## CORUNDUM IN ONTARIO. BY ARCHIBALD BLUE, ESQ.

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Just one hundred years ago, in a paper read before the Royal Society of London and published in its Transactions, Rt. Hon. Charles Greville established and named the mineral species Corundum, the crystalline oxide of aluminium; and we have it on the authority of Professor Judd that in an appendix to Greville's paper the Count de Bournon correctly defined the crystallographic characters of the species. The names of its gem-varieties, sapphire and ruby, had been in use from a much earlier time:<sup>(1)</sup> and the name corivindum, or corrivendum, had been given to it by Woodward, in a vaguer way, as early as 1714.

In the western part of Asia Minor, and in some islands of the Grecian Archipelago, the crystalline limestone which is interbedded with the schists and gneisses carries a blue corundum mixed with magnetite, which is the emery of commerce. The corundum occurs in smaller quantities as a constituent of granite and gneiss in Silesia, Auvergne and elsewhere in Europe; in a compact felspar rock in Piedmont; in dolomite with tournaline at St. Gothard; in crystalline limestone, along with numerous other minerals, in Orange and Westchester counties, New York, and Sussex county, New Jersey, and at various localities in Connecticut, Massachusetts and Pennsylvania. It is said by Dana to be common at many points along a belt extending from Virginia across western North Carolina and Georgia to Dudleyville. Alabama.

In Burma, which became a British Province/ in 1886, ruby mines have been worked for a very long period. There the country-rock is chiefly gneiss, with bands of crystalline limestone of varying thickness and many miles in length. Most of the mining has been carried on in the hill-wash and alluvium carried down from the decomposed summits of hills and mountain ranges: and it has been observed that where the sands and gravels are mixed with a dark brownish earthy clay, which is a product of the decomposed crystalline limestone, they are richer in such gems as ruby and spinel. The explorations of Barrington Brown appear, indeed, to have satisfactorily established that in Burma the only rock in which rubies are found in place is crystalline limestone. "It is of the usual composition and character of ordinary crystalline limestones," says Mr. Brown, "being made up of finely crystalline or granular limestone in layers, together with irregularly shaped bands of very coarsely crystalline limestone of white and bluish colors, which are interfoliated with the gneissic rocks." Where a quarry has been worked, near Mogok, the matrix of the ruby is a coarsely crystalline, semi-opaque limestone of about twenty feet in width. The rubies are found over a space of six feet in width, extending almost vertically from the bottom of the quarry to the surface of the ground, and along the centre-line, where the rubies are most numerous, are small developments of a grayish diaspore enclosing small crystals of iron pyrites. As to the limestone itself, whether occurring as disseminated crystals through the gneiss, or as great interfoliated masses, it is the opinion of Professor Judd that it has been neither organic nor due to direct chemical precipitation in its origin, but

<sup>(1)</sup> In the Burma Corundum every shade of colour, from white to the highly prized deep crimson or pigeon's blood, is found, and they are named according to colours instead of composition or system of crystalization,—the red variety as oriental ruby, the blue as oriental sapphire, the yellow as oriental topaz, the purple as oriental amethyst, and the green as oriental emerald.