4. Creating Coherent Geometrical Designs

‘Geometrical’ is a term that is applied to any number of patterns and designs whether Byzantine or Insular, Greek or aboriginal. The term ‘coherent’ is joined to it here, in order to distinguish the traits of early Insular art. It is quite different from key pattern, grilles, plaids and others, in which a pattern repeats and repeats. Coherent geometrical design, on the other hand, is in some ways like interlace, which occurs so frequently as decorative design in Insular art, virtually as a hallmark. In interlace, intercrossing bands or ribbons pass over and under each other; they do so, however, not in the simple scheme of the warp and woof of weaving. Typically, and in all the best examples, bands in interlace patterns have no ends. That is what makes the pattern a source of fascination. The pattern presents to us a pragmatic paradox of a weaving or lace or net pattern that has been made from strands that do not have ends which could have passed over and under these strands to construct the design: there is no practical way to weave the pattern, and yet it has been woven, as we can see.

Coherent geometry is like good interlace pattern in the sense that it also links and bonds together all of its elements. That provides a part of our fascination with the figures that embody it. Unlike interlace, in coherent geometrical design there is nothing palpable about it in the sense that one can trace with eye and finger the bands in an interlace pattern. The other patterns mentioned are similar, in their maze-like configurations that invite threading one’s way through. Rather than bands or ribbons (some of them metamorphosed into animals), the elements linked one to another are ratios of measures. Their coherence, in turn, lies in the differing measures uniting in certain related ratios, completely and without residue. This is the trait I have called ‘commodular’ linking, in a series of studies of manuscript illuminations and sculptured crosses, as well as literary compositions, in early Ireland and England.

The test for a coherent design in this sense is one that I have wrestled with a good many times. The practical lessons learned will be worth reporting. Two or three distilled instances. It took a number of attempts to re-create forms of carpet pages, for example, to induce the rule that the outer rectangle of a framed illustrated is the place to begin, both in analysis and in creating a form.
The rule stood repeated tests; there was also the practical fact that derivations with compass and straight-edge will maintain a greater accuracy if the starting point is the largest form rather than, say, in the smaller dimensions of a cross or evangelist portrait inside the frame. And then, there were built-in tests following from that. One was the there should be continuous derivations each determining the place of a line or arc in the design—each derivation involving only the basic ratios described in the preceding section. This test cannot be stressed too strongly. It is often not very hard to ‘doodle’ until a mark generated by compass or straight-edge can seem to coincide—nearly enough, anyway—with a part of the form being replicated. The corrective is that if the doodling process does not fit into a continuous, consistent, economical scheme of plotting, the analysis will not be like analyses that are continuous, consistent, and economical and which do match fully the forms of the most admired artefacts in this tradition. The essence of this early art of design—and a source of its fascination—is that the forms should be rigorously rule-governed: every element must be connected to all others by a consistent and direct scheme of relations.

So (to continue the practical mode) finding the basis of the governing rule is crucial, obviously. More than once I took overall measures, calculated their ratio, and then proceeded in an attempt to replicate a plan. Usually it did not take long to get an ‘error message’ if the ratio was not the right one—usually because the decimal expression was close to one already familiar, and the expectation at the outset was that the familiar ratio was being employed once again. Any time it looks as if fudging some of the measures will be needed is a time to begin afresh.

Some examples of creating forms for the various types of Insular art are given in the following pages. They range from the partial plan of a trial- or motif-piece, through examples of designs using each of the basic ratios, to the spectacular plan of the St. John page in the Book of Kells. Not included are plans based on numeral ratios 1:2 or 2:3 or 3:4; these are not unusual among dimensions of manuscript leaves or the text-space on them or even the mise-en-page of text-space or illuminations, but they are not common in designs of carpet pages and sculptured crosses.