ply a superficial aggregation of matter with a density as great as the parts under the sea, the elevation of sea-level at the centre of the continent due to attraction would amount to about 2900 feet, but that, if the continental mass be assumed to imply a defect of density underneath it, the elevation of the sea at the centre of the continent due to attraction would be only about 10 feet.[8] This subject is further considered in Book III. Part I. Section iii.

The water of the ocean is distinguished from ordinary terrestrial waters by a higher specific gravity, and the presence of so large a proportion of saline ingredients as to impart a strongly salt taste. The average density of sea-water is about 1·026, but it varies slightly in different parts even of the same ocean. According to the observations of J. Y. Buchanan during the "Challenger" expedition, some of the heaviest sea-water occurs in the pathway of the trade-winds of the North Atlantic, where evaporation must be comparatively rapid, a density of 1·02781 being registered. Where, however, large rivers enter the sea, or where there is much melting ice, the density diminishes; Buchanan found among the broken ice of the Antarctic Ocean that it had sunk to 1·02418.[9] A series of soundings taken during the "Vega" expedition in the Kara Sea (lat. 76° 18′, long. 95° 30′ E.) gave a progressive increase of salinity from 1·1 at the surface to 3·4 at 30 fathoms, the surface being freshened by the water poured into the sea by the Siberian rivers.[10]

The greater density of sea-water depends, of course,

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[8] Bruns, "Die Figur der Erde," Berlin, 1876; R. S. Woodward, Bull. U. S. Geol. Surv. No. 48, p. 85 (1888).

[9] Buchanan, Proc. Roy. Soc. (1876), vol. xxiv.

[10] O. Pettersson, "Vega-Expeditionens Vetenskapliga Iakttagelser," vol. ii. Stockholm, 1883.