

4. DEPTH AND DEPOSITS OF THE NORTH ATLANTIC OCEAN

The North Atlantic may be called a circumscribed ocean, being practically land-locked except towards the south. Its superficial area is small compared with the other ocean basins, but the area draining into it is enormous, since the Arctic Ocean, the Mediterranean Sea, the Baltic Sea, the Gulf of Mexico, and the Caribbean Sea all communicate with it. Indeed, it has been estimated that nearly one-half of the entire world drains directly or indirectly into the Atlantic Ocean¹ as a whole, or about four times the area draining into the great Pacific Ocean, and of this by far the larger portion drains into the North Atlantic as distinct from the South Atlantic; the largest river of South America, the Amazon, enters the Atlantic just on the equator, and its outflowing waters, with their burden of sediment, are carried mostly into the North Atlantic. It has further been estimated that more than one-half of the total rainfall of the globe falls on the Atlantic drainage area, equal to more than three times the amount falling on either the Pacific or Indian Ocean drainage area.² Remembering these facts, and the relatively large area occupied by the continental shelf and continental slope, it is easy to understand why the deposits covering the floor of the North Atlantic partake more of a terrigenous character than those of the other ocean basins, and this character is further emphasised by the floating icebergs met with in the northern part of the ocean, and by the proximity to the southern part of the ocean of the great desert of the Sahara, the sand grains from which are sometimes carried far out to sea by the wind. The North Atlantic is also remarkable for the relatively high temperature of its waters at all depths from surface to bottom, as compared with the other oceans, and this is due partly to the influence of the dense warm water flowing out from the Mediterranean at the Straits of Gibraltar, and partly to the downward movement of the dense surface water of the Sargasso Sea. Another characteristic of the North Atlantic is the permanent anticyclonic area in the Sargasso Sea region, which largely determines the direction of the prevailing winds over a large part of that ocean, and hence of the great surface currents like the Gulf Stream.

The bathymetry of the North Atlantic, according to the

¹ *Scott. Geogr. Mag.*, vol. ii. p. 554, 1886.

² *Ibid.* vol. iii. p. 67, 1887.