

the iron was transported and accumulated in spheroidal or *concretionary* forms in a state of solution in water. It must, therefore, have existed as a protoxide, and must have combined with further oxygen or with carbonic acid subsequently. When combined with the latter, it forms iron carbonate, and this is one of the ores of iron. As an ore, it is *siderite*. It possesses various degrees of purity. Often it occurs as a concretion five to eight inches long, formed in the rock as I have just explained. It may thus embrace much sand or clayey matter, and this is the condition in which the siderite nodules or "clay iron stones" are found in the coal measures and other formations.

So you perceive that iron ores do not occur in proper veins. They are isolated masses, or they are strata. They are not mined out through shafts and drifts and chambers, like the ores of gold and silver, but mostly in open excavations. In Salisbury, Connecticut, the excavations extend into cavernous, deranged stratified rocks, and many of the cavities are lined with a black, polished coating of ore which when scratched is yellow, and therefore limonite. This limonite has been in solution. It has filtered through the interstices of the formation. In many of the cavities are beautiful stalactitic forms hanging from the roof, or stretching from roof to floor. These are much sought as fine specimens for the cabinet.

The mean specific gravity of the whole earth is twice that of the heaviest rocks. Is that due to compression of the interior, or to the presence of some substance heavier than the ordinary materials at the surface? Some have suggested the probability that the earth's central mass is a vast ocean of molten iron. It will be remembered, also, that iron is a chief constituent in meteoric masses.