

carbon is found in the coal basin of Massachusetts, and also in connection with a deposit of graphitic anthracite in southern New Brunswick. It is also associated with beds of somewhat altered clay shales and slates of more recent date than the crystalline rocks in a number of places.

Several varieties.

It is found in several forms, including the disseminated variety where it occurs as scattered scales or plates through certain portions of the gneiss, limestone or other sedimentary strata; and as veins of the columnar or foliated variety which sometimes intersect granite or other intrusive rocks at all angles.

The origin of the graphite has been a subject of controversy for many years. For a long time it was generally regarded as purely organic in character, and that its presence in the disseminated form was due entirely to the alteration of organic matter which formerly entered into the original composition of such strata where found. While this statement is probably true as regards much of the flake or disseminated graphite, there are certain occurrences of the mineral in this form which yet appear open to discussion. In regard to the vein graphite, its presence in granite, diorite or other intrusive rocks in the form of true veins, appears to be decidedly against this origin, and by many it is regarded as due to the action of certain vapours strongly charged with carbonic acid which have issued along with the eruptive rocks, and which have deposited the graphitic carbon in vein form after the manner of many of the other economic minerals.

Disseminated graphite.

The disseminated graphite often occurs in proximity to the veins, and in these cases it is supposed that the disseminated graphite has thence been distributed along the planes of the rock in contact from the vein matter itself. This is more especially the case where the rock in contact is a mica gneiss, but similar occurrences are found sometimes in the limestone also. In nearly all the localities where graphite has been mined its association with eruptive rocks is clearly seen, since, when not found in the eruptive rock itself, its presence in the stratified gneiss or limestone is generally in close proximity to the intrusions, and in many cases it has been noted that the richest portions of the disseminated mineral are those nearest the granite or other intrusive rock, indicating that these intrusions have exercised a beneficial action as regards the occurrence of the graphite in the adjacent sedimentary crystalline. This feature is well seen at the mine of the North American Graphite Company and at the other mines in this district, and will be referred to more particularly in the discussion of the rocks of this part of the province of Quebec.

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