

in its more open parts of from 2000 to 3000 fathoms, or from about 2 to 3½ miles. In the Pacific Ocean H.M. Ship "Challenger" got soundings of 3950 and 4475 fathoms, or about 4½ and rather more than 5 miles. Since then the U. S. Ship "Tuscarora" obtained a still deeper sounding (4655 fathoms), to the east of the Kurile Islands. This is the deepest abyss yet found in any part of the ocean. But these appear to mark exceptionally abysmal depressions, the average depth being, as in the Atlantic, between 2000 and 3000 fathoms. We may therefore assume, as probably not far from the truth, that the average depth of the sea is about 2500 fathoms, or nearly 3 miles. Its total cubic contents will thus be about 400 millions of cubic miles.

With regard also to the form of the bottom of the great oceans, much additional information has recently been obtained. Over vast areas in the central regions, the sea-floor appears to form great plains, with comparatively few inequalities, but with lines of submarine ridges, comparable to chains of hills or mountains on the land. Recent soundings, however, taken at short distances, have revealed, in parts of the Atlantic that were supposed to be deep and with a tolerably uniform bottom, submarine peaks rising to within 50 fathoms from the surface.⁷ A vast central ridge has also been traced down the length of this ocean, from which a few lonely peaks rise above sea-level—the Azores, St. Paul, Ascension, and Tristan d'Acunha. In the Pacific Ocean, the lines of coral-islands appear to rise on submarine ridges, having a general northwesterly and southeasterly trend. It is significant that the islands which thus appear far from any large mass of land are either coral-reefs

⁷ "Times," 7th Dec. 1883. [J. Y. Buchanan.]