

**P.28.02.4***Acta Cryst.* (2005). A61, C494**Symmetry in the Life of the Aurès Chaouia Tribes (Algeria)**Nourredine Benali-Cherif, *Institut des Sciences Exactes, Technologie et Informatique, Centre Universitaire de Khenchela. 40000-Khenchela, Algérie.* E-mail: benalicherif@hotmail.com

*Chaouias*, free, proud and rebellious tribes of *Aurès*, live in the south-east of Algeria. The influence that they exert in the fields of the history, art, poetry, the culture in general... is not any more to show: pottery, carpets, sculpture, architecture, painting, songs, dances, tattooings and Silver jewels. Symmetry is omnipresent in the life of *Chaouias*, on the splendid carpets of *Nememchas*, *Tchouchanats* of tattooed *Azriyat* of the *Oued Abdi* with richly coloured *M'lahfat*. The symmetrical forms and the periodic drawings of *Chaouias* crossed the centuries, transmitted without the least wrinkle from generation to generation, in spite of the passage of the Romans, Arabic, Turkish and French.

**Keywords:** Chaouia, Aurès, symmetry**P.28.02.5***Acta Cryst.* (2005). A61, C494**The Production History of Naples Yellow and the Discoloration of the Blue Pigment Smalt**Henk Schenk, J. Dik, R. Peschar, *Laboratorium voor Kristallografie, HIMS, FNWI, Universiteit van Amsterdam, Valckenierstraat 65, 1018XE Amsterdam, Netherlands.* \*Present address: *Materials Science, Delft University of Technology, Rotterdamseweg 137, 2628AL Delft.* E-mail: schenk@science.uva.nl

Naples Yellow, or lead antimonate yellow, is the most important synthetic yellow pigment in the history of the visual arts. The usage of lead antimonate covers a period of more than 3500 years, the first application of the pigment dating back to the 18th Egyptian dynasty (ca. 1500 BC). The production history of the pigment, notably over the past few centuries, is rather diverse and not well understood. Our research focussed on the European history of the pigment from the 16th to 19th century. The aim of this study was to analyse and reproduce different manufacturing methods and subsequently to characterize the different forms of lead antimonate used at different periods in time. This approach may lead eventually to a tool in authenticity studies. Contemporary recipes, describing the synthesis of lead antimonate yellow, have been reproduced with modern means. Many pigment samples, also from collections, were subjected to extensive analysis, including synchrotron as well as laboratory-based powder XRD and single crystal electron diffraction.

The discoloration phenomenon of the blue painting pigment smalt has been studied using several analytical methods. The paintings of the Dutch painter Hendrick Ter Brugghen (1588-1629) show severe signs of smalt discoloration, a dramatic example of which is the painting *St. Luke* (1621). Based on neutron activation and autoradiography a digital reconstruction could be made showing the approximate original appearance of *St. Luke*, of which pictures will be shown.

**Keywords:** Naples yellow, pigment analysis, smalt