
Methodological approach in ochre provenance studies: preliminary results on the so called Cheops' ochre from the Western desert of Egypt

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Abstract

The scientific approach in ochre provenance studies is generally based on the use of geochemical analysis (Green and Watling, 2007; Popelka-Filcoff *et al.*, 2008; Sunday Eiselt *et al.*, 2011; Bu and Cizdziel, 2013; MacDonald *et al.*, 2013) even though recently the adoption of microscopic (PLM and SEM/EDXS) and mineralogical analysis (XRPD) (Pradeau *et al.*, 2016; Salomon *et al.*, 2008; Dayet *et al.*, 2016; Cavallo *et al.*, 2017a; 2017b; 2017c) demonstrated their validity and suitability in such research.

The possibility to study the raw materials collected during an expedition carried out many years ago in the Southern Egyptian Great Sand Sea desert, gave us the opportunity to adopt the same methodological approach with the aim to create homogeneous groups of sample on the basis of mineralogical, textural and micro-structural features. Yellow and red ochre samples are associated with the Aptian Abu Ballas Formation which represents a thin marine intercalation within the continental sandstones of the Nubia Group (B'ottcher, 1985). Preliminary XRPD analysis allowed to state that the mineralogical composition of the analysed samples is very similar. They are composed of kaolinite, quartz and hematite or goethite depending on the colour.

This research represents a unique attempt to focus on raw materials which were presumably used in prehistoric settlements in the outcropping area but also during the Dynastic age (Negro *et al.*, 2005).

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