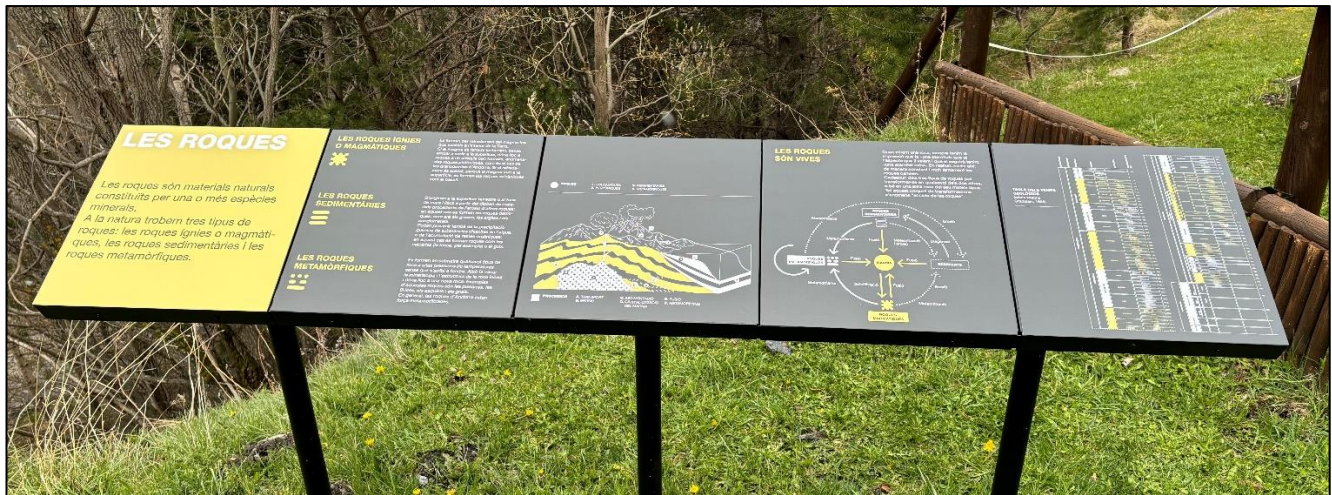
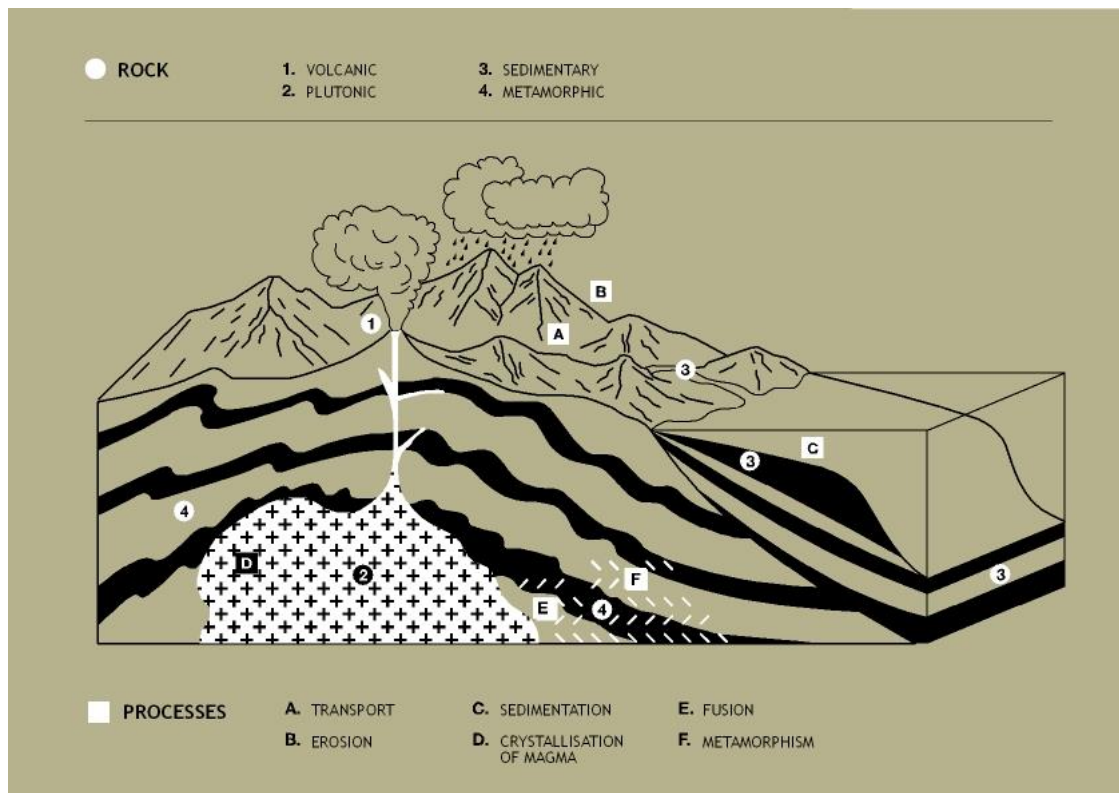


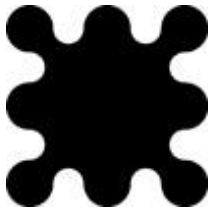
# The rocks



Rocks are natural materials constituted of one or more types of minerals. In nature we find three types of rock: igneous or magmatic rock, sedimentary rock and metamorphic rock.



