CHAPTER V.

GENERAL CONCLUSIONS.

The Contour of the Bed of the Atlantic.—The Atlantic Ocean divided by a Series of Ridges into Three Basins.—The Nature of the Bottom.—Pelagic Foraminifera.—*Hastigerina Murrayi*.—Volcanic Débris.—Products of the Decomposition of Pumice.—The Distribution of Ocean Temperature.—Laws regulating the Movements of the Upper Layers of the Atlantic.—Corrections of Six's Thermometers.—Laws regulating the Movement of Water in the Depths of the Atlantic.—The Doctrine of "Continuous Barriers."—The Distribution and Nature of the Deep-sea Fauna.—The Universal Distribution of Living Beings.—Causes modifying and restricting the Distribution of the Higher Forms.—Relations of the Modern to the Ancient Faunæ.—The *Challengerida*.—The Density of Sea-water.—The Amount and Distribution of Carbonic Acid.—Of Oxygen.

APPENDIX A.—The General Result of the Chemical and Microscopical Examination of a Series of Twenty Samples of the Bottom from the Observing Stations on the Section between Teneriffe and Sombrero.

APPENDIX B.—Table showing the Amount of Carbonic Acid contained in Sea-water at Various Stations in the Atlantic.

APPENDIX C.—Table showing the Relative Frequency of the Occurrence of the Principal Groups of Marine Animals at Fifty-two Stations at which Dredging or Trawling was carried to Depths greater than 2000 Fathoms.

IT is, of course, impossible at this stage of the work, while the great bulk of the observations are still unreduced, while the chemical analyses are only commenced, and there has not been time even to unpack the natural-history specimens, to give any thing like a detailed account of the additional data which have been acquired by the *Challenger* expedition, or of their bearings upon the various problems of physical geography. Still, from the presence of a competent scientific staff on board, a good deal was done during the voyage; and certain