

It's unfortunate that *Labyrinth* hasn't yet acquired a rich enough benefactor to pay for glossy paper and full-colour photographs, as ancient mosaics are much more beautiful than little line drawings and a written description can do justice to. However, these mosaics form part of an enduring artistic tradition: making something both useful and attractive, even occasionally remarkably lovely, out of many small scraps and pieces. Patchwork quilts, marquetry (inlaid woodwork), even patterned rugs and carpets all began by using parts, often reusing material that would otherwise be discarded, to make a more interesting whole, just as the mosaics do.

In the ancient eastern Mediterranean area, the first high quality mosaic floors archaeologists have found in any number date back to

the Hellenistic period. These floors used various colors of small round pebbles set into concrete to produce scenes with animals and people which resemble paintings. The lion mosaic (Fig.1) from Pella is a good example. Naturally, the colors tend to be somewhat limited in range, and not very bright, but the effect is subtle and pleasing, and may have been livelier then than now, as the pebbles have perhaps lost some of their color with the passage of so many centuries.

By the middle Roman Republic, mosaics in southern Italy and Sicily were beginning to include 'tesserae', small cut cubes of tile or stone, along with the pebbles. Utilitarian floors were made of concrete, whose rubble aggregate was composed of crushed tile or pottery fragments, with diamonds or squares of white or black stone set in at intervals to make a criss-cross pattern (Fig.2).

Richer households were soon able to afford something more decorative, and pictured floors or ones with complex all-over patterns have survived in considerable numbers in Italy from the later Republic on. Throughout the imperial period, mosaicists were at work here and there all over the Empire: at least four 'schools', for example, have been identified in Britain, presumably representing four workshops whose skilled craftsmen learned from each other and used similar designs. North Africa was particularly rich in mosaics,

so were Syria, Spain, Gaul—in fact we can find mosaics from any of the provinces, which not surprisingly show interesting regional differences.

The techniques in general use for laying a floor before setting a mosaic are described in Vitruvius' *On Architecture* Book 7, chapter 1. There he emphasizes the need for an absolutely solid base, prepared with layers of stone, rubble, gravel and mortar well tamped down and as much as a foot thick. Unfortunately he does not go on to describe in detail the actual mosaic work, perhaps because the professional mosaicist had to be hired by the architect-builder in any case, and would already know his job well.

Tessellate forms (that is, mosaics made from cut stone or 'tesserae') could be laid in several ways. First, the topmost and finest layer of the base (the 'nucleus') had still to be soft for the most long-lasting floor surface. The craftsman would then mark the fresh surface with an incised line or with a painted outline, at least where he intended to set in the tesserae by the direct method. Other methods also in use required setting up the tesserae face up in a sand tray, next gluing a cloth over the finished design, which could then be transferred *en bloc* to the prepared nucleus, and the cloth soaked free (the indirect method); or the reverse method, by which the tesserae were glued upside down to a cloth with the design painted on it, and again, transferred in large completed sections to the nucleus.

'Emblemata' or inset pieces were often bought ready-made and set into marble trays up to a foot or even two feet square. These came from specialist craft-shops, often no doubt in the Greek half of the Empire, and were imported into Italy to be used as the

expensive centrepieces of more run of the mill, locally worked floors. Judging by the very variable quality of some of the typically patterned borders, every mosaicist, even the least skilled, expected

to produce the standard designs: 'Greek key' or meander (Fig.3), herringbone, guilloche, checkerboard and so on. More elegant repeated motifs might include rosettes, triskelia, guilloche 'mats', garlands and tendrils (Figs. 4,5). Such designs, as well as ones with figures of people and animals, were circulated, we believe, in pattern-books. These could have also served as catalogues to allow customers to select designs they preferred.

More ambitious designs, presumably demanding the master-mosaicist's own skilled handiwork (the apprentices could be set going on the edging and the infill of the background, and the journeymen on the repeating borders, perhaps), included centrepieces with delightful 'paintings' of themes from myth, legend or history. The best-known example of the last, a lively representation of

Alexander and Darius face to face at the Battle of Issus, was found in the House of the Faun at Pompeii. It was nearly six metres long, and more than three metres wide, and is said to have contained more than a million tiny tesserae, in a palette of only half a dozen colors. Like many other such studies, large and small, we believe it to be a copy of a Greek masterpiece of painting. Unquestionably in this case the mosaicist also produced a masterpiece.

We know from Diocletian's Edict on wages and prices (AD 301) that figure painters were paid up to three times as much a day as a mosaicist; however, as Roger Ling points out in his very useful and scholarly study, *Roman Painting*, the mosaicist's work was far more time-consuming, and so ultimately more expensive, suggesting that like sculptors, mosaicists might have had to travel widely to find clients for whom to carry out their valuable work. None of these artist-craftsmen signed their work, although two well-known mosaics from the villa of Cicero at Pompeii, one of four street musicians, the other of a fortune-telling session, have the name of Dioscurides of Samos worked in. This is more probably the original artist's name, than the mosaicist's; a closely similar painting of the street scene has survived at Stabiae, another of the communities overwhelmed by Vesuvius, suggesting a widely-known Greek masterpiece as the original (both scenes have been identified as illustrating episodes in the Greek playwright Menander's comedies).

Less common than mosaics made with tesserae ('opus tessellatum') were the floors made of 'opus sectile' (Fig.6), with small thin slices of colored stones cut into geometric forms such as rectangles or lozenges. These slices were set into pleasing overall patterns; one which still exists in Pompeii is in the 'tablinum' of the House of the Faun. Lozenges of grey and green slate and of white limestone produce an eye-deceiving design which suggests cubes in perspective.

In general, the style of the mosaic contributed to the purpose of the room, whether because its pictorial content was appropriate (athletics or marine scenes in a bathroom, for example) or because its pattern helped to demarcate the entrance, or the placement of the furniture such as the couch in a bedroom. Not unexpectedly, black and white designs tend to occur in areas of heavy use, while polychrome work of the finer sort was more common in houses owned by the prosperous or very rich (Fig.7). Wall and vault mosaics only gradually developed during the later Empire, until the Byzantine period, when the mosaicists' art reached its highest standard.

Two interesting books on Roman arts

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and crafts are Roger Ling's *Roman Painting*, Cambridge University Press, 1991, and Donald Strong and David Brown's *Roman Crafts*, Duckworth, London, 1976. Figures 2, 4 and 6 are based on illustrations in these two books. Fig. 7 comes from a 19th century Dictionary of Antiquities. Figures 1, 3 and 5 are sketches of my own. There is an earlier article on Mosaics in Labyrinth 32, April, 1985.