

that part of it two or three miles below the surface. We may dogmatize and propose attractive theories and hypotheses, but we have few facts and are almost helpless when it comes to the consideration of the effects of combination of causes that are represented by certain ore deposits. Superman may solve the riddle!

While we may not claim to know all about the origin of the ores at Cobalt, there are certain facts and inferences therefrom that are helpful at least in a utilitarian sense. We know, for instance, that in every area in which cobalt or cobalt-silver ores have been found throughout the 5,000 square mile region, the Nipissing diabase is present. Hence we can conclude that this diabase played an important part in connection with the origin of the ores. Whether, however, the impure waters that accompanied and followed the diabase intrusion and deposited their metallic con-

by erosion, that veins will not be found in certain rocks. In the notes accompanying the first map published of the Cobalt area prospectors were advised to give special attention to the conglomerate. This did not mean that no veins were likely to be found in the diabase or Keewatin, but that veins were likely to be much more numerous in the conglomerate. Prospecting and mining during the last eight years have proved this early advice to have been sound, over eighty per cent. of the production having come from the conglomerate.

Geological History.

The "great stone book", the crust of the earth, especially if a restricted area or district on the surface of the globe is considered, has been compared to a volume in which pages and even chapters are missing. It is well, we may repeat, not to be dogmatic and affirm that the complete geological history of any area is

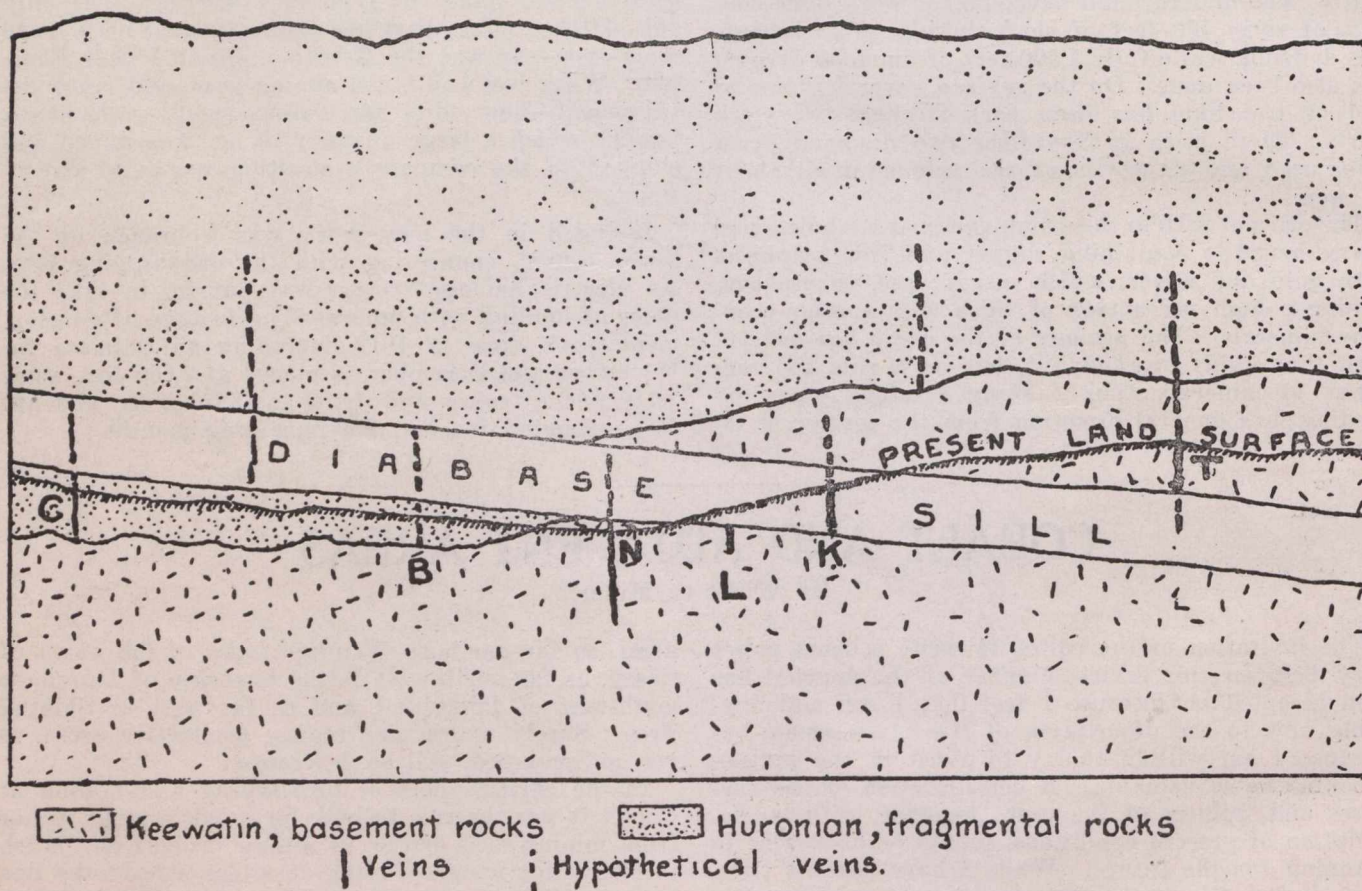


Fig. 1.

CROSS-SECTION, IDEAL RESTORATION OF ROCKS AND VIEWS AT COBALT.

tents in the cracks and fissures, giving rise to the veins, received all of their contained metals from the diabase magma, or whether some of the metals were derived from rocks through which the diabase was intruded is conjectural. Then the normal order of the deposition of the various ores in the veins is fairly well known. But too hard and fast lines should not be drawn. Moreover, because native silver in certain deposits in other parts of the world can be proved to be of secondary origin, resulting from the decomposition of ores or minerals, it should not be said without reservation that all the native silver at Cobalt is of such secondary origin. From observation on a few veins it should not be said that physical-chemical influence of the country rock played an important part in ore deposition. Nor should it be said, of areas in which Nipissing diabase is present or has been removed

known. What author has been able to write a history of a people that is complete? Characteristics of an age, or of a people, may have been preserved in the writings of certain contemporary authors that may afford the later historian material for a true account of a limited period. But the data on other ages or periods are incomplete. Similarly in working out geological history, data are sometimes discovered that make the history of restricted periods clear and distinct. An unconformity or a good contact may throw as much light on the physical history of a period as does, for instance, Pepys' diary on a period of British history. But such contacts or diaries or other records are not always available, and the complete history cannot be written.

At Cobalt and in the surrounding region data are found that make clear part of the complex geological