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THE TECHNIQUE OF ITALIAN MOSAICS
OF THE FOURTH AND FIFTH CENTURY A.D.

In 1965 the author outlined a theory concerning the possible occurrence of two separate technical traditions in Early Christian mosaic art⁽¹⁾. One, which may be termed the « pure glass tradition », left its mark on many Italian monuments from the fourth to the ninth century A.D. and may have represented a continuation of tendencies specific to Roman mosaic. The other trend is characterized by the use of natural-stone tesserae for the rendering of areas depicting human skin (faces, hands). In addition, among the types of glass that is utilized, *silver* occurs for a number of purposes. This trend is well documented in mosaics from the fourth to the fourteenth century in the Eastern Mediterranean (Istanbul, Thessaloniki, Cyprus, Sinai) and can conveniently be labelled « East Christian » or « Byzantine ». In a recent article we have argued that this specific use of the mosaic medium (which includes, as shown, also the tilting of tesserae) may find its explanation in particular ideas that prevailed within Eastern Christianity concerning the function of pictures, ideas which were different from — and even to some extent clashed with — those that regulated the use of pictures in the West⁽²⁾.

(¹) P.J. NORDHAGEN, *The Mosaics of John VII (705-707 A.D.). The Mosaic Fragments and their Technique*, « Institutum Romanum Norvegiae, Acta », II (1965), especially pp. 154 ff.

(²) IDEM, *Gli effetti prodotti dall'uso dell'oro, dell'argento e di altri materiali nell'arte musiva dell'alto medioevo*, « Colloqui del Sodalizio », sec. serie, 4 (1973-74), pp. 143 ff.

Until recently support for this theory could be found mainly in the cited eastern material. These mosaics are all rediscoveries, or may be labelled so even in cases where their existence has been known for a long time but their significance obscured by the lack of full knowledge of their original appearance. The publication of them has taken place within the last forty years, in a period that has seen a gradual awakening of interest in their technique⁽³⁾. Therefore the amount of available data concerning the materials employed and the use of them is considerable and outnumbers by far the data that we possess regarding the mosaics of Italy. The latter, long known and the object of a vast literature, are less liable to undergo fresh study in which search for basic information is the primary aim⁽⁴⁾. However, a program for a systematic re-examination of them is under way. On the following pages a few first results of this study are presented, results that are particularly relevant for the topic under discussion.

With the assistance of professor Beat Brenk of the University of Basel the author in 1974 undertook an investigation of the mosaics in S. Maria Maggiore, Rome, where the erection of scaffoldings in connection with repairs of the roof made possible a study at close quarters of all parts of the mosaics. In 1976, thanks to the benevolence of the respective church authorities, scaffoldings were put up in the Cathedral Baptistry (S. Giovanni in Fonte) in Naples and in the Chapel of S. Aquilino in the church of S. Lorenzo Maggiore, Milan, to allow studies and photographic registration. All three were found to be exponents of a « pure glass tradition » of the kind that had been postu-

⁽³⁾ Cfr. the research methods introduced by T. Whittemore to record-technical *minutiae*, employed in his studies on the mosaics of Hagia Sophia at Istanbul; his work is continued by the scholars at the Dumbarton Oaks Research Institute.

⁽⁴⁾ Even recent corpus publication on Italian mosaics seem to ignore the technical aspects of this art.

lated in the theory of 1965. They contained none of the « East Christian » or « Byzantine » niceties we have enumerated. Until further inquiry into related monuments the material must be regarded as incomplete, yet the evidence collected so far does to no little degree support the thesis that has been put forward.

Essential for the study was the verification of repairs and restoration that the mosaics had undergone in remote or recent times. In S. Maria Maggiore we based this work partly on the evidence of Wilpert's plates (⁵), where are marked the lacunae that occurred in the mosaic surface until a filling-in took place before the last war. The areas that had been filled in, on the other hand, were easy to identify since in these places there had been used glass of inferior quality that had been subject to chemical reaction and had become « sugary » in surface. Of older repairs we found no other than the one which has been identified and tentatively dated to the ninth century by Carlo Bertelli (⁶), and which affects the panel with the Miracle of the Quails on the North wall of the nave (⁷).

