

In order to eliminate as far as possible from the results of our serial temperature soundings errors depending upon irregularities in the action of the thermometers, it has been found necessary in all cases, instead of trusting to their individual indications, to construct a free-hand curve for each series, and to take the indications from the curve. If the readings of the thermometer are plotted to scale, and if we attempt to construct such a symmetrical curve as that represented in Fig. 53, a page of the Curve-book, selected at random as an example, the curve naturally passes through the greater number of the plotted points, leaving out one or two at a greater or less distance at either side. Where many of the thermometers are astray, as not unfrequently happens when the serial sounding is taken in heavy weather, this process requires to be performed with some judgment, and is liable to a certain amount of error; but it is wonderful in a series of such curves how strong the internal evidence is of their accuracy. A certain marked temperature phenomenon, for example, is indicated in a certain locality by an irregularity in the curve; and as we recede from the cause of disturbance, the irregularity gradually dies out, to be replaced very probably by an irregularity due to some other cause. This is well shown in the curves representing the gradual change of temperature from west to east in the North Atlantic and the North Pacific (vol. i., Figs. 100 and 101, pp. 362 and 366). The temperatures used in the text and in the temperature sections are taken from such curves. In the tables in the Appendices the temperatures are given as they were read from the thermometers, after applying the known corrections for pressure and error of zero-point, in order that the actual data from which the curves were constructed might be supplied. This will explain the discrepancies which frequently occur between the temperatures referred to in the text and those given in the tables.

Referring, in the first place, to the distribution of tempera-