BIF OF THE NIMBA AND SIMANDOU RANGES: UNITS TECTONICALLY STACKED ONTO AN ARCHEAN BASEMENT DURING THE EBURNIAN OROGENY

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The Man shield in West Africa is composed of Archean (3.5 to 2.6 Ga) and Paleoproterozoic (Birimian: 2.25 to 1.9 Ga) rocks. The Archean domain includes volcano-sedimentary units containing banded ferruginous quartzites that form major iron deposits of the BIF type (Guinea: Nimba and Simandou ranges; Liberia: southern Nimba range, Wologesi, etc.; Ivory Coast: Mt Klahoyo, Mt Gao, etc.).The volcano-sedimentary units of the Nimba and Simandou ranges tectonically overlie an Archean plutonic substratum. The contact is associated with tangential tectonism, assigned to the Paleoproterozoic, that caused thickening of the upper crust by tectonic stacking of the volcano-sedimentary units. Furthermore, the volcano-sedimentary formations were deposited between 2.615 and 2.25 Ga onto a previously metamorphosed substratum (around 2.8 - 2.72 Ga). The question is thus raised as to whether the volcano-sedimentary formations and the BIF belong to an Archean or Paleoproterozoic cycle. In addition to the Nimba and Simandou ranges, this has implications for the iron-bearing formations of Liberia and the Ivory Coast, which occupy the same lithotectonic position and present similar lithological types and associations.