

ORE DEPOSITS.

PART I.

ORE DEPOSITS IN GENERAL.

METALS which occur in a state of approximate purity are said to be *native*, and when two or more such metals are found in combination the mixture is called a *native alloy*. Usually the metals sought after by the miner are, however, not found in the native state, but are mineralized by uniting with various non-metallic bodies. In this way they combine with sulphur or chlorine, giving rise, respectively, to metallic sulphides or chlorides; with oxygen the metals form oxides, and with acids they yield salts, such as carbonates, sulphates and phosphates.

All natural combinations of a metal with such mineralizing substances are called *ores* when the proportion of metal which they contain, after suitable mechanical preparation, is sufficiently large to admit of their being advantageously treated by the metallurgist. Although perhaps not strictly correct, any material obtained by mining that contains a workable proportion of a metal is often called an ore, even if the whole of the metal be present in the native state.

Ores of the different metals are sometimes found in surface deposits, disseminated through igneous and sedimentary rocks, in more or less regularly stratified or bedded formations, in detached masses, and, above all, in *veins* of various descriptions. The non-