Geology of the SPA

Fascinating geology of the SPA of Lavey

The SPA was already known to the Romans, but was destroyed by a famous earthquake and only rediscovered in the 19th century. The geological history of the creation of the Alps and the world gave the SPA its mineralogical character. In Roman times, the hot hydrothermal deposit fed the thermal baths of the ancient Roman town of Epône. It is famous for one of the first councils. It was destroyed by a violent earthquake in 562 AD. An entire rock face of the Dent du Midi shattered and filled a large part of the Rhone Valley. The river was completely blocked and displaced to the foot of the Dent de Morcles, where it created a new bed for itself.
It is not surprising that the SPA was lost after such a great natural disaster. The current SPA was rediscovered on the Vaud side by a fisherman on 27 February 1831 amidst rocks and stones on the banks of the Rhone that had been flooded. But let us make a detour into the earth history of the Mesozoic, which began about 252.2 million years ago and ended about 66 million years ago. It is divided into Triassic, Jurassic and Cretaceous.

Excursion to the Mesozoic era
In the Mesozoic era, a warm climate prevailed in the Lavey area. Instead of today's Rhone Valley there was a shallow sea called Tethys in the Triassic.

About 100 million years ago, when the African plate drifted northwards (plate collision), the shallow sea was pushed together and on the edge of Europe the seabed began to unfold.

The Origin of the Mont Blanc Massif

The Mont Blanc Massif's elevation began some 22 million years ago at the beginning of the Miocene. At the same time, the pressure caused two enormous granitic masses to rise out of the water from a depth of several kilometres: one in the Valais and another in Savoy. It comprises the immense mass of feldspathic rocks, the highest peak of which is Mont Blanc, reaching the Lavey spa in Switzerland.

Rock gives character

The place where the SPA is located is extremely interesting from a geological point of view of the underground of the whole region. It is here that the traveller who walks up the Rhone Valley discovers gneiss for the first time. Gneiss forms most of the Mont Blanc Massif and the high Alps of western Switzerland.

The SPA emerges exactly on the northern border of this gneiss massif, where the gneiss pushes itself under the limestone of the Dent de Morcles. These two rock formations from very different eras do not lie directly on top of each other.

As is often the case in this region, they are separated by a thin layer of greenish or reddish sandstone, in which feldspar dominates. This layer, according to geologists, represents the Triassic, and has a thickness of only one metre. The geologists named it "Rauhwacke" (Corgneule).

The well, where the hydrothermal deposit of Lavey is located, first traverses glacial gravel and then the thin Rauhwacken layer. At the base there are also water crevices originating from the gneiss rock formation.

Sulfurous water is not the same as sulfurous water

The precise origin of the hydrothermal deposit is of great importance and makes it possible to understand, in this specific case, why the water of Lavey consists of potassium carbonate and sodium carbonate, like the waters of the Pyrenees. Almost all other sulfur waters in Switzerland

consist of calcium carbonate.

The Greek physician Galen, who worked in ancient Rome, said: “Tales sunt aquae, quales terrae, per quas fluunt” = “The waters are like the earth they flow through “.