a little to the north of the strait, the rate is from three to five miles an hour. The depth is only 325 fathoms, and the bottom, which in the Strait of Florida was a simple slope and counter-slope, is now corrugated. The surface temperature is about 26°·5 C., while the bottom temperature is 4°·5; so that in the moderate depth of 325 fathoms the equatorial current above and the polar counter-current beneath have room to pass one another, the current from the north being evidently tempered considerably by mixture. North of Mosquito inlet the stream trends to the eastward of north, and off St. Augustine it has a decided set to the eastward Between St. Augustine and Cape Hatteras the set of the stream and the trend of the coast differ but little, making 5° of easting in 5° of northing. At Hatteras it curves to the northward, and then runs easterly. In the latitude of Cape Charles it turns quite to the eastward, having a velocity of from a mile to a mile and a half in the hour.

A brief account of one of the sections will best explain the general phenomena of the stream off the coast of America. I will take the section following a line at right angles to the coast off Sandy Hook. From the shore out, for a distance of about 250 miles, the surface temperature gradually rises from 21° to 24° C.; at 10 fathoms it rises from 19° to 22° C.; and at 20 fathoms it maintains, with a few irregularities, a temperature of 19° C. throughout the whole space; while at 100, 200, 300, and 400 fathoms it maintains in like manner the respective temperatures of 8°·8, 5°·7, 4°·5, and 2°·5 C. This space is therefore occupied by cold water, and observation has suffi-