

CHAPTER VIII.

THE GULF - STREAM.

The Range of the 'Porcupine' Temperature Observations.—Low Temperatures universal at great Depths.—The Difficulty of investigating Ocean Currents.—The Doctrine of a general Oceanic Circulation advocated by Captain Maury and by Dr. Carpenter.—Opinion expressed by Sir John Herschel.—The Origin and Extension of the Gulf-stream.—The Views of Captain Maury; of Professor Buff; of Dr. Carpenter.—The Gulf-stream off the Coast of North America.—Professor Bache's 'Sections.'—The Gulf-stream traced by the Surface Temperatures of the North Atlantic.—Mr. Findlay's Views.—Dr. Petermann's Temperature Charts.—Sources of the underlying Cold Water.—The Arctic Return Currents.—Antarctic Indraught.—Vertical Distribution of Temperature in the North Atlantic Basin.

ALL the temperature investigations carried on in H.M.S.S. 'Lightning' and 'Porcupine' during the years 1868-69 and 1870, with the exception of a series of observations already referred to taken in the Mediterranean under Dr. Carpenter's direction in the summer of 1870, were included within an area nearly 2,000 English miles in length by 250 in width, extending from a little beyond the Færoe Islands, lat. 62° 30' N., to the Strait of Gibraltar, lat. 36° N.

The greater part of this belt may be described as