Hence, to obtain the hour angle of Polaris *subtract the time of upper culmination from the correct local mean time of observation; the remainder will be the hour angle of Polaris.*

The *observation* will be made as directed under Method I, modified as follows: there will be no waiting for the star to reach elongation; the observation may be made at any instant when Polaris is visible, the exact time being carefully noted.

TABLE XVII.

This table gives, for various hour angles, expressed in *mean solar time,* and for even degrees of latitude from 36 to 40 degrees, the *azimuths of Polaris* during the remainder of this century, computed for average values of the north polar distance of the star—the arguments (reference numbers), being the *hour angle* (or 23h. 56m.1, *minus* the hour angle, when the latter exceeds 11h. 58m.), which is termed the *Time Argument;*[1] and the *latitude* of the place of observation. The table is so extended that azimuths may be taken out by mere inspection and all interpolation avoided, except such as can be performed mentally.

The *hours* of the " time arguments " are placed in the columns headed " Hours," on the left. The *minutes* of the time arguments will be found in the columns marked " m.," under the years for which they are computed, and they are included between the same heavy zigzag lines which inclose the hours to which they belong.

[1] The vertical diameter *SS',* Fig. 9, divides the apparent path of Polaris into two equal parts, and for the star at any point s_0 on the *east* side, there is a corresponding point *s* on the *west* side of the meridian, for which the azimuth *Nw* is equal to the azimuth *Ne.* The arc $Ss_1S's_0$, taken from the entire circle (or 23 h. 56.1 m.), leaves the arc Ss_0, and its equal, Ss_1, expressed in time, may be used to find, from Table XVII, the azimuth *Nw,* which is equal to *Ne.*

The hour angles entered in Table XVII include only those of the *west half* of the circle ending at *S',* and when an hour angle *greater* than 11 h. 58 m. results from observation, it will be *subtracted* from 23 h. 56.1 m., and the *remainder* will be used as the " time argument " for the table. The surveyor should not confound these two quantities. The *hour angle itself* always decides the *direction* of the azimuth and defines the place of the star with reference to the pole and meridian, as noted at top of Table XVII. See examples at the end of this part.