

at the bottom of a deep western trough; the water then shoaled rapidly up to the West Indian Islands.

On our next section from St. Thomas to Bermudas we sounded a little to the north of the Virgin Islands in 3875 fathoms, the greatest depth known in the Atlantic, and our whole course lay through a depression upward of 2500 fathoms deep, showing that the western trough extended considerably to the northward. This western valley was again traversed between Bermudas and the Açores, the water shallowing at a distance from those islands, thus showing that they formed the culminating points of a plateau of considerable extent. Between the Açores and Madeira we recrossed the eastern valley, and our course from Madeira to the Cape Verde Islands, and southward to a station in lat. $5^{\circ} 48' N.$, long. $14^{\circ} 20' W.$, lay within it, near its eastern border. We then crossed the valley, and in lat. $1^{\circ} 22' N.$, long. $26^{\circ} 36' W.$, we sounded in 1500 fathoms near the centre of the middle ridge, and, altering our course to the south-westward, we crossed obliquely a western depression, with a maximum depth of about 2500 fathoms, between St. Paul's Rocks and Cape St. Roque. From Bahia we crossed a western depression with a maximum depth of 3000 fathoms, and came upon 1900 fathoms on the central rise, a few degrees to the westward of Tristan d'Acunha. An eastern depression with an average depth of 2500 fathoms extended for the greater part of the distance between Tristan d'Acunha and the Cape of Good Hope.

On our return voyage, in 1876, we crossed the western basin of the South Atlantic about the parallel of $33^{\circ} S.$ We then ran northward on the top of the rise in the meridian of Tristan d'Acunha and Ascension as far as the equator, and the greater part of the remainder of our course lay nearly in the axis of the eastern depression.

Combining our own observations with reliable data which have been previously or subsequently acquired, we find that