

*Warp-rep jaspé
from Turkestan.*

JASPE'

by Harriet Tidball

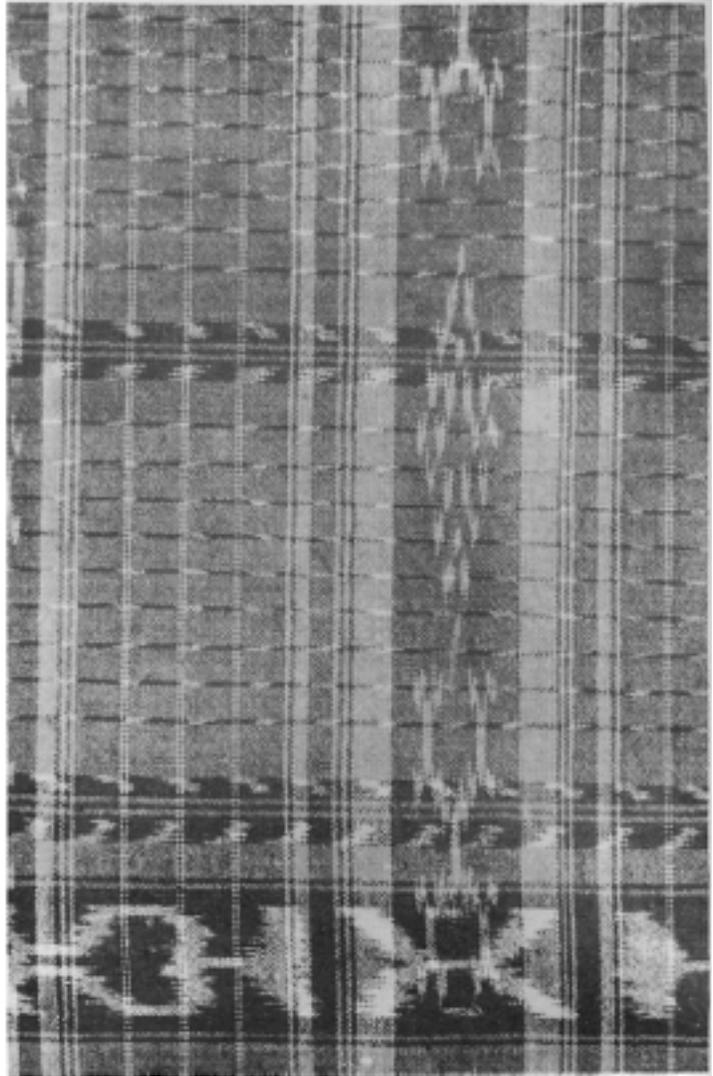
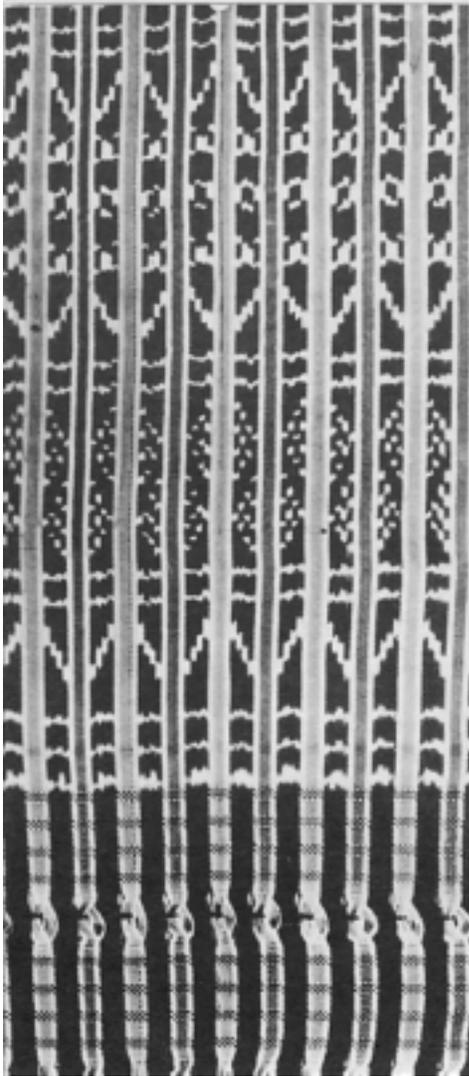
The roots of modern design lie deep in the ground of primitive art forms and the modern designer goes consciously to the primitive for fresh inspiration. Because of the universality of textiles throughout the span of recorded history, the textile techniques from the past are a particularly fertile field for the contemporary handweaver, though because of the relative complexity of modern handlooms as compared to the primitive loom, the handweaver has a tendency to overlook the techniques which depend for design on the weaver's ingenuity rather than on the capacity of the loom. Therefore one design medium which can widen the scope for the modern handweaver and prove a fruitful and satisfying experience, has been too often neglected: the technique of creating designs through patterns dyed into the yarns instead of through harness and heddle threadings. Such patterns are achieved through a method of resist dyeing of the yarns before they are woven, and fabrics in this technique are variously known as tied-and-dyed, chine', ikat or jaspé. (See derivation notes on page 11.) The technique seems to have been used throughout the textile-producing centers of the world from unrecorded times, and has continued to the present as a major design method in places where the history of handweaving has been uninterrupted from the primitive.