## Igneous or magmatic rock



This is formed by the cooling of molten magma existing in the interior of the Earth. If the magma cools slowly, without coming out through the surface, it becomes rock with well-formed crystals, called plutonic rock, which is the case of the granodiorites of Andorra. If the cooling is quick, because the magma emerges on the surface, volcanic rock such as basalt is the result.

## Sedimentary rocks



These originate on the earth's surface or at the bottom of seas or lakes, from deposited material produced by the erosion of other rocks; in this case they form detritic rock, such as sandstones, clays and conglomerates. They may be also produced by the chemical precipitation of substances dissolved in water, or the accumulation of organic remains; in this case they form calcareous rocks such as limestones (pumice, for example) or gypsum.

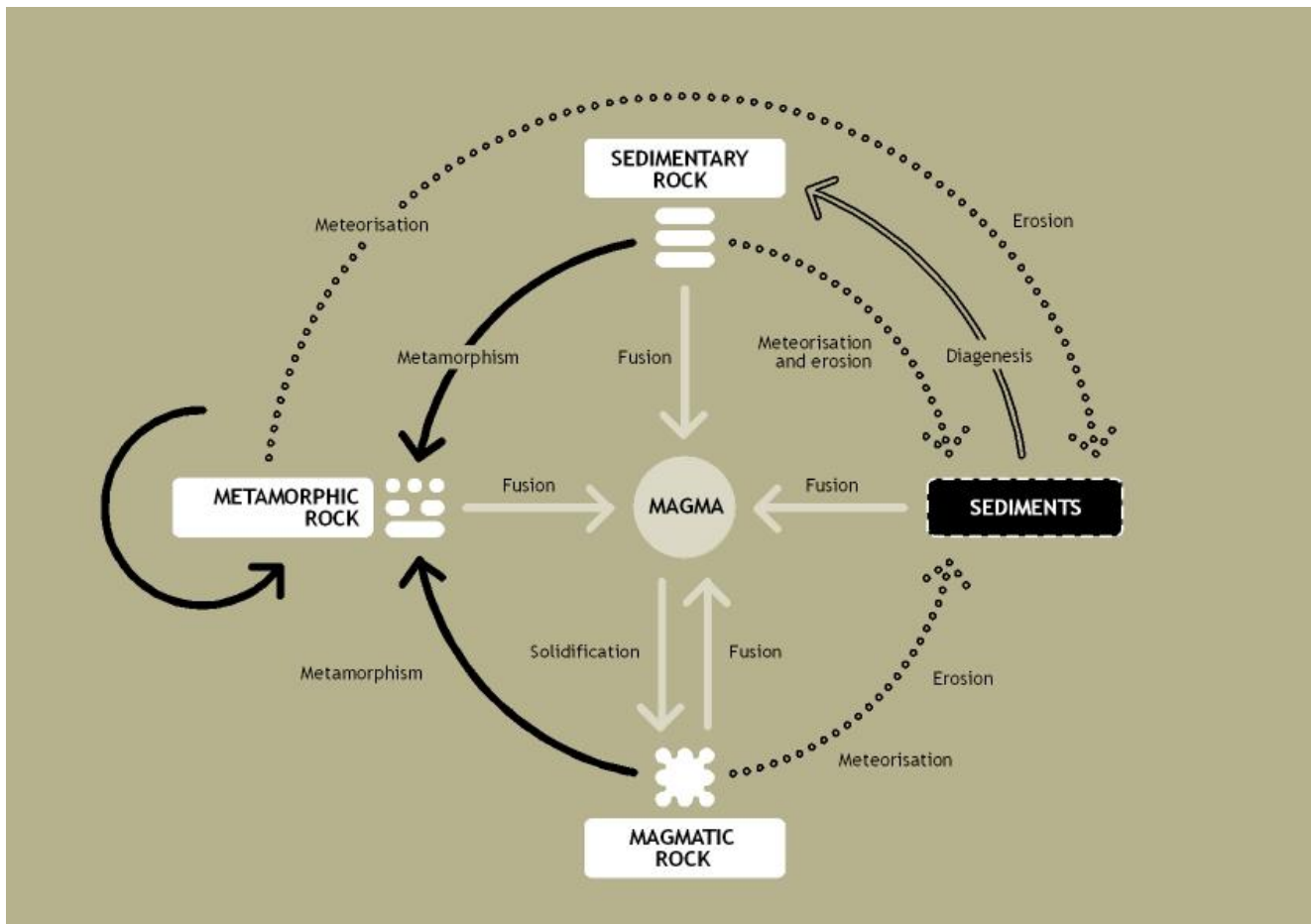
