

throughout the whole; and that this difference of pressure and several other concurring causes have produced rents in the substance of the earth, chiefly in the most elevated parts of its surface. We are also persuaded that the precipitates taking place from the universal water must have entered into the open fissures which the water covered. We know, moreover, for certain, that veins bear all the marks of fissures formed at different times; and, by the causes which have been assigned for their formation, that the mass of veins is absolutely of the same nature as the beds and strata of mountains, and that the nature of the masses differs only according to the locality of the cavity where they occur. In fact, the solution contained in its great reservoir (that excavation which held the universal water) was necessarily subjected to a variety of motion, whilst that part of it which was confined to the fissures was undisturbed, and deposited in a state of tranquillity its precipitate.”¹

It would be difficult to cite from any other modern scientific treatise a series of consecutive sentences containing a larger number of dogmatic assertions, of which almost every one is contradicted by the most elementary facts of observation. The habit of confident affirmation seems to have blinded Werner to the palpable absurdity of some of his statements. When, for example, he speaks of the great reservoir or excavation which held the universal water, what idea could have been present to his mind? If the primeval ocean, as he asserted, surrounded the whole

¹ *Neue Theorie von der Entstehung der Gängen*, chap. vii. § 68 (1791). English translation by Anderson, p. 110 (1809).