

A GREAT SUTURE BETWEEN TWO CONTINENTS

Observation point: from Piano di Spagna

Now you are coming into Valtellina, the great valley in which Adda river runs before flowing into Como Lake.

It is a long and wide, east-west oriented groove, as straight as a knife cut, separating the core of alpine belt from the so called Southern Alps: its course is well recognizable also from satellites!

This peculiar aspect is due to the geological structure of the whole area: to the South in fact Orobic Alps are moulded on african plate basement, while to the North the true alpine chain was built on the european plate. You are exactly on the suture between the two continents, the ideal line along which they crushed one against the other, about 30 millions of years ago, triggering the growth and consequent emersion of the whole alpine chain. It is a great fault, known as Insubric line, a part of the wider Periadriatic Line which marks the entire old continental boundary.

After the collision, compressive movements continued, throwing to the North large slabs of african crust, which now lie, as hundreds of kilometers wide recumbent folds, on european basement. Also lateral movements took place along the suture, deforming and breaking rocks, so that they became weak and subject to quick erosion: the young rivers in the new landscape found easily their way through this tectonized rock belt, giving rise to Adda river and its embryonic valley.

But the shape you see now, with steep slopes and a flat, quite rounded bottom, is younger: it developed during the last two millions of years, when glaciers advanced many times, reaching also the Po plain; in this section of Valtellina, Adda ice tongue, enlarged by lateral valleys glaciers input, reached a thickness of more than 1000 m, so it was able to smoth and mould rocks on its way, carrying out a bulk of debris.

Valtellina is in this sense an amazing example of the variety of forces that contribute to outline a natural landscape, and of their complex interaction through time!