of the sea, and that the calcareous and the curved strata of the Devonian basin penetrate twice that depth. If we compare these subterranean basins with the summits of mountains that have hitherto been considered as the most elevated portions of the raised crust of the Earth, we obtain a distance of 37,000 feet (about seven miles), that is, about the $\frac{1}{5\frac{1}{2}\frac{1}{4}}$th of the Earth's radius. These, therefore, would be the limits of vertical depth and of the superposition of mineral strata to which geognostical inquiry could penetrate, even if the general elevation of the upper surface of the earth were equal to the height of the Dhawalagiri in the Himalaya, or of the Sorata in Bolivia. All that lies at a greater depth below the level of the sea than the shafts or the basins of which I have spoken, the limits to which man's labors have penetrated, or than the depths to which the sea has in some few instances been sounded (Sir James Ross was unable to find bottom with 27,600 feet of line), is as much unknown to us as the interior of the other planets of our solar system. We only know the mass of the whole Earth and its mean density by comparing it with the open strata, which alone are accessible to us. In the interior of the Earth, where all knowledge of its chemical and mineralogical character fails, we are again limited to as pure conjecture, as in the remotest bodies that revolve round the Sun. We can determine nothing with certainty regarding the depth at which the geological strata must be supposed to be in state of softening or of liquid fusion, of the cavities occupied by elastic vapor, of the condition of fluids when heated under an enormous pressure, or of the law of the in-

nosist, Von Dechen, for the following observations. "The depth of the coal basin of Liege, at Mont St. Gilles, which I, in conjunction with our friend Von Oeynhausen, have ascertained to be 3890 feet below the surface, extends 3464 feet below the surface of the sea, for the absolute height of Mont St. Gilles certainly does not much exceed 400 feet; the coal basin of Mons is fully 1865 feet deeper. But all these depths are trifling compared with those which are presented by the coal strata of Saar-Revier (Saarbrücken). I have found, after repeated examinations, that the lowest coal stratum which is known in the neighborhood of Duttweiler, near Bettingen, northeast of Saarlouis, must descend to depths of 20,682 and 22,015 feet (or 3·6 geographical miles) below the level of the sea." This result exceeds, by more than 8000 feet, the assumption made in the text regarding the basin of the Devonian strata. This coal-field is therefore sunk as far below the surface of the sea as Chimborazo is elevated above it—at a depth at which the Earth's temperature must be as high as 435° F. Hence, from the highest pinnacles of the Himalaya to the lowest basins containing the vegetation of an earlier world, there is a vertical distance of about 48,000 feet, or of the 435th part of the Earth's radius.