of a rock apparently composed of labradorite and pyroxene, the removal of the lime and magnesia from the decomposed portion was much more complete than that of the alkalies; showing thus the comparatively greater stability of the feldspathic element. The decomposition of the feldspar in these mixed rocks is however at length effected, and the final result approximates to a hydrous silicate of alumina, or clay. This slow decomposition of silicates of protoxyd-bases appears to be due to the action of carbonic acid, which removing the lime and magnesia as carbonates, liberates the silica in a soluble form; while the iron and manganese passing to a state of higher oxydation, remain behind, unless the action of organic matters intervenes to give them solubility.

§ 13. It is to be remarked that apart from the peculiar and complete decomposition resulting in the production of kaolin, to which orthoclase, oligoclase, and some other fcldspathides, as leucite, beryl, and perhaps also the scapolites and albite, are occasionally subject, orthoclase is less liable to change than the soda-feldspars, albite, oligoclase, and labradorite. Weathered surfaces of these become covered with a thin, soft, white, and opaque crust from decomposition, while the surfaces of orthoclase under similar conditions still preserve their hardness and translucency. The decomposition of feldspathides, and other aluminous double silicates, whether rapid and complete, or slow and partial, apparently yields the same results. A gradual process of this kind is constantly going on in the feldspathic matters which form a large proportion of the mechanical sediments of all formations; and in deeply buried strata is not improbably accelerated by the elevation of temperature. The soluble alkaline silicate resulting from this process is in most cases decomposed by carbonates of lime and magnesia in the sediments, giving rise to silicates of these bases (which are for the greater part separated in an insoluble state), and to carbonate of soda. Only in rare cases does potash appear in large proportion among the soluble salts thus liberated from sediments, partly because soda-feldspars are more subject to change, and partly from the fact that potash-salts would be separated from the percolating waters in virtue of the reactions mentioned in § 5. Hence it happens that apart from the neutral sodasalts of extraneous origin, waters permeating sediments containing alkaliferous silicates, generally bring to the surface little more than soda combined with carbonic and sometimes with boric acid, and carbonates of lime and magnesia with small portions of silica.