

(86) To Read a Thermometer.—The better kind of thermometers are graduated on the *stem*, and have also numbers indicating some of the degrees etched on the stem. Most thermometers have also an attached scale on which every degree is marked, and every tenth degree numbered. As the chief use of the attached scale is to aid the eye in reading the scale on the tube, if any slight discrepancy be noticed between the marks on the tube and those on the attached scale, it is by the scale on the *tube* that the observer must be guided.

In reading a thermometer, it is necessary that the eye be placed on a line from the end of the column of liquid perpendicular to the column.* If the column be in an upright position, this line will be horizontal, and the eye will be in the same level with the top of the column. Inattention to this precaution may cause an error of 2° or more.

The observer should avoid touching† the thermometer before reading it, or breathing on it, or warming it by a too close approach of the person; and at night he should not allow the light from the reading lamp to fall on the bulb, or on more of the stem than is necessary.

SECTION IV.

ON THE REGISTRATION OF TEMPERATURE OBSERVATIONS.

(87) Hours of Observation.—At stations which are primarily *Rain Stations*, but at which certain observations of temperature are also taken, the temperature observations consist either of readings of the ordinary thermometer made twice daily, or of readings once daily of the self-registering maximum and minimum thermometers.

For the ordinary thermometers the readings are 9 a.m. and 9 p.m., while the self-registering thermometers are both to be read and set at 9 p.m.

(88) Rules for filling up the Columns of the Register.—The actual reading of each thermometer, without modification or correction, should always be entered in the Register, as the risk of error is thereby much diminished.‡

* The observer must not mistake for a degree mark the reflection of that mark on the back of the tube. If he brings the mark, its reflected image, and the end of the column into apparent coincidence, his eye will be correctly placed.

† If the thermometer has been wetted by driving rain or snow, it must be wiped sufficiently long before the observation to allow it to recover its proper temperature.

‡ Instead of entering the readings in the columns from memory, it is better to write them in a pocket-book before leaving the instrument, and to transfer them from the pocket-book to the register book.