NUMERICAL PATTERNS

This is our last article in the current series on designing. We shall describe here a technique which bears the same relationship to designing patterns, as the 'accidental weaves' (MW 26/1) to drafting in general. This technique unfortunately has only a limited application in weaving, since the patterns are free and require quite a large number of harness-frames.

Otherwise "Numerical Patterns" may be used in the following weaving techniques: Rugs in Chenille; Swivel on a 12 or 16 frame loom; Embroidery Weave on a Pattern Harness, and of course in all sorts of inlay, pick-up, tapestry, knotted rugs, and other free weaves.

In other crafts the same principle may be applied to mosaics in tiles, pottery, inlay in wood, linoleum floors, paneling etc.

To make the pattern we first outline the area corresponding to the project on graph-paper and divide it into small squares, all of the same size (fig.1). Then in this space we mark the sequence in which we shall fill-in the squares with colours - we shall call this sequence: the "movement" of the pattern. The movements are shown in fig.2 and 3.

![Fig.1](image1)
![Fig.2](image2)
![Fig.3](image3)

Finally we choose the colours and their proportions. To make the problem simpler we suppose that we use only 3 colours: A, D, and W (see "Colour" MW.32); for instance: white, light grey, and...
black. Since Grey is the Dominant, it should cover the largest area: let us say 6 squares. The accent (white) may be then 3, and the sub-dominant (black) - 4. Instead of 6, 3, 4, we could take as well: 12, 6, 2, or 18, 9, 12. We could also use a different proportion, like 8, 2, 3, or 9, 3, 5 etc.

Now to draw the pattern we go along the line which indicates the direction of the movement (fig.2) and count the squares. We start with black in the left-hand upper corner, count 4 squares and paint them black. Then 6 grey squares, then 3 white, etc. We keep on following the movement of the pattern until we reach the center. The resulting design is shown in fig.4.

The peculiarity of this pattern is that it does not suggest at all the original rotary movement which we have been following. We shall make now another experiment. We shall keep the same colours, the same proportions (colour ratio), and about the same size of the woven piece, but we shall try another movement - as in fig.3. The pattern is shown in fig.5. Here we have an effect of horizontal
stripes, which we could expect, but there is also a much more striking effect of two crossed diagonals.

What would happen if we did not stick to the Munsell's theory of colour, and used completely different colour ratios? For instance, the same amount of each? The answer is given in figs. 6 and 7. In both cases "circular" movement (fig. 2) has been used, and the ratio is: white - 4, grey - 4, black - 4.

Both patterns are quite good, probably better than the one in fig. 5. But when we look at them, we are not quite satisfied; we wish there were more of grey, or perhaps more of white. Or is it just the result of a habit?

Whatever it is, we may try more patterns with one dominant colour. Fig. 8 shows a new movement, more or less like a letter "S", and fig. 9 - a still more complicated one. On the basis of the movement in fig. 8 we made the pattern in fig. 10, and the movement in fig. 9 has been developed into the pattern in fig. 11. Fig. 10 has the sequence: 3, 5, 4 (black, white, grey); and fig. 11: 4, 5, 3 (black, grey, white). In both patterns we kept to the Golden Rule ("Proportions" MW. 33) as far as the shape of the woven piece is concerned. In fig. 11 we also subdivide the main rectangle into three areas in the same way.

Now comes the question: What is the value of such patterns made entirely by formulas? After all these patterns could be designed by an electronic brain, or even by a much simpler machinery.
This is perfectly true. Except for the selection of colours, and for the choice of the sequence of numbers, there is little "self-expression", "creativity", etc. in this method. This we admit and it should be kept in mind.

But at the beginning of this series of articles about designing we stressed the fact that there are trends to express creativity in formulas. Our personal opinion is that formulas are of little value, whether for colour, texture, or pattern. However we have promised to make a survey of such methods of designing, and we have kept our word.

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To a craftsman who is an artist at the same time, all these formulas are completely worthless. But very few craftsmen are artists. If they are good craftsmen, why should they be deprived of the pleasure of creating their own projects? Why should they be condemned to copy other people's work? Or still worse why should they make insincere attempts at "being artistic"? Is not it better that they should follow certain rules, which certainly will not make masterpieces of their work, but which at least will prevent them from producing poorly designed projects?

A project in which one follows strictly all the rules of colour, texture, and pattern will never offend the eye. Such a project may be not striking, but it will be pleasing, because the rules are based on the likes and dislikes of an average member of our civilization.

Finally if one learns the rules, practices them for a time, and looks critically at the results, he may so to speak "wake up" one day to find out that he does not need any rules any more. The rules simply became a part of his unconscious life.

Is this good or bad?

Such integration of rules of designing could be a death of an artist, but also it can be the making of a good craftsman.

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FROM THE CLASSICS
C.C. Gilroy, 1844

The pattern drawer, like the poet and the painter, ought to possess a strong and lively imagination, to be deeply impressed with the beauties of nature, and to be able to draw from thence the principal effect of his designs. A chaste taste also is necessary in the pattern drawer as in the manufacturer; and this will be greatly improved by a little knowledge of geometry, particularly symmetry and proportion; for nothing can be more offensive to a person of genuine taste than a pattern crowded with an incongruous assemblage of distorted objects.

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