

Teaching Arabesque

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Abstract

Presentation Presentation of 3 teaching experiences to introduce geometrical arabesque to people of different ages and cultural backgrounds. The first experience consists of imitating traditional examples, the second is based on specific method of drawing, the last uses a set of zellij-like tiles cut with a laser.

1. Imitation of traditional examples

1.1. Beginnings. This activity took place during an experimental course that I gave at the Paris-8 University. The course led to a practical application, the decoration of a hall at the university in the Arabic style. The initial idea was only to paint on a wall an adaptation of a motif from the Moroccan traditional style as an advertisement for the course. Afterwards, we created a fountain as well.

1.2. The wall. The motif was a 64-pointed star without interlaces. The wall was cleaned, then painted in white before drawing the motif with stencils. Coloring was done with the spontaneous help of people passing by. “Columns” were painted on each side of the wall at the entrances to the Departments of Mathematics and Philosophy (Fig. 1). Some of these drawing were reminiscent of the work of Escher (Fig. 3). Arches with muqarnas structures were placed atop each entranceway. That was our first approach of muqarnas: we used wood and plaster in a wild technique. Nowadays we would rather use the traditional technique of assembling units.

1.3. The fountain. After the wall was completed several people suggested that a fountain be constructed and so we did that. The objective of this project was to make a wild dream come true, then to learn the technique of “gebs” (plaster engraving) and finally to improve our knowledge of muqarna structures. But also the common space where people congregated, with nice daylight, was threatened by the administration of the university who had begun to build new rooms in the area which had the effect of reducing the common space and masking the light. We began to construct the fountain against the last built wall which prevented the spread of more rooms. We started to work without permission. Later on, because we wanted to have water in the fountain, we required permission from the university, and it was granted. The basin of the fountain was made with concrete, covered inside with colored glass mosaic, and outside painted in the zellij style (Fig. 5). The façade had engraved plaster, painted decorations and muqarnas corbels. For this second approach of muqarnas we experimented a better technique than the one used for the arches of the wall. We first made a negative model in plaster, and used it as a mold to make the two corbels that were fixed on the fountain and engraved. There was also built-in lighting, drinking water, and a palm tree. As a tribute to the city of Fez (Morocco) that fountain was dedicated to the famous “Nejarine.”

