

Writing an article for Labyrinth on mosaics is a rather frustrating and problematic job! What we need here is full page colour photography to show the splendid glow and subtle tones of a Pompeian mosaic now in the cool halls of the Naples Museum or the soft sheen of black and white marble in the shade under an umbrella pine at Ostia. Unfortunately, a small black and white drawing is the most you are going to get. Luckily, you can find many excellent illustrations at least of the best known mosaics in plenty of books on Rome (and I'll suggest one or two to look for at the end of this article). Here I'll concentrate, then, not so much on the vast range of beautiful and decorative subject matter of the mosaics, but on the construction techniques and the designs used to support and frame these remarkable works of art.

Vitruvius the Roman architect who worked for Julius Caesar and hoped for the patronage of Augustus, the first emperor, has left us an excellent account in Book 7 of his On Architecture of the way in which a floor-foundation ought to be prepared for the mosaicist's work. It is a pity that we have no comparable explanation of how the patterned floor itself was laid. We suppose that the mosaicist was a craftsman of considerable skill and sometimes artistic talent too, who had one or more apprentice workers whom he trained and who was retained, like the other construction trades, when a house was built or remodelled or when a new floor was needed in the town baths. Probably he worked out of one of the typical small shops with a wide opening fronting onto a busy street. In his back yard would be piles of reject or scrap stone from the builders, while in the shop itself might be baskets of ready-cut stones, the tesserae, sorted by colour, which were the raw material of his trade. Did he keep a pattern-book under his front counter to show his customers, who could choose "this frame with an inset like this, and one of those half-moon jobs to go over the door into the dining room"? Did he have samples or a catalogue of the imported emblemata, the insets made by master artist-craftsmen overseas in Greece or Syria? Could he order them in as wanted? Did he say "I can copy you this piece at half the cost, and none of your friends will guess it's not an original"? We don't have the answers to these and many more questions about the mosaicists' work, more's the pity!

Vitruvius recommends a floor-foundation of formidable proportions, 30 cm. being by no means too much to ensure that the mosaic on top will not develop uneven spots or cracks. A base of timber or crushed stone, depending on the floor level, covered with layers of fist sized stone, crushed or broken stone cemented into a coarse concrete, broken tile and mortar all well tamped down and finally a surface layer of fine mortar await the work of the mosaicist. He will lay out the outlines of his design by incising the still-damp mortar or paint them on with thick red or black paint if it is already dry. Then he will set the tesserae, which range in size from two cm. or so square down to half a cm. or even less in the finest insets. We suppose he may have prepared these ahead of time, setting them right way up on a bed of sand and then glueing a linen sheet on their surface so as to transfer them in sheets to the wet mortar on the floor. Or he may have brought along half a dozen of the expensive imported insets, marking carefully where they were to go, setting small triangular pointer-stones to start his less-experienced workers off on the border pattern (which in one corner of a floor in Britain they forgot to remove as they worked) and then gone on to the next job, perhaps to lay out a bedroom floor with a central "carpet" pattern and two plainer alcoves marked off for the couches with checkboard squares. Grouting and polishing would complete each floor.

Sometimes floors were laid, not in opus tessellatum, the routine floorwork using the utility-size tesserae, nor in the very fine work called opus vermiculatum in which the tiniest tesserae were laid in wormlike lines to aid in contouring the curves of the picture's design, but in opus sectile or "cut work". In these floors, various geometrically shaped thin slabs of marble were fitted into a decorative design like an elegant classical patchwork quilt. The delicate colours, fancy figuring or grain and high-gloss sheen of expensive imported marbles made these sectile floors particularly attractive, though they seem to have been much less common. At the other end of the scale were the utilitarian floors of courtyards and kitchens and shops which might have a surface of opus signinum made of mortar with crushed tile chips randomly packed in, or of rectangular tiles laid herringbone fashion (each being 8 to 10 cm long) or of concrete with a few tesserae laid at regular intervals to represent a stylised flower, perhaps, or just to relieve the plainness of the cement surface with a few spots of red or white or black. Repairs were often done in much coarser work than the original, although we can also see floors where the repairer tried hard to match up the original workmanship. On some designs, the repairer gave up altogether and installed a new corner containing an inset which made no attempt to match the other three. Here and there we find an entirely new floor laid down on top of the old one, which must have become worn, uneven, cracked or merely hopelessly out of fashion! Naturally, following Vitruvius' advice, no doubt, a substantial new layer of mortar was used to resurface the old floor in this case.

Black and white, multicoloured, with unique "paintings in stone", with complex patterns and borders, or even with simple repeating designs meant just to be serviceable and hard-wearing, Roman mosaics are a fascinating area of study for the Roman historian, both for their own artistic or technical interest, and for the light they throw on the social life of the times.

A brief bibliography:

- David Strong and David Brown (edd.), Roman Crafts, Duckworth, London , 1976  
H.P. L'Orange and P.J. Nordhagen, Mosaics, London, 1966  
H. Stern and G. Picard, La Mosaïque Greco-Romaine, Paris, 1965  
F. Sear, Roman Wall and Vault Mosaics, German Archaeological Institute, Rome , 1976