hensive laws and principles. One of the most distinguished of living geologists, Professor Marcel Bertrand, writes in the preface to the French translation of Suess's work, by M. de Margerie: "The creation of a science, like that of a world, demands more than a single day; but when our successors write the history of our science, I am convinced that they will say that the work of Suess marks the end of the first day, *when there was light.*"

Suess has secured almost general recognition for the Contraction Theory. Yet there are individual attempts to explain mountain-making in some other way. Amongst these the most worthy of note is Mellard Reade's attempt to work out the Huttonian expansion theory in detail and to make it agree with the ascertained facts of modern geology. Mellard Reade made a number of experiments on the expansion of metals and rocks under different modes of heating, and applied his results theoretically to explain the movements within the earth's crust.

Like James Hall and Dana, Mellard Reade starts with the assumption that mountain-making takes place only in districts of thick sedimentary deposits, and that there is an increase of temperature in those parts of the earth's crust on account of the additional thickness, and therefore proportional with it. Whereas Babbage, Lyell, Dana, and others suppose that the force of expansion called forth by the increase of temperature acts only in linear directions, vertically upward, Mellard Reade shows that this force must tend to expand rocks cubically, *i.e.*, upward, downward, and laterally. The lateral expansion of the rocks in the heated area is resisted by the relatively less heated rocks of adjacent areas, the compression of the expanding rocks causing them to fold and buckle. The upper layers being less influenced by the earth's heat than the lower are in a condition of greater tension, while the lower are more strongly compressed. Both are separated by a neutral zone, in which the rocks experience neither tension nor compression; this zone is called the "level of no strain."

The rocky floor upon which the thick mantle of deposit has gathered necessarily participates in the subsequent rise of crust-temperature, the expansion, and the compression. Therefore the sedimentary strata of high antiquity composing the floor are subjected anew to heat and pressure, are folded and crushed in the most varied manner, and in their plastic state, since they are stemmed back by the lateral resistance of cooler areas and harder masses of rock, they are readily pressed