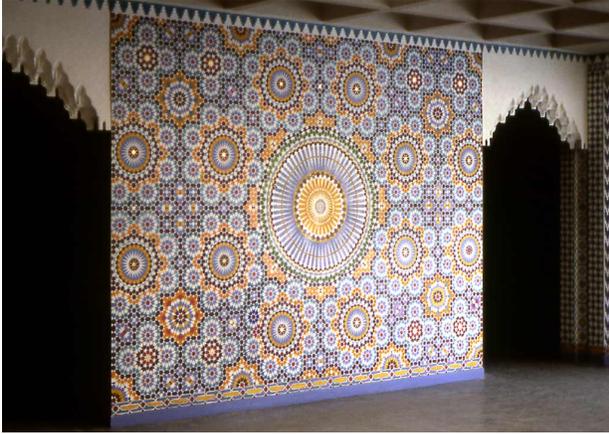


Figure 1: *The wall, University of Paris 8.*

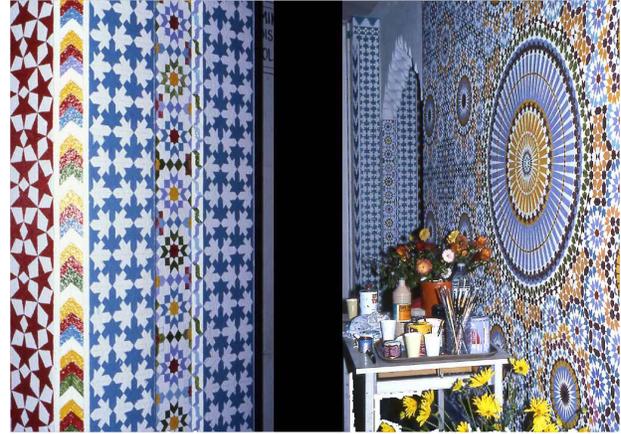


Figure 2: *The wall, and detail of a column.*



Figure 3: *The motives on the columns, a tribute to Escher.*



Figure 4: *Finally, the painting of the center.*

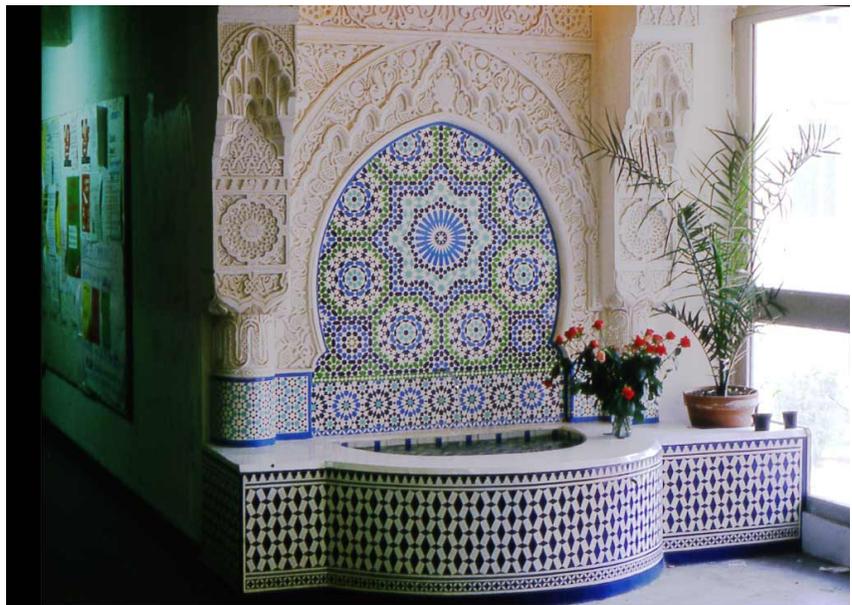


Figure 5: *The fountain, University of Paris 8.*

1.4. Evaluation. For the most part, the first construction (the wall) was a two-dimensional work. Some parts were done collectively while others were done by individuals (e.g., preparation of the drawings, etc.) The work was done rapidly and in a festive atmosphere. The second activity, the fountain, was much more complex, involving problems with materials, experimental techniques, and so forth. It took much time and energy. Fortunately, the results were worth the effort and do not reflect the pain of carrying out the task. In retrospect, this project may have been too demanding for an introduction to the art of arabesque.

2. Drawing

2.1. The method. A specific drawing technique is used. Its simplicity is in great contrast to the complexity of its application. The first Western analysis of zellij patterns used classical methods of geometry, compass and straightedge drawings. Although they are attractive, these techniques, using exact geometry, are somewhat limited. How does one improvise, imagine and create while constrained by such a rigorous application of geometry? Our approach is very informal: no rules, no compass (except occasionally for constructing complex rosettes), rather we use freehand drawing on square sheets of paper giving us a high degree of freedom to improvise and engage in the creative process (**Fig. 6**). We limit ourselves to only the octagonal family. The price of this freedom is a diminishing of exactness: we use approximation. However, this approximation is very efficient, and it is then easy to convert our constructions to exact proportions at a later time. The materials used are pencil, eraser, square paper, concentration, patience and any other tools needed for coloring.

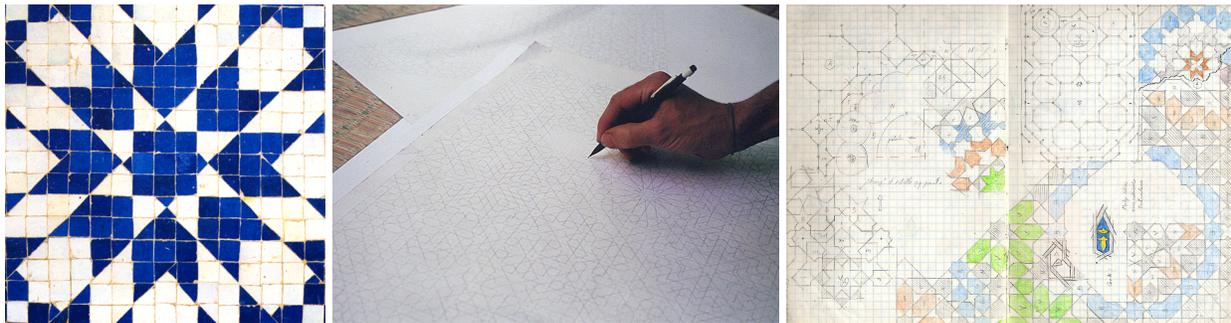


Figure 6: *Freehand drawing technique. On the left is a detail of a zellij panel using the same kind of approximation.*

2.2. Evaluation. I have been surprised by the good results we have achieved, even with young children. The simplicity and power of the method fits well with the minimalist character of traditional crafts: few tools simply employed. Only an elementary knowledge of geometry is required. In this activity, the rigor of geometry and freedom of imagination meet together. Though, a period of training is necessary before being able to work creatively, and this will not work for people who have difficulties in concentrating.

3. Return to hands-on

3.1. The method. I gave the participants a set of zellij-like tiles cut with a laser (Castera, J-M.: *Zellij Multipuzzle*, ISAMA-BRIDGE Proceedings, 2006). In the first workshops, I gave the participants some models to copy, but I soon realized that many people preferred to make their own models. Now I no longer give out models. I explain with few words the simple rules and let people experience the pleasure

of (re)discovering patterns. Sometimes you need a shape that is not available in this game, but you can often construct these from combining smaller shapes much as in the game of tangrams.

3.2. Evaluation. This is the most efficient way to introduce the art of arabesque : direct immersion in the galaxy of zellij. The laser makes for sharp cutting, which reproduces the effect of actual zellij patterns which use cutting after firing. The only disadvantage is the need to clean up the tiles after their use. Also a guide is needed. The manufacturing is still in an experimental stage, and at the moment it is very expensive. Finally, I have found that it is more difficult to work with adults (even if they are highly trained academics) than with children.



Figure 1: *images of the first activity. Arabic World Institute in Paris, March 2005.*