphere as by the north end in the northern.

In Maryland the magnetic dip or inclination varies from about 69½° in the extreme southern portion to about 71° in the extreme northern.

The magnetic dip, like the declination, is also subject to a secular variation.

Reference has been made above to the magnetic poles of the earth. This term is so generally misunderstood—the term being really an unfortunate one—that it will not be amiss to explain here what is meant. The so-called magnetic poles of the earth are those points *on the earth's surface* where the dipping needle stands exactly vertical. At these points the compass needle has no fixed direction, the declination having any value from 0° to 360°. This is due to the fact that at these places the part of the earth's magnetic force which acts on a compass needle has dwindled to nothing. Thus far two such points are known to us, one in the northern hemishphere and one in the southern. These points do not coincide with those points where the