

Textures in mylonitised granite from Banefo area in the central part of the Cameroon Central Shear Zone (central Africa) — Kinematics and gradian deformation indicators *Poster*

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The North Equatorial Panafrican belt is constituted by orthogneissified metamorphic and magmatic sets linked to tectonometamorphic events of the neoproterozoic orogeny. This belt whose formations are situated in the North of the Congo craton is divided into three distinct geodynamic domains: a southern domain, a northern domain and a central domain. The deformation and metamorphism relationships are a function of the different geodynamic domains of the belt.

The central domains, to which belongs the Banefo region, is affected by large strike-slip faults among which is the central Cameroonian shear zone. This domain is marked out by numerous syn-tectonic granitoids. At Banefo (NE Bafoussam, West Cameroon), those massifs are mainly constituted by mylonitised orthogneisses and granites of various degrees. The country rock is made up of gneiss and amphibolite. In the Banefo massifs, the orthogneiss is the least deformed petrographic unit. It shows a heterogranular granoblastic texture with a mineral assemblage formed by quartz, K-feldspars, biotite, etc., within the orthogneiss, remains of magmatic fluidity can still be observed marked by feldspar megacrystal.

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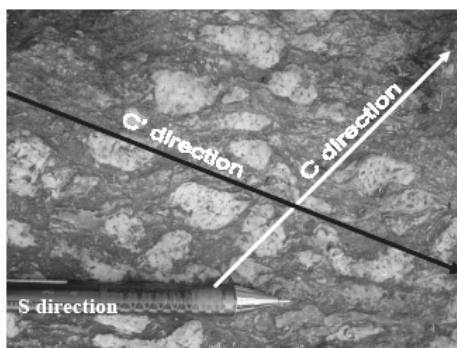


Figure 1: C/S/C' structure

Field observations reveal a net progression of the intensity of deformation of orthogneisses to ultramylonitised granites having an identical chemical composition as the orthogneisses. The mylonitisation is marked by a reduction in grain size, in the percentage of the megacrystals of feldspars and by the flattened, elongated and stretched forms of minerals, with the main ones including:

- orthoclase, which is present as elongated crystals with sigmoidal and elliptical shapes, with oblique fissuration planes at the long axes of the mineral;
- quartz which is in the form of rubans and xenomorphic stretched crystals;
- biotite which is less abundant, with crystals disposed parallelly at the borders of orthoclase clasts, the latter showing shadow zones with quartz grains.

The organization of those minerals in the rock forms the S/C' structure whose identification in the field permitted to determine the sinistral trend of the shear movement.



Figure 2: S/C' structure

These S/C' structures evolve with the intensity of the deformation; from the orthogneisses where they are observed, they pass to mylonites *sensu stricto* with S/C/C' structures (Fig. 1) and finally to the ultramylonites where one observes the S/C' structure in which C is parallel and confused with S (Fig. 2). The gradian of the deformation is marked by stretched crystals of quartz, by the reduction of the sizes and proportions of feldspar megacrystals. This has implications at the level of orthogeissification of structures, reduction of the angle between S and C, the increase in the density of C and the appearance of the C' plane, such that in the ultramylonites, S is almost parallel to C and the angle between C and C' attains its maximum.