## Metamorphic rocks



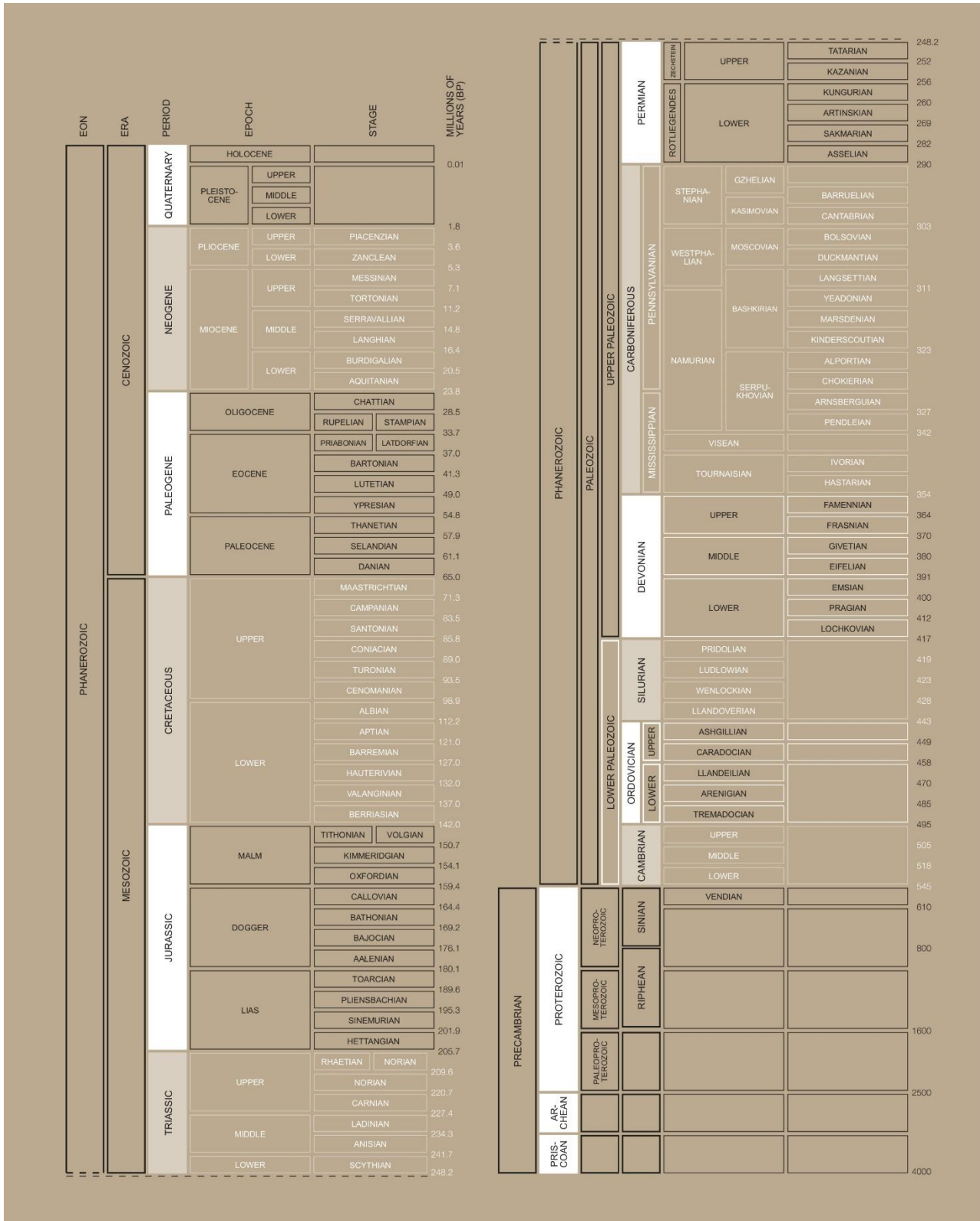
These are formed by subjecting any kind of rock to high pressures and/or temperatures but without actually melting them. This changes the initial mineralogy and structure of the rock and produces a new rock. Examples of these rocks are slate, phyllite, schist and gneiss. In general, the rocks in Andorra are mostly metamorphosed.

## Rocks are alive

When we look at a rock, we always have the impression that it has been there “for ever”, that it always has had the appearance that we see and that it will stay the same for “another age”. In fact, this is not true: constantly and slowly, rocks change. Each of the three types of rock can turn into either of the other two, or another rock of its own type. This whole set of transformations is called “the rock cycle”.



*The rock cycle.*



Geological time scale (ages as Gradstein, 1996).