

several, now each by itself, now mingled together ; here diffused through stone, there constituting an ore, and in a third instance, forming detached lumps. Great difficulty has been experienced in accounting for the phenomena of these veins, as neither fire nor water, the two great agents in nature, possesses powers equal to the results.\* 'That many veins (says Dr. Macculloch) have a double origin is only one of the numerous difficulties that beset this subject.† Of late it has been shown in a very decisive manner

\* The origin of metalliferous veins is perhaps the obscurest subject of geological investigation. We do not know in what manner, nor by what agency, fissures and cavities in rocks have been filled up by mineral substances. Besides admiring the great variety of chemical compounds, and rich display of geometrical forms and groups of simple minerals, we have to acknowledge that a still more difficult inquiry remains behind. The proportions of gold, tellurium, and many other metals, is infinitely minute when compared with the earth's crust ; and the tendency of the geological changes, since the deposition of the primary strata, must have been to disseminate such metallic substances so completely as to render them imperceptible even to the tests of the chemist. So far, however, is this from being the case, that by some not understood means, these rare metals, so sparingly supplied, are found aggregated in certain localities where they may be detected by commercial enterprise or scientific curiosity. S.

† Geology, vol. i., ch. xix.