differences, almost within the limit of error of observation, may appear somewhat exaggerated.

One marked feature in this section is the comparative thinness of the surface layer of heated water, and the enormous thickness of the mass of underlying cold water, varying little in temperature throughout its depth; and a second is the great regularity of the curve of fall of temperature from the surface to the bottom (Fig. 55). The bottom temperature of the western basin of the Atlantic is slightly but very decidedly lower than that of the eastern at corresponding depths.

One point connected with some of our earlier observations is of interest in its bearing upon the interpretation of the temperature observations of the *Porcupine* cruises of 1869 and 1870. Curve A, Fig. 56, represents the vertical distribution of heat in the Bay of Biscay determined by the *Porcupine* in 1869, and Curve B the distribution of heat derived chiefly from bottom temperatures off the coast of Portugal. The marked peculiarity in these curves is a rise or "hump" between 200 and 900 fathoms, indicating a temperature in that particular stratum of water from some cause abnormally high.

This has been accounted for by the "banking-down" against the coasts of Europe of the Gulf-stream, the north-eastern reflux of the equatorial current; and it is naturally most marked at that point where the impact, as it were, of the Gulf-stream is most direct—the coast of the Lusitanian peninsula.

It is indicated on all current charts that about the 40th parallel of north latitude a great part of the Gulf-stream bends southward along the coast of Africa, a portion of it curving round and rejoining the equatorial drift, and another portion joining the Guinea current. Some of the observations in the present section appear to confirm in a remarkable way the view that this irregularity in the curve is due to the cause to which it has been attributed. The southern branch of the Gulf-stream is not impeded by land, and there is little or no "bank-