must have been derived from something, which something cannot be assumed to be the result of a sedimentary operation."

"In the same way there must have existed a covering through which the oldest eruptive formations were protruded, and a foundation upon which they could spread themselves out; and the whole series of eruptive rocks must, like those of sedimentary origin, have at the commencement been borne by something which cannot be regarded as the result of an eruptive operation."

"We find ourselves thus obliged, from two sides, to assume the existence of an originally existing solid erust of the planet, which formed the theatre and the foundation for all the later formations, above and beneath which those two energies in nature could develop themselves; through which on the one side the sedimentary, and on the other side the eruptive formations were brought into existence; and that formation of which this original foundation consisted it is consequently proper to entitle the primitive or themelian, the original or fundamental formation."

"To this formation those enigmatical, deepest-lying rocks belong which resemble sedimentary strata, in possessing more or less perfect stratification, and which resemble cruptive rocks, when their mineral composition and their crystalline structure are taken into consideration; but they are devoid of the fragmentary rocks and the organic remains by which the sedimentary formations are characterized, and on the other hand do not possess the veins, masses and streams common to eruptive rocks, nor the abnormal relations of these at their junction with other rocks. In a word, we meet in the primitive formation many of those rocks which we have above designated cryptogenous, such as gneiss, mica schist, hornblende-schist, etc.; rocks whose unaltered character we are not justified in denying in every case, merely because in some cases similar rocks have been formed by the metamorphosis of sedimentary strata, or in an eruptive manner. Those who, because a few beds of mica-schist or gneiss have been admitted to be metamorphose'l clay-slate or greywacke slate, declare that all micaschists and gneiss are only altered sedimentary rocks, only metametamorphosed beds of mud, virtually remove the ground from beneath our feet, and limit us to a transcendental succession of sedimentary deposits, which, downward, has no end, or rather no demonstrable commencement ; because finally the actual sedimentary origin can neither be recognized nor proved, but can only be maintained as a hypothetical assumption."