

Alpine Paleozoic within the framework of terrane assemblages between Gondwana and Laurussia.

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The European crust is the result of the Variscan hypercollision at Carboniferous time. In the last decade many efforts were made to reconstruct the number of individuals involved in this big street accident. The northern branch of the Variscan belt is now very well studied, i.e. the convergence history between Laurentia, Baltica and Gondwana-derived terrane fragments. It is owing to paleomagnetic research that they increased tremendously in number and turned out to be composite terranes. Thus good old Armorica disintegrated to ATA (Armorican Terrane Assemblage).

Within the Alpine realm, the classical fossiliferous Paleozoic is not as well understood. This is caused by the Alpine overprint, as rifting, stacking, metamorphism and escape tectonics with large amounts of lateral movement. Recently the paleomagnetic working groups succeeded in removing the Alpine thermal overprint and to trace back the magnetic remanence to primary directions. The data show that at least parts of the classical fossiliferous Paleozoic were neither part of ATA nor attached to the Northern rim of Gondwana at upper Silurian and Devonian time. The Paleozoic of Northern Greywacke Zone rifted from Gondwana realm at a Paleolatitude close to the South Pole at Ordovician and drifted to a position at about 25° S until to the Middle Devonian. Faunistic data and the lithologies of the rocks fit well into this scenario.

On the other hand, sedimentological evidences require the existence of a continental source area for the siliciclastic sediments. With maximum thicknesses of 3km, marine turbidite fans accumulated material from lower Ordovician on to at least middle Devonian time at a passive margin. This demands for the neighbourhood of a sequentially eroded cratonic area.

Ar/Ar-data from detrital micas clearly indicate that this continent underwent a Cadomian (Panafrikan) tectometamorphic evolution. As all Gondwana-derived fragments do have this fingerprint, it is impossible to decide, if the source area for the detrital material was Gondwana itself or must be positioned within the sailing ship, called Noric-Bosnian terrane.