

The above facts may be summed up in the following general statements. (1) Silica and its compounds with alumina potash and soda constitute the mass of the oldest rocks whether aqueous or igneous. These substances being all oxides of easily oxidizable bases may have been derived primarily from the action of air and water on these bases, though ^{before arriving at} their present state they may have existed as the materials of still older formations of an aqueous or igneous character. (2) lime which is present only in very small quantity in the oldest rocks appears for the first time in considerable layers in the upper Silurian and Devonian rocks in connection with remains of shells and corals the animals of which probably collected it from the waters of the ocean. It attains its maximum of abundance in the Lower Carboniferous period, Series in which ^{also} it has been accumulated ^{principally} by shellfish and corals. ~~coral~~ ~~freezing~~ ~~action~~ ~~by~~ ~~acid~~ ~~bases~~ ~~forming~~. In this period much of it has been converted into gypsum by sulphuric acid ~~dis-~~ ^{emitted} ~~emitted~~ ~~from~~ volcanic districts. Immediately after the first appearance of lime as a large ingredient in aqueous deposits we find it ~~of~~ entering largely into the composition of igneous rocks and giving to them a ~~mass~~ ^{hornblende} hornblende character. ~~These of the class~~ Along with these igneous rocks are numerous veins containing carbonate of lime along with Magnesia and Iron. (3) Magnesia

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like lime appears ~~first~~ in the greatest quantity in the Upper Silurian and later formations but it occurs principally in veins and in the igneous and metamorphosed rocks. Iron occurs in the oldest rocks in small quantity in low states of oxidation and as a sulphuret. It first appears in large quantity as a peroxide in beds and veins on the same geological horizon with the first organic accumulations of carbonate of lime. As a prevailing colouring matter the peroxide of iron first appears in the Lower Carboniferous series and is there manifestly a product of the oxidation of the iron existing in the older rocks from which the sediment of that period was derived. As in the case of lime Iron becomes a large ingredient in igneous rocks after it has appeared in great beds in those of aqueous origin. Carbon enters largely into rocks only in the Carboniferous period and as a result of vegetable growth.

The above statements are intended to apply only to Nova Scotia and even in relation to it they may be much modified by the progress of discovery. Some of them however are susceptible of much wider application or of instructive comparison with analogous facts in other countries.