

## CHAPTER XIX.

### ICE AND SOUNDINGS IN THE TSO-NGOMBO.

The sketch map which I herewith add (see Pl. 50) will convey some idea of the way in which the different parts of the lake freeze, a matter which is intimately connected with its geographical situation, its wind relations, and so forth. It was precisely at this time, just in the beginning of December, that the lake began to freeze for good. The first places to freeze are the inner, sheltered parts of the bays, where a crescentic fringe is formed, the outer edge of which is next day shattered by the waves and out of the fragments a small ridge or rampart is built up. Outside of this a fresh crescentic fringe is formed the next cold night that comes. In the bay which lies east of the peninsula four successive fringes were noticeable, separated from one another by ridges of ice of different colours, some of it being white and full of air bubbles and some as bright as glass. From this I inferred that the ice would continue to be formed during the immediately succeeding nights in the way indicated by the dotted lines on the sketch-map. The outside fringe, the fourth, which had evidently been formed during the immediately preceding night, was as thin as paper; whereas in the narrow passage before mentioned the ice was, as I have said, as much as 15 cm. thick. The ice-bridge that spanned the narrow passage was 100 m. broad, but widened out a good deal next the shores. On the east this stronger bridge was flanked by a narrow fringe of recently formed ice; but on its western side fragments of wind-driven ice were packed together and were gradually freezing fast to that which had been recently formed. Along the southern shore, especially in the bay, there was a narrow lane of open water next the land, for several springs exist there at the bottom of the lake. The positions of six of them were easy to fix, because the water was boiling up and all in commotion. One or two of the springs were however so feeble, or else they were situated relatively so deep, that they were only able to keep open a small round hole in the ice. In the basins of this lake farther to the east we had generally found a long narrow lane of open water just at those points at which the respective lakes are narrowest, this being evidently a result of the current. The narrow passage of which I have spoken was on the contrary frozen hard, a circumstance due in no small degree to the fact that no current sets through it; if there were a current it would