

AUTHENTICATION IN ART

AiA Art News-service

The Economist

Light, relief

Revealing the painters and the paints of the ancients

Feb 20th 2016 | WASHINGTON, DC | [From the print edition](#)



IN THE West naturalistic portraiture began in classical times. Well-stocked museums in Europe and America are full of busts depicting recognisable individuals. Painting, though, is a more precarious art form. Paint peels. Wood and canvas backings rot. Frescoes crumble and fall. Few painted portraits survive from the classical period, but arid desert conditions have preserved one set: the funerary mummy pictures of the second century AD, from Tebtunis in Egypt. These portraits, affixed to mummies' bandages, depict the defunct in fresh and lifelike detail. Though neglected when they

were rediscovered just over a century ago, they are now subject to intense scientific scrutiny. One of the scrutineers, Marc Walton of Northwestern University, in Illinois, told the AAAS meeting what he and his colleagues have found.

One conclusion is that they can assign groups of portraits to particular artists. The three shown, for example, seem to be by the same hand. Dr Walton's method here is to map each picture's contours by illuminating it sequentially from many directions, building a relief map from the resulting patterns of light and shade. This reveals both the size of the bristles of the artist's brush and the order in which he has composed the elements of the portrait. For these three, the bristles were 60 microns across, ruling out their being from cattle (160 microns), pigs (120 microns) or cats (30 microns). The best guess is that the artist used squirrel-tail bristles, which are about the right size. On top of this, spectroscopy suggests that in two of the portraits, one mixture of pigments used came from the same batch.

This scientific analysis is supported by an artistic one which shows, for example, a way of painting hands that is shared by all three pictures. At the very least, then, the portraits came from the same workshop. It seems most likely, though, that the same artist painted all of them.

These studies also reveal the extent of trade in the Roman empire. The paintings contain haematite and goethite from Keos, in the Aegean Sea, and red lead from Rio Tinto, in southern Spain. The lime-wood plaques on which the portraits are painted are from central Europe.

The painter was also a shrewd businessman; he mixed indigo and madder to replicate the effect of the period's most expensive pigment, Tyrian purple, which was extracted from sea snails and worth more than its weight in gold. Determining whether he told his customers of this economy is not, however, within the range of Dr Walton's instruments.