

and wigs, in which the bad taste of the guardians of the Derbyshire springs is embodied, and dispersed all over England,) are objects of considerable interest, as illustrative of a process, by which important changes are effected in the mineral kingdom. Thus springs as clear and sparkling as poets ever feigned or sung, may transform beds of loose sand and gravel into rock, and porous stone into solid marble, and cover extensive tracts of country with layers of concretionary and crystalline limestone. This process is effected in the following manner. Most fresh water holds in solution a certain proportion of carbonate of lime; and changes of temperature, as well as other causes, will occasion this calcareous earth to be in part or wholly precipitated. The *fur*, as it is called, that lines a kettle or boiler which has been long in use, affords a familiar illustration of this fact. At the temperature of 60° lime is soluble in 700 times its weight of water; and if to the solution a small portion of carbonic acid be added, a carbonate of lime is formed, which is thrown down in an insoluble state. But if the carbonic acid be in such quantity as to supersaturate the lime, it is again rendered soluble in water: it is thus that carbonate of lime, held in solution by an excess of carbonic acid, not in actual combination with the lime, but contained in the water, and acting as a menstruum, is commonly found in all waters. An absorption of carbonic acid, or a loss of that portion which exists in excess, will therefore occa-