found that gold veins, unlike those of most other metals, diminish in richness as we descend.

It appears from the facts that have been detailed respecting the situation of the useful minerals that great assistance in searching for them may be derived from a knowledge of rocks and their order of superposition.

No geologist, for instance, would expect to find valuable beds of coal in the oldest crystalline rocks, but in the fossiliferous rocks alone; and even here he would have but feeble expectations in any rock except the coal formation. What a vast amount of unnecessary expense and labor would have been avoided, had men, who have searched for coal, been always acquainted with this principle, and able to distinguish the different rocks! Perpendicular strata of mica and talcose schists would never have been bored into at great expense, in search of coal; nor would black tourmaline have been mistaken for coal, as it has been.

By no mineral substance have men been more deceived than by iron pyrites: which is appropriately denominated *fool's gold.* When in a pure state, its resemblance to gold in color is often so great that it is no wonder those unacquainted with minerals should suppose it to be that metal. Yet the merest tyro in mineralogy can readily distinguish the two substances; since native gold is always malleable, but pyrites never. This latter mineral is also very liable to decomposition, and such changes are thereby wrought upon the rocks containing it as to lead the inexperienced observer to imagine that he has got the clue to a rich depository of mineral treasures; and probably nine out of ten of those numerous excavations that have been made in the rocks of this country, in search of the precious metals, had their origin in pyrites, and their termination in disappointment, if not poverty. This ore also, when decomposing, sometimes produces considerable heat, and causes masses of the rock to separate with an explosion. Hence the origin of the numerous legends that prevail respecting light seen, and sounds heard, in the mountain where the supposed treasure lies, and which so strongly confirm the ignorant in their expectation of finding mineral treasures. Now all this delusion would be dissipated in a moment were the eye of a geologist to rest on such spots, or were the elementary principles of geology more widely diffused in the community.

Another common delusion respects gypsum, which is as often sought among the hypozoic as in the secondary and tertiary rocks; although it is doubtful whether gypsum has ever been found in the former. A few years since, however, a farmer in this country supposed that he had discovered gypsum on his farm, and persuaded his neighbors that such was the case. They bought large quantities of it, and it was ground for agriculture, when accidentally it was discovered that it was only limestone: a fact that might have been determined in a moment at first, by a single drop of acid.

CAUTION.—It ought not to be inferred from all that has been said, that because a mineral substance has been found in only one rock, it exists in no other. But in many cases we may be certain that such and such formations can not contain such and such minerals. Of these cases, however, the practical geologist can alone judge with much correctness, and hence the importance of an extensive