New data on pigments and techniques of Apulian tomb painting

Scientific framework and aims

Tomb painting in Apulia is particularly widespread since the second half of the 4th century BC. Within Apulia, figurative painting seems to be particularly attested in Daunia. Considering the rather sudden explosion of the phenomenon, the question arises as to where the techniques and models came from. While comparisons for the iconographic and decorative motifs can be found in a very wide area, the transmission paths of the technical know-how are less clear. Can it be assumed that local craftsmen specialized in painted wall decoration already existed, or should we suppose the involvement of painters from other areas? Is it more likely that the earliest examples of figurative tomb decoration are to be related to local workshops of potters or other artists? Were the same techniques and material used for the different supports – graves, houses and vases – or can medium-specific differences be traced?

Analysed Monuments

Painted narrative friezes or scenes are known in 11 Daunian graves. Five of them were analysed within the framework of this study:

- Tomba dei Cavalieri (second half of the 4th c.) and Tomba della Nike (late 4th to early 3rd c.) in Arpi
- Ipogeo del Cerbero (second half of the 4th c. with paintings dating to the early 3rd), Ipogeo Scocchera B (built in the first half of the 3rd c.) and Ipogeo Sant’Aloia (3rd c.) in Canosa

The pictorial layer was applied directly on a coarse preparatory layer. A fresco painting technique – occasionally supplemented by secco details – could be postulated, with the pigments mixed with pure lime. The palette was composed of lime for white, charcoal for black, hematite for red, goethite for yellow, and Egyptian blue for blue – the typical “basic stock” for Hellenistic tomb painting in Apulia and more generally in Southern Italy, Etruria, and Macedonia.

In the Tomba della Nike two particularly refined preparatory layers were observed, with slaked lime consisting of well-selected (fine and homogenous grain size) and well worked material (absence of calcination residues, parallel alignment of pores to the surface). The analyses revealed the presence of madder lake (pink background) and cinnabar (blood of the wounded warrior). The colouring components extracted from the madder root were adsorbed with clays to generate an insoluble substance suitable for painting. A Ca-based layer (lime) separates the pigmented layer from the plaster. The pink background, the use of madder lake, the iconography and style of the figurative scene link the Tomba della Nike to the polychrome vases produced in local workshops in Arpi and Canosa. At least for the Tomba della Nike we can therefore postulate that a specialized Arpanian workshop produced both painted vases and wall paintings using the same techniques and materials.

Discussion and conclusion

Four of the five tombs analysed (Tomba dei Cavalieri, Ipogeo del Cerbero, Ipogeo Scocchera B, and Ipogeo Sant’Aloia) have yielded similar results.

Methods and results

Samples were analysed by a multi-technique approach. Raman and Infrared spectroscopies were employed to identify pigments and colourants and to check for the presence/absence of binders; light and electron microscopy to define the structural characteristics of the paint layers and to recognize the manufacturing technique.

Selected Bibliography

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