

Among the general subjects of contemplation appertaining to a work of this nature, a prominent place must be given, first, to the consideration of the *quantity* of the land raised above the level of the sea, and, next, to the individual configuration of each part, either in relation to horizontal extension (relations of form) or to vertical elevation (hypsometrical relations of mountain-chains). Our planet has two envelopes, of which one, which is general—the atmosphere—is composed of an elastic fluid, and the other—the sea—is only locally distributed, surrounding, and therefore modifying, the form of the land. These two envelopes of air and sea constitute a natural whole, on which depend the difference of climate on the earth's surface, according to the relative extension of the aqueous and solid parts, the form and aspect of the land, and the direction and elevation of mountain chains. A knowledge of the reciprocal action of air, sea, and land teaches us that great meteorological phenomena can not be comprehended when considered independently of geognostic relations. Meteorology, as well as the geography of plants and animals, has only begun to make actual progress since the mutual dependence of the phenomena to be investigated has been fully recognized. The word climate has certainly special reference to the character of the atmosphere, but this character is itself dependent on the perpetually concurrent influences of the ocean, which is universally and deeply agitated by currents having a totally opposite temperature, and of radiation from the dry land, which varies greatly in form, elevation, color, and fertility, whether we consider its bare, rocky portions, or those that are covered with arborescent or herbaceous vegetation.

In the present condition of the surface of our planet, the area of the solid is to that of the fluid parts as  $1 : 2\frac{4}{5}$ ths (according to Rigaud, as  $100 : 270$ ).<sup>\*</sup> The islands form scarcely  $\frac{1}{2}$ d of the continental masses, which are so unequally divided that they consist of three times more land in the northern than in the southern hemisphere; the latter being, therefore, pre-eminently oceanic. From  $40^{\circ}$  south latitude to the Antarctic pole the earth is almost entirely covered with water. The fluid element predominates in like manner between the eastern shores of the Old and the western shores of the New Continent, being only interspersed with some few insular groups. The learned hydrographer Fleurieu has very justly named this

<sup>\*</sup> See *Transactions of the Cambridge Philosophical Society*, vol. vi., Part ii., 1837, p. 297. Other writers have given the ratio as  $100 : 284$ .