Anni Albers

On Weaving

NEW EXPANDED EDITION

With an afterword by Nicholas Fox Weber
and contributions by Manuel Cirauqui and T’ai Smith

Princeton University Press
Princeton and Oxford
The Fundamental Constructions

The structure of a fabric or its weave—that is, the fastening of its elements of threads to each other—is as much a determining factor in its function as is the choice of the raw material. In fact, the interrelation of the two, the subtle play between them in supporting, impeding, or modifying each other’s characteristics, is the essence of weaving.

The fundamental constructions, in common with all fundamental processes, have a universal character and are used today, as they were in our early history, here and everywhere. They show the principle of textile construction clearly. With only a few exceptions, all other constructions are elaborations or combinations of the basic three: the plain weave, the twill, and the satin weave. Of these three it is the plain weave that embodies the sum total of weaving and therewith reaches back the furthest.

All weaving is the interlacing of two distinct groups of threads at right angles. Wherever a fabric is formed in a different manner we are not dealing with a weaving. Where, for instance, the threads intersect diagonally in relation to the edge of the fabric, or radially from a center, we have a braided material; where only one thread is used to build up the material, we have a knitted or crocheted one; where threads intertwine or loop around each other, we have a lace or a net fabric. The horizontal-vertical intersecting of the two separate systems of thread is of great consequence for the formative side of weaving. The more clearly this original formation is preserved or stressed in the design, the stronger the weaving will be in those characteristics that set it apart from other techniques. Just as a sculpture of stone that contains itself to live within the limits of its stone nature is superior in formal quality to one that transgresses these limits, so also a weaving that exhibits the origin of its rectangular thread-interlacing will be better than one which conceals its structure and tries, for instance, to resemble a painting. Acceptance of limitations, as a framework rather than as a hindrance, is always proof of a productive mind.

The threads grouped vertically or lengthwise in the fabric are the warp threads; those running horizontally or crosswise are the filling threads. By collective names they are the warp and the weft or filling or woof or pick. The warp threads are stationary in the process of weaving while the filling threads are in motion, which indicates that the weaver for the most part deals with the filling threads and which may explain the greater number of terms for them.

In the plain weave this intersecting of warp and weft takes place in the simplest possible manner. A weft thread moves alternately over and under each warp thread it meets on its horizontal course from one side of the warp to the other; returning, it reverses the order and crosses over those threads under which it moved before and under those over which it crossed. This is the quintessence of weaving. The result is a very firm structure which, since it is comparatively unelastic, is strong under tension and also easily preserves its rectangular shape. It has an even, uniform surface, with warp and weft appearing in equal measure and producing the same effect on the front and the back of the fabric. It has a tendency to be stiff and, since the threads here cannot be pushed together very closely, it appears perforated when held against the light. Not more than two warp and two weft threads are necessary for its basic construction, and therefore only the simplest type of equipment is required. It is also a weave that demands less material for its construction and can be produced faster than any other. The usefulness of these characteristics is evident. There is probably no weave produced in more millions of yards the world over, now as in former times, than this plain weave. We recognize it in Egyptian mummy cloth and in our sheets, in unbleached muslin, potato sacks, and sail cloth—in short, wherever strength and a solid surface that does not permit threads to be caught accidentally are required.

It is interesting to note that this most practical of all thread constructions is at the same time also the one most conducive to aesthetic elaborations. The fact that warp and weft appear on the surface in equal amounts and intersect visibly leads to the use of contrasting materials and colors for them, thereby...
Plate 10. Diagram showing method of draft notation, plain weave.

Plate 11. Diagram showing method of draft notation, warp twill.
Plate 90. Tapestry, Chimú, Peru.
Plate 95. Study for a wall hanging. Anni Albers, 1925.

Figure 4. Anni Albers, Red Meander, 1954. Linen and cotton, 20 × 14 in (52.1 × 37.5 cm). Private Collection 1954.12. Fig.

Figure 5. Anni Albers, Blue Meander, 1970. Screenprint, 19 1/2 × 16 in. (49.5 × 40.6 cm). The Josef and Anni Albers Foundation 1994.11.14.