

again. The rock from which the spring rises, is a greenish talcose slate, passing into mica-slate: it is in conjunction with limestone. The temperature of the water is from 93° to 97° Fahrenheit. The geological position of this spring, is more obvious than that of any of the other thermal waters which I visited, being situated close to the steep bank of the river Doron, where both the rocks are laid bare. There are some warm springs on the opposite bank of the river, which rise in limestone; but the temperature is lower, owing to an intermixture with common water.

**SAUTE DE PUCELLE, or *Virgin's Leap*.**—There is a very copious thermal spring rising from the bottom of a perpendicular rock near the Isère, between the town of Moutiers and St. Maurice, at the foot of the Little St. Bernard; but, owing to the difficulty of access to it, I did not visit it, to ascertain its temperature.

Beside the above thermal waters in the Pennine Alps, various thermal springs were discovered in the adjacent Alps, near Grenoble, in the year 1820; and it seems probable, that a series of these springs might be found, were proper search made, extending westward to the thermal waters of the Pyrenees; for in this line we should approach the southern border of the volcanic district of France. On the Italian side of the Pennine Alps there are also thermal waters: the warm baths of Cormayeur and of St. Didier are situated almost immediately under the southern escarpment of Mont Blanc. I was prevented by the weather, from examining the geological position of these springs: their temperature is stated to be 94° of Fahrenheit.\*

The inference that may be drawn from the geological position of these thermal waters near the junction of the calcareous beds with mica-slate, or the dark schist which passes into mica-slate, is, that the waters do not rise from the upper strata, but spring out of the lower or primary rocks; and as they break out near the feet of the highest range of the Alps, that extend from the northern side of the Simplon through the Valais and Savoy into France, we may with much probability infer, that these mountains are situated over or near to one common source of heat, by the agency of which they were originally elevated, and their beds placed in a position nearly vertical. This inference is in some degree supported by the well-attested fact, that the districts where the hot springs are situated, are subject to great and frequent convulsions, particularly in the upper valley of the Rhone. In the year 1755, at Brieg, Naters, and Leuk, the ground was agitated by earthquakes every day from the 1st of November to the 27th of February; some of the shocks were so violent, that the steeples of the churches were thrown down, the walls split, and many houses rendered uninhabitable: many of the springs were dried up, and the waters of the Rhone were observed to boil. At three different times the inhabitants abandoned their houses, and fled for safety into the fields. It has been before mentioned, that the mountain above the warm spring at Naters, opened during the time of the great earthquake at

---

\* Nearly all the thermal waters in the Alps, emit sulphureous vapours, and are slightly saline, except the waters of Leuk, which have the highest temperature, and are inodorous, and free from saline impregnation.