in their mode of distribution with volcanoes. For a fine illustration we refer to Percival's remarkably accurate map of the dykes of Connecticut. (*See Geol. Report of Connecticut.*)

The continental thermal springs, dykes of igneous rocks and volcanoes are found chiefly along the mountain ranges near oceans; that is, along those portions of the crust which have been elevated and fractured by the lateral forces produced by contraction. The larger these ranges are, the greater has been the action of heat. For example, along the ranges of the Pacific coast of North America, some of them 18,000 feet above the ocean, there are immense active and extinct volcanoes, besides vast basaltic overflows; while along the Atlantic coast, where only a few peaks exceed 6,000 feet, there are no volcanoes, but a few thermal springs, metamorphic rocks, and fewer dykes.

The subjects of eruptions and earthquakes have already been treated of. They are the legitimate results of the former igneous fluidity of the earth, but they are also the proofs of the doctrine, and must, therefore, be described before stating the theory.

6. CONFIGURATION OF THE EARTH'S SURFACE.

The earth is a flattened spheroid, marked with elevations and depressions—the former constituting continents and islands, and the latter forming the beds of the oceans. The average height of the land above the level of the ocean is 1,008 feet; and the average depth of the ocean beneath the same level, is from two to three miles. The proportion of the surface covered by land to that covered by water, is as three to eight; or fifty-three millions of square miles of land, to 144 millions of square miles of water.

There are evidences of systematic structure in the relative arrangements of land and water, but especially in the configuration of the continents themselves. The northern hemisphere contains more than three-fourths of all the land on the globe; and if the north pole be shifted to the south part of England, nine-tenths of all the land would be in the northern hemisphere, while the water would be mostly in the southern hemisphere. The land is in two great areas, the Eastern and Western Hemispheres. They nearly unite about the north pole, but towards the south pole divide into three great peninsulas, diverging in different directions; viz., South America, Africa, and Australia, which last, with the adjacent islands, may be viewed as a southeast prolonga-