

temperature; it is doubtless joined, and considerably augmented, by a cooler current passing down the coast of Africa, past the Canary and Cape Verde Islands, a portion of the southern branch of the Gulf-stream; and this tributary stream, whose direction so nearly coincides with that of the Guinea Current, formerly tended to prevent the full recognition of the principal source of the latter in the equatorial counter-current.

After leaving San Iago, on the 9th of August, we began almost at once to feel the influence of the Guinea Current, or rather, perhaps, of its northern tributary; and from that date to the 17th our course lay in a south-easterly direction, parallel with the coast of Africa, and nearly in the path of the current. The temperature of the sea-surface during this time was nearly constant at 26° C., and the temperature of the air slightly lower. Serial soundings were taken at several stations, and these gave a singularly rapid fall in temperature of from 14° to 15° C. for the first 100 fathoms; showing that the warm current, as in all other cases which we have observed, is very superficial. Where the rate of the current is highest, we have as usual the isotherms crowding upward; the cooler water rising to supply the place of the hot surface-water, which is being rapidly drifted and evaporated away.

We sounded on the 10th in 2300 fathoms, with a bottom of globigerina ooze, and took a series of temperatures at intervals of 100 fathoms, down to 1500. The surface-temperature was high, and from the surface the temperature fell with unusual rapidity, losing nearly 15° C. in the first hundred fathoms.

Surface.....	$26^{\circ}\cdot 1$ C.	15 fathoms.....	$20^{\circ}\cdot 5$ C.
5 fathoms.....	25 \cdot 4	20 "	18 \cdot 4
10 "	24 \cdot 4	100 "	11 \cdot 3

There was a marked tendency at this station to the gathering together upward of all the higher lines (Plate XIX.), the isotherm of 6° C. occurring at a depth of 400 fathoms, nearly 400 fathoms higher than the position of the same line at Madeira.