Although jaspé work is fairly common in India, Turkestan, Indonesia and some parts of Africa, the American weaver's source of interest in jaspé stems largely from the handwoven pieces produced in Guatemala and Mexico. The experience has recently been enriched by examples of beautiful jaspé work given in two portfolios: *A STUDY OF OKINAWAN TEXTILE FABRICS* by Toshio and Reiko Tanaka, published in Tokyo in 1952, and *FORTY HAND-WOVEN COTTON TEXTILES FROM JAPAN* by Shumi-No-Momen-Kenkyukai, prepared in Kyoto, Japan in 1956. The former portfolio consists of color plates of photographed textiles, whereas the latter consists of forty woven examples, each about six by seven inches, and in both the jaspé design technique dominates the collection.

Modern weavers have been unnecessarily discouraged in attempting jaspé designs, perhaps because most of the examples which come to us from primitive looms show design in the warp or in both warp and weft, and the method for dyeing patterns into warp threads seems too tedious for our awkward fingers. But there are also many examples of excellent weft jaspé, a technique quite practical for the modern weaver, to alleviate this superficial discouragement.

Typical of the complex warp jaspé is this pattern from Turkestan. A much simpler warp jaspé, which requires threads dyed in only four different patterns,

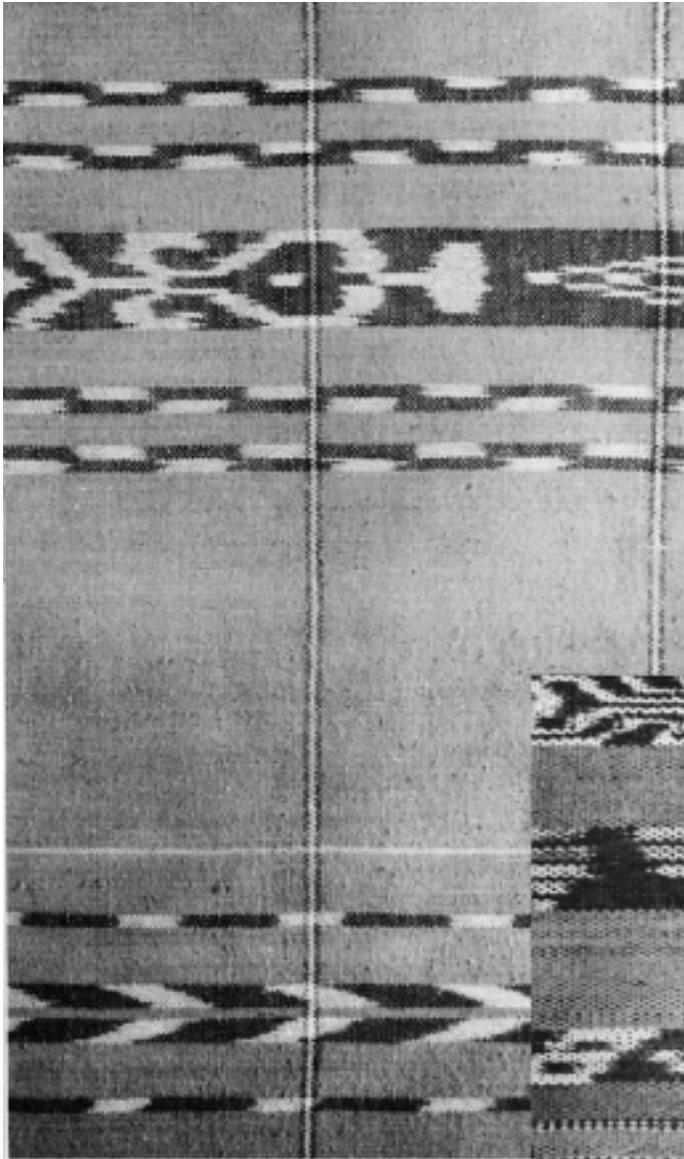
is the silk reboso from Mexico. A fine example of warp and weft jaspé is shown in the photograph of the modern Guatemalan skirt from near Quezaltenango; examination of this shows that most of the design is in the weft, with the majority of weft borders in simple structure, accented by some warp jaspé and plain warp stripes.



*Silk warp-rep jaspé reboso from Mexico. Black and white designs with color stripes.
Courtesy, Dorothea Hulse. (left)*

*A jaspé skirt yardage from near Quezaltenango, Guatemala. Cotton, green with black and
white. (right)*

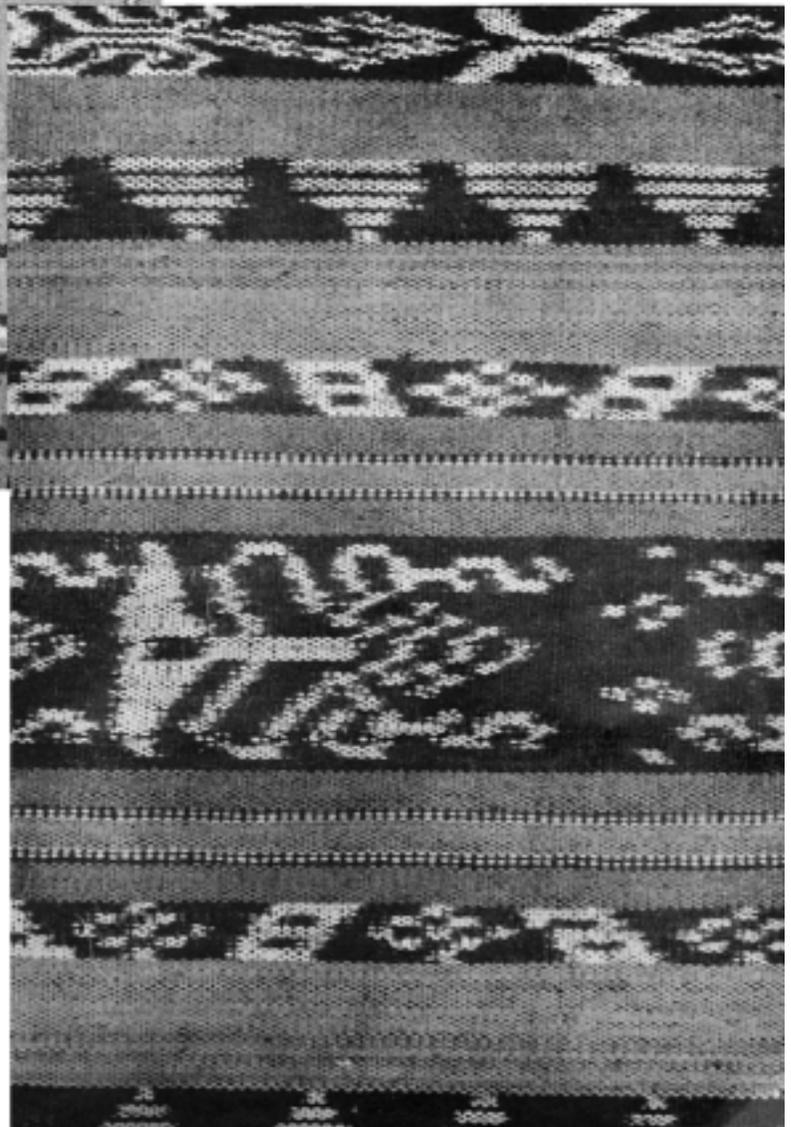


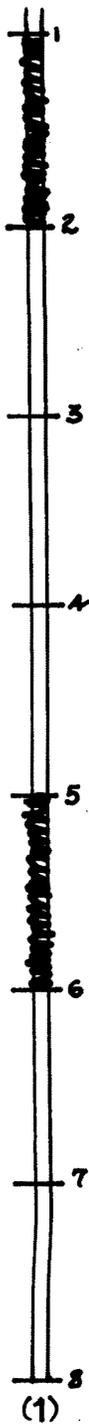


A jaspe skirt yardage from Santiago Atitlan, Guatemala. Cotton, red with black and white. (above)

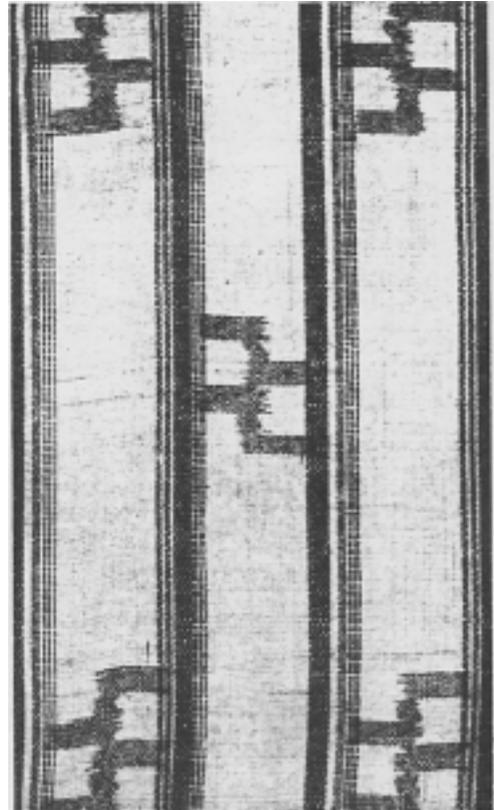
Shawl from Tonicapan, Guatemala. Gold and black botton jaspe and brilliant worsted stripes. Strong weft emphasis. (right)

Further Guatemalan textiles such as the skirt length from Santiago Atitlan and the gaily colored shawl from Tonicapan, show jaspe work in the weft only. The cover illustration shows a warp jaspe from the Kyoