The Eburnean collision with the Kenema Man craton: Evidences from the Paleoproterozoic formations of the Massigui degree sheet (southern Mali, Man shield, West African Craton)

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The Massigui degree sheet located, between 7° to 6°W and 11° to 12°N, in southern Mali, Man Shield, West African Craton (WAC), is a key area to study the amalgamation of the Paleoproterozoic and the Archean domains of the southern Shield of the WAC. It consists of Birimian metavolcano-sedimentary formations intruded by several generations of Paleoproterozoic plutonic rocks, both being affected by the Eburnean orogeny. It shows a strong link between magmatism and tectonics [1]; magmatism, tectonics and sedimentary processes [2].

The SHRIMP zircon U-Pb ages acquired by [2] indicated that the sedimentation, the intrusion of the magmatic rocks and the activity of the Banifing Shear Zone were subcontemporaneous.

The proposed regional model by |2] includes: (1)>2125 Ma, oceanic plate subduction towards the E below the Baoulé-Mossi Birimian; (2) 2125–2090 Ma, oblique continental subduction of the Archean Kenema-Man craton, major movements along the Banifing shear zone, magmatism and volcano-sedimentary deposition in the Massigui region; (3) 2090–2020 Ma, metacratonization of the subducting Kenema-Man craton generating the emplacement of magmas with Archean protoliths.

[1] Liégeois et al., 1991. Precambrian Research 50 (1-2), 111-136.

[2] Wane et al., 2018. Precambrian Research, Volume 305,444-478.