

have all the researches and observations of others, been combined with greater completeness or with clearer philosophical conceptions than by Ritter in his monumental work on Asia. He has endeavoured to replace the meagre descriptions of his predecessors by a chorological representation; he has gathered information from the most varied sources and kneaded it into an organic and intellectual whole, united by the principle of causality." (*The Tasks and Methods of Modern Geography*, Leipzig, 1883.)

During the latter half of this century the abundance of new facts brought home by travellers of all nations has extended our knowledge with remarkable rapidity. But the treatment of the subject remained for a long time of the more formal and descriptive character. Most travellers contented themselves with descriptions more or less accurate and with measurements, and were indifferent to the genetic aspects of geography.

If we except the older works, that of Humboldt may be said to have laid the scientific foundation of a morphological treatment of surface forms. His calculations of the average height of the great continents form the starting-point of a series of investigations, amongst which may be mentioned those of A. de Lapparent (1883), Von Tillo (1889), John Murray (1886), and of a number of eminent younger geographers. By the side of orography, oceanography has made even more remarkable progress during the century, and has developed itself into an independent branch of the morphology of the earth's surface. Otto gave in 1808 a fairly complete account of the limited facts then known about ocean forms. Great advances had been made when the American sailor Maury published his excellent work fifty years later. Maury gave a general idea of the extent of the ocean surfaces, the forms of coast-lines, the ocean tides and currents, the physical and chemical conditions of the water and the various organisms that inhabit the oceans, and was also enabled, with the help of three lines measured for the laying of the Transatlantic cables, to sketch the first section and the first map of the floor of the North Atlantic ocean. From these data Peschel in 1868 calculated the mean depth of the North Atlantic Ocean.

A new era began in oceanography with the exploring expeditions of the English *Challenger*, the German *Gazelle*,