

## QUERIES

*Proposed to Captains of Mines, and other persons connected with the practical part of Mining.*

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MEMBER OF THE SOCIETY.

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**T**HE following queries were put into the hands of the most intelligent captains of our mines, in the years 1791—2.

As they were drawn up for the purpose of obtaining the best information respecting the phenomena of mineral veins, which could be collected from that class of persons; it was necessary to adopt a language which they could understand, *i. e.* to make use of provincial terms that could not be easily misunderstood. It was moreover necessary to have in view all the circumstances, usually occurring in the natural history of our Cornish lodes, and those only.

I was enabled to accomplish this, by the examination of some of our most remarkable

mines during the years 1790—1. The queries, however, which I subjoin, may be regarded as the practical result of a much longer attention to the subject, begun in Saxony under the guidance and instruction of Werner, and continued in Bohemia and Hungary.

The answers which I obtained from the persons, to whom the first series had been addressed, were, upon the whole, very satisfactory; and I felt gratified by their ready compliance with my wishes.

This success encouraged me to circulate among them the second series, to which, however, I obtained answers in a few instances only. The questions comprehended in this series are, it must be confessed, more complex and difficult than the former, and the captains of our mines (who, although a very intelligent class of men, are not in the habit of expressing their observations on paper), may have felt a very natural reluctance to commit themselves. I should be sorry therefore to ascribe their silence to any other motive.

The enquiry thus interrupted, may now be resumed under much better auspices, and as the zeal which has been excited by the enlightened founder of our Society, can be directed to no object of greater importance, I am induced to lay before the Society such an arrangement of the questions which apply to the phenomena of lodes, as will very materially abridge their labour.

My associates will moreover be sensible of the convenience which results from a unity of plan in their patriotic endeavours, and will soon perceive that a mode of investigation which insensibly leads them on from the more easy and obvious phenomena, to those which are more difficult and uncommon, is the best adapted to their purpose.

But here I must beg leave to observe, that the value of their information will much depend upon the circumstances under which it is obtained. If the best practical miners are often deceived in their judgment of those numerous accidents which affect a lode, and either raise or depress the estimation of a mining adventure; how much more must an unprofessional observer be liable to error? In fact, it is not until all the phenomena of mineral veins are become familiar to the geologist, that he can feel a confidence in his own judgment, or presume to describe and account for, what must generally be investigated under so many difficulties and disadvantages.

Most fortunately for the encouragement of so interesting a pursuit, there are circumstances in the form and outline of this peninsular county which will afford much preliminary instruction. Its coasts present almost every where a natural section of the strata which compose them; and this section, whenever it approaches the mining districts, invariably lays open to view the mineral veins which abound there. The geologist

therefore may avail himself of this natural advantage, which no other country in Europe would afford him.

I have already observed, that much information was procured by means of these written questions, and my own personal observation; but much remains to be done; and a great mass of well ascertained facts must be collected, before we can draw any certain conclusions respecting the origin of mineral veins. I am of opinion, however, that when this is accomplished, we shall have gained a step of no small importance towards a knowledge of the formation of the earth, if we do not stand on the very threshold of the edifice. “*Vestibulum ante ipsum primoque in limine.*”

To conclude, the object being so important in every sense, and the means so much within our reach, I feel confident that the attention of the Society will be more particularly directed to our *mineral veins*; and that in this department at least of geological science, their labours will be eminently successful; for it is the opinion of one who has had opportunities of visiting the mines in most parts of the continent, that Cornwall abounds more in mineral veins than any country of equal extent in Europe; that the phenomena which usually accompany them, are no where more strongly marked; and that no country affords the same facilities for observation.