

part of the river; but unfortunately I was unable to satisfy myself of this, for the current ran too strong for the thin tent-spars which I used (having nothing better) for sinking the velocity-instrument. If there really does exist a second counter-current at the bottom, it will of course affect the figures I have given above, and the volume will be less than I have calculated it. But as a matter of fact the only counter-current we actually observed was that close to the left bank. And yet there must of necessity exist a counter-current along the bottom, for the maximum depth of the lake amounts to 2.37 m. or, if we count the estuary as belonging to the lake, to 2.56 m., while the actual river itself reaches a depth of 3.34 m. The salt water therefore in consequence of its weight is forced up against the freshwater stream, and driven in between its lowest layer and the bottom of the river. All the same the under-current of salt water cannot ascend higher than to a point at which the depth is slightly less than the depth of the lake, and at which consequently all the fresh water flows eastwards unchecked over a ledge or threshold, and this at the same time prevents the under-current from continuing towards the west. Upon reaching this ledge the salt water becomes mingled with the fresh, and is forced to turn and flow back on the surface towards the east, in the way shown in the accompanying sketch (fig. 82). That the fresh and the salt water really do intermingle in the narrow passage which we measured is perfectly evident from the fact, that the water at that point is already salt, for the areometer gave there the reading 1.036. But in the outer basin immediately below the place where we got this reading the salinity was 1.051, and at Camp XXXII it was 1.22, and no doubt it continues to increase towards the east. The deepest point between the two horns of the estuary was only 1.19 m., but even there there was a powerful under-current of salt water. At the narrow passage where we took our measurements the fresh water had however already begun to assume the upper hand. The Crustaceans and other small aquatic creatures which drifted with the current down from the freshwater lake were all dead even before reaching the narrow passage. The two basins may be regarded as a transitional stage between the freshwater lake and the saltwater lake. In them the salinity is already so great that all traces of both animal and plant life are absent; the hard, sandy, gravelly bottom is completely bare.

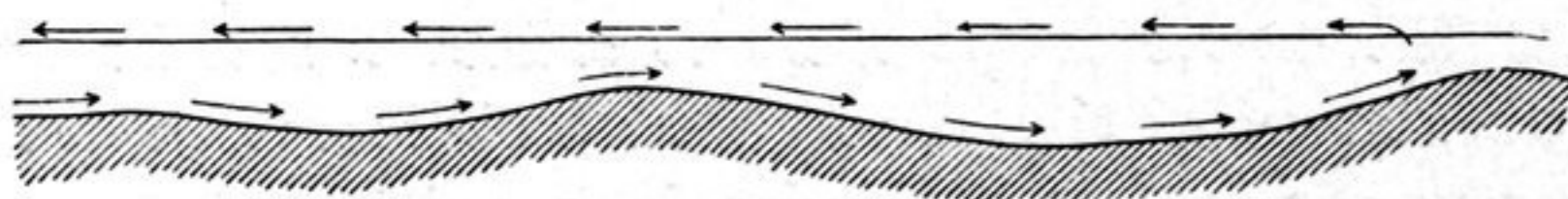


Fig. 82.

My plans did not admit of any stay at this spot, but I hasten to add that it would be well worth while to spend a couple of weeks beside this interesting pair of lakes, and I recommend the task of examining them to the future traveller in that region. I am unable therefore to state how far up the salt water penetrates, nor can I say whether or no the two large lakes are linked together by a series of smaller ones. If that is the case, then the latter lake will decrease in salinity from east to west. We saw however quite distinctly the spacious expanse of the upper lake, which likewise stretches from east to west. The distance between the two lakes did not