west prevented our dredging. At about 1 A.M. there was a sudden rise of the thermometer at the sea surface from 12°·2 C. to 18°·2 C., and it rose steadily during the next eight hours up to 22° C., showing that we had entered the Gulf-stream current. The passage from the dull-green color of the arctic reflux to the deep blue of the Gulf-stream was very perceptible on this occasion. We continued in the Gulf-stream until shortly after midnight on the 25th, when a sudden change in the temperature of the surface of the sea from 22°·2 C. to 18° C. showed that we had crossed its southern limit. In crossing the Gulf-stream in both directions, the alternate bands or interdigitations of warm and cold water were very perceptible. Half-hourly temperature observations were taken (Appendix D), and the diagram Plate XII. is constructed from the general results.

In a former volume ("The Depths of the Sea," Chapter VIII.), I have given a general account of the Gulf-stream, and I have entered somewhat fully into the recent controversies regarding its origin and influence. Since that book was written, greater harmony of opinion appears to obtain on these points. It seems to be generally admitted that the Gulf-stream is due to the reflux of the equatorial current, and that it is not in any sense a modified case of a general ocean circulation produced by convection; and most physical geographers seem to be at one as to the very important influence which it exerts in distributing and accumulating tropical warmth in the North Atlantic, and in ameliorating the climatic conditions of the countries which border its eastern shores. We have since had an opportunity of tracing the distribution of temperature in the corresponding region of the North Pacific, and the comparison between the two is very instructive. The differences between them are great, but when carefully considered they are found to be more differences in degree than in kind.

In the Pacific the ocean area is of course vastly greater than in the Atlantic, and the equatorial current is to the full as