In the areas not touched by restoration, the surface is set entirely with glass cubes. Tesserae of natural stone are nowhere employed, nor is there any occurrence of silver. Among the refinements one could observe a use of transparent uncoloured glass

(⁵) J. WILPERT, *Die römischen Mosaiken der kirchlichen Bauten vom IV.-XIII. Jahrhundert*, (new edition by W.N. Schumacher), Freiburg 1976, Pl. 28-72.

(⁶) C. BERTELLI, *Un antico restauro nei mosaici di Santa Maria Maggiore*, « Paragone », LXIII (March 1955), pp. 40 ff.

(⁷) There is no basis whatsoever for the assumptions expressed in S. ALEXANDER, *Carolingian Restorations of the Mosaics of S. Maria Maggiore in Rome*, « Gesta », XVI/1 (1977), pp. 13 ff., concerning an extensive resetting of the mosaics on the nave walls and the triumphal arch in the late eighth or the early ninth century. Apart from the relevant sector of the Miracle of the Quails, which is remarkable for its coarse and chaotic setting technique, the mosaics of S. Maria Maggiore present a uniform, regular setting and spacing of tesserae that excludes an intervention by early medieval craftsmen.

cubes for special colour effects, for instance in the depiction of architecture. There is some variation in the size of the tesserae, but not as pronounced as in East Christian mosaics. With the introduction, in the East, of tesserae of stone for the depiction of skin there was established a striking differentiation in dimensions, with the tesserae of stone measuring from one half to one third the size of the glass cubes.

In the Baptistery at Naples no such restoration in the form of a resetting of lost parts has taken place. When a general repair of the rather damaged mosaic took place, in the years 1896-98⁽⁸⁾, it was performed mainly as a consolidation of the mortar. New mortar was filled into the lacunae. In a first attempt, affecting some areas in the lowest part of the mosaic, the new mortar was painted with « fake » tesserae to mask the lost parts. This work, however, was eventually given up and the mortar left with its natural colour. The preserved, original parts of the mosaic contain no other material than glass, in cubes of fairly uniform size. Silver is nowhere to be found, while the use of gold (as in S. Maria Maggiore) is rich and varied.

By far the most complicated problems of authenticity were encountered in the Chapel of S. Aquilino in Milan. Remains of the original (fourth century?) mosaic decoration are preserved in two of the small apses inside the chapel, which is a former imperial mausoleum, and in the vestibulum that connects the building with the church of S. Lorenzo⁽⁹⁾. Our studies disclosed that only one part is untouched by restoration. The absidal picture of Christ and the Apostles on a golden background⁽¹⁰⁾

⁽⁸⁾ F. STRAZZULLO, *Il Battistero di Napoli*, « Arte Cristiana », LXII (giugno 1974), p. 150 ff.

⁽⁹⁾ A. CALDERINI-G. CHIERICI-C. CECHELLI, *La basilica di S. Lorenzo Maggiore in Milano*, Milano 1952, pp. 201 ff.; G. BOVINI, *I mosaici del S. Aquilino di Milano*, « Corso di cultura sull'arte ravennate e bizantina », XVII (1970), pp. 61 ff.

⁽¹⁰⁾ A. CALDERINI et al., *op. cit.*, Pls. LXXXIX-XC.

has very few repairs and the tesserae are held in place by the original mortar. The other mosaics, on the contrary, have been taken off the wall in segments and have had their surface repaired and largely reset; they now stand in a bed of modern cement. These alterations, which cancel out both the famous Elijah apse⁽¹¹⁾ and the fragments of saints in the vestibulum⁽¹²⁾ as authentic sources and serious objects of study, probably took place during the thorough restoration that the church underwent in the 1930's.

Glass is the sole material used in this mosaic, in the original Christ-and-Apostles apse as well as in the more or less restored other parts. The cubes show only slight variations in size. Silver is not found, except for a few new and shiny cubes that were put in among the restoration tesserae in the green background near the upward-looking shepherd in the Elijah apse.

Thanks to the kind help of professor Mario Mirabella Roberti we also had the opportunity to examine the tessera material recovered from the baptistery of the church of St. Thecla (near the present cathedral) in Milan, dated to the time of Ambrose (374-97 A.D.)⁽¹³⁾. The tesserae, which come from a wall mosaic, were of glass, and while many cubes of gold could be identified there were apparently none of silver.

Turning, lastly, to Ravenna our information regarding the technical aspects of the fifth century mosaics there is very scant. Despite the many campaign of restoration that have taken place in that city, bringing restorers and scholars again and again to the scaffolds, surprisingly little is known about their materials⁽¹⁴⁾. Observations done with the use of field glasses and

⁽¹¹⁾ *Ibid.*, Pl. XCIV. Even the *sinopia* has been retouched, but in its present state seems to respect the original design.

⁽¹²⁾ *Ibid.*, Pls. XCV-XCVIII, and plate on p. 201.

⁽¹³⁾ M. MIRABELLA ROBERTI and A. PAREDI, *Il Battistero Ambrosiano di San Giovanni alle Fonti*, pp. 9 ff.

⁽¹⁴⁾ Considerably more information has been accumulated on their technique of execution, their mortar, the work of marking and comparti-

a study of the available detailed photographs are the means by which one may assemble a tentative and very general description of their technique.

It appears that the mosaics in the so-called « Mausoleum of Galla Placidia » as well as those in the Orthodox Baptistery, both normally dated to around 450 A.D., are manifestations of the « glass tradition » whose characteristics we have outlined above. There seems to be no employment of natural stone material in faces and hands: glass cubes are used for these areas, and they are of a size more or less comparable to that of the tesserae used in other parts of the mosaics, for instance in the depiction of garments and backgrounds.

As must be stressed, there is a notable use of white and bluish marble in the rendering of one particular motif in the mosaic in the Orthodox Baptistery. The open-work « stone transennae » that enclose the exedrae with the empty thrones, in the outer zone of the cupola decoration, are set with cubes of this material⁽¹⁵⁾. This phenomenon is not unrelated to some of the tendencies that are observable in East Christian mosaics, where the use of silver cubes for the representation of objects of silver and steel is commonplace. Yet, while the Italian mosaicists but rarely ventured beyond such relatively simple effects of make-believe imitation, the East Christian craftsmen had at their disposal a vast array of technical refinements.

The sophistication of Early Christian, Constantinopolitan mosaic art is strikingly brought out through a comparison with the Italian examples. Hagios Giorgios at Thessaloniki is the earliest source we possess for the traits we have termed the « East Christian » trend in mosaic technology⁽¹⁶⁾. An analysis

of the work in question shows that the use of silver cubes for the representation of objects of silver and steel is the merit above all of the late Giuseppe Bovini.

⁽¹⁵⁾ WILPERT, *op. cit.*, Pl. 90.

⁽¹⁶⁾ For the date cfr. H. TORP, *Mosaikkene i St. Georg-rotunden i Thessaloniki*, Oslo 1963 (late fourth century A.D.).

of several of these traits as they appear in Hagios Giorgios is given elsewhere, as well as an attempt to explain why they came into being⁽¹⁷⁾.

To sum up, the tendencies manifest in the Italian mosaics seem more straightforwardly illusionistic; those which herald the great Byzantine flowering, on the other hand, seem directed toward the development of a new kind of imagery, where the mosaic material is explored for effects that surpass those of ordinary artistic illusion.

(17) NORDHAGEN, *Gli effetti prodotti*, op. cit., pp. 151 ff.