

The deep-sea temperature near St. Helena proved that the influence even of a submarine polar current was not experienced there.

It would therefore appear that the South Atlantic is the seat of a system of currents, analogous, but simpler in form, than those of the North.

Off Cape Horn, we encountered the Great South Polar Stream, whose strength has had such influence on the progress of vessels, and been the cause of so much disaster to the early circumnavigators. This stream spreads far to the eastward, and Cape Horn divides it into two branches, one of which sets along the west coast of South America, far to the northwards.

The main stream enters the Atlantic, and in the vicinity of Cape Horn is almost as well known as the Gulf Stream on our own coast. It appears to be strongest in the months of August, September, and October, the spring of that hemisphere, and weakest in April and May, or the autumn. It continues its course to the northeast until it appears lost in the South Atlantic, probably sinking beneath the warmer water that has been flowing along the coast of Brazil. Our observations made its greatest velocity seventy-two miles in twenty-four hours, in a direction east-northeast, but its usual rate is about thirty miles in the same time.

One remarkable feature of the water in the neighbourhood of Cape Horn is its very low temperature at great depths. We found it, as has been stated in Chapter V., as low as 28° , at the depth of four hundred fathoms; and although this great depression of temperature was not exactly verified by other observations, yet those made in the vicinity were sufficiently low to render this remarkable fact probable.

That the direction of a great body of water to the northward and eastward, is not confined to the vicinity of Cape Horn, we have one proof in the drift of the icebergs, even beyond the line at which a current is found at the surface, and which must therefore be carried by submarine streams; and another in the observations made by the late French expedition under D'Urville, who found a current setting east-northeast, along the icy barrier to the south of Powell's Group.

It has been stated that the northeast Polar Stream is divided into two branches at Cape Horn. The Chili branch of the stream at first retains the northeast direction, and sets upon the coast of that country, but as it advances it takes a direction more towards the north. This stream is not superficial merely, but prevails to a great depth, or is submarine. This fact is conclusively shown by an observation of Captain Du Petit Thouars in the French frigate *Venus* in 1837; he found in making a deep-sea sounding in this stream during a calm,