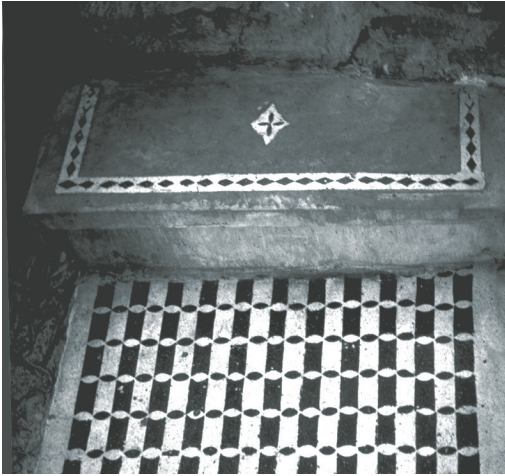




3 / BLACK-AND-WHITE MARBLE FLOORS AND SURFACES



*The lower step shows my first experiment with a marbledust floor, made using a soldered brass jig (with Gernot Mittersteiner). The upper step, my second experiment with such a floor, was made with styrofoam shapes glued to concrete, with a marbledust-cement mix trowelled between the forms. This became the basis of all our later floors.*

I now begin to describe a series of experiments from the 1970s onward, to invent ways of making which would allow ornament to appear in a building as an integral part of the making process.

A first example. In 1980 I spent a few hours in Florence, and was astonished by the intense beauty of the very simple black and white marble floors in the Baptistery, in San Miniato, and in

other churches. These floors, laid by *opus sectile* work, small chips of black and white marble, shaped and close packed together to make the floor, achieved a depth and simplicity quite out of proportion with the difficulty involved. They stayed in my mind and when I came back to Berkeley, I decided that it must be very simple to find some modern way of producing a similar kind of ornament. We began a series of experiments in our yard.

Since I was already doing all kinds of experimental concrete work, I decided that some form of colored concrete would be a suitable way of doing it . . . and I soon found that ordinary terrazzo — a mixture of colored cement and marble dust and fine marble chips — could give us the material we needed. This material is laid wet, then ground to a first finish about twenty-four to forty-eight hours after it is laid, while still green, and then finally polished with a high-speed sander a few days later. This first experiment became the forerunner of a series of floors and marble surfaces we later made in projects all over the world.

The question was how to get the pattern to be beautiful without creating enormous labor cost. I did not want to produce something which was inherently so expensive that it could only be a luxury. My goal, from the outset,



*Left: The bench poured, ready to receive terrazzo ornament on the end panel. Christopher Alexander and Rodney Moore, 1984. Right: Application of styrofoam forms, to create ornament.*



*Correction of details in the formwork*



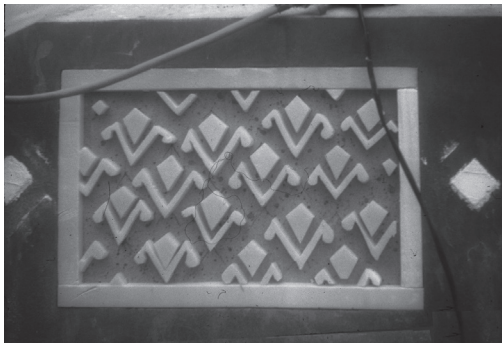
*Placing marble-cement mix into the formwork*



*Grinding after completion of wet phase*



*The finished end panel*



*Hand-placed styrofoam formwork for an ornamental panel, Fort Mason bench.*



*Formwork of another ornamental panel, Fort Mason bench.*

was to produce a kind of floor which would be reasonable in price, so that we could build floors of this kind easily in different buildings and yet provide a process which can allow the kind of personal feeling which is inherent in this kind of work.

In our first experiment, we began by making a simple brass mold that would allow us to fill first the black material by using half the cells of the mold, and then, after this had set twenty-four hours later, to fill the remaining space with white material, then grind the two together and polish the result.

The first result was good, but tearing at the edges as one pulled the form off the half-set terrazzo disturbed the pattern. My fears that the result would be too mechanical were allayed. We then built a larger mold of the same type, with a very complex negative "spider" that kept the material pressed down while the mold was lifted

up. This mold allowed us to make a larger area of the same design, which you can see in the upper photograph on page 586.

However, the needs of the material are much more fluid. In order to follow the centering process, it is necessary to have extreme liberty in creating new designs that are just right for the place they go into. In a second experiment, the design of the upper step (again page 586), we first played with black-and-white paper to find the right design, and then used an entirely different technique to make the physical thing. We left a narrow chase in the concrete. Then, inside the chase we made the white part of the design in thin styrofoam, leaving gaps for the black. The styrofoam was glued down on the concrete step. Then we filled the black terrazzo around the styrofoam. Then, after twenty-four hours, we burnt out the styrofoam with a torch, and then back-filled with the white terrazzo,



*Overview showing all the animal panels*



*My favorite panel, and the one I found most fun to make*



*Swimming Pool at Heart Castle, California, blue and gold mosaic, Julia Morgan, 1910*

twenty-four hours later ground it off, later polished and sealed the surface with a shiny sealer.

The new technique is far better than the old. Even though the first experiment had a roughness which is not really mechanical, it was still impersonal and mechanical when you compared it with the second, smaller design on the upper step, which does somehow reach a spiritual quality, because it is so personal. The styrofoam allows the exact shape which the personal vision of the place has in it, to be produced, to the

nearest millimeter, exactly as it is felt to be right—and it is this which brings the thing to life.

A neighborhood process of making a highly ornamented bench in San Francisco has been described in chapter 11 (pages 352–59). On that bench I used the same technique, in more complex fashion, to make geometrical ornament with animals and birds, all in green and white. The ornamenting part of the process is shown on pages 586–88.