OCEANIC TECTONOSTRATIGRAPHY AND ALPINE STRUCTURAL EVOLUTION OF THE QUEYRAS OPHIOLITE IN THE MAIRA VALLEY (WESTERN ALPS)

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In the Queyras Complex, different units deriving from the tectonic dismemberment of the Jurassic Ligurian-Piedmont Ocean Basin, were juxtaposed during the Alpine tectonic stage and blueschist-facies metamorphism to form the Alpine accretionary complex (Tricart & Lemoine, 1991; Lagabrielle, 1994; Balestro et al., 2019). In the Mollasco Valley (Upper Maira Valley, Western Alps), the uppermost tectonic unit of the Queyras Complex is in tectonic contact with the Briançonnais Units of the paleo-European continental margin.

Detailed geological mapping, together with stratigraphic observations and meso- and micro-structural analyses, led to better defining the lithostratigraphic succession and understanding the structural evolution of this sector of the Queyras Complex. The latter consists of meta-ophiolite blocks ranging in size from few meters to several hundreds of meters, embedded in a calcschist successions (i.e. the so-called *Schistes lustrés*), hundreds of meters thick. In the study area, blocks consist of (i) serpentinized peridotite, locally overlain by horizons of meta-ophicarbonate, (ii) metabasalt, derived from both pillow lava and volcanic breccia, and (iii) discontinuous horizons of meta-chert and whitish marble, up to few meters in thickness.

Structural analysis allows to distinguish three different deformation phases, named D1, D2 and D3 from the oldest to the youngest, respectively. The D1 is documented by foliation S1, locally preserved in D2-fold hinges and lithons, and by boudins and pinch-and-swell structures, which result from S1-parallel stretching. The D2 deformation phase is characterized by close to isoclinal non-cylindrical folds, SSW-verging, developing an axial plane foliation (S2). The S2, which corresponds to the regional foliation, is mainly SSW dipping and widely obliterates the S1. Boudinage of folded limbs and a later top-to-N dextral shearing also occur during D2. The third deformation phase (D3) is characterized by open to gentle folds, not developing axial plane foliation.

Preliminary structural analyses highlight that D2- and D3-related deformation developed during exhumation of the Queyras Complex, whereas D1 structures formed during subduction and early building of the Alpine accretionary wedge.

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