2nd. That from mingled solutions of sulphate of magnesia and bi-carbonate of lime, there separates by evaporation, crystalline gypsum, and, subsequently, a hydrous carbonate of magnesia; the bi-carbonate of this base being, as is well known, very much more soluble than either the sulphate or the bi-carbonate of lime. 3rd. That this separation of gypsum is favored and rendered more complete by an atmosphere impregnated with earbonic acid gas; and 4th, that mixtures, in due proportions, of precipitated carbonate of lime and hydrous carbonate of magnesia, when gently heated under pressure, and in the presence of water, unite to form the anhydrous double carbonate, dolomite. These are the reactions which I described to the French Academy as new, and as forming the basis of a reasonable theory of the origin of gypsums and of dolomites. I now demand Mr. Forbes to make good his bold assertions to the contrary, or to show that any one of them has been employed for the last twenty years in the manufacture of magnesian salts.

Mr. Forbes then proceeds to inform us that "the grand development of magnesian limestones, dolomites, and gypseous beds, really took place in an epoch when numerous air-breathing animals, both vertebrates and invertebrates, lived upon the face of the globe." Is Mr. Forbes aware that a large proportion of the 4,750 feet of limestone measured by Sir William Logan in Canada, and constituting the three great limestone formations of the old Laurentian system, is magnesian, and often, through great thicknesses, a pure dolomite, that a large part of the Lower Silurian system, and nearly the whole of the Upper Silurian, from the St. Lawrence to the Mississippi, consists of dolomite, and embraces great gypsum beds; and, finally, that immense gypsum deposits found, at intervals, from Nova Scotia to the Ohio, lie at the base of the Carboniferous system, in which latter only are found the *first remains* of air-breathing vestebrates? It is dangerous to generalize from the geology of the British Islands, or of a small part of Europe. Moreover, will Mr. Forbes attempt to demonstrate that at the time when Tertiary gypsums were deposited in the Paris basin, there did not yet remain sufficient carbonic acid in the air to modify its chemical action on solutions of bi-carbonate of magnesia, and give rise to the associated dolomites, which I was the first to discover in that position?

We now, in the language of Mr. Forbes, approach the question "of the igneous origin of eruptive rocks and of granite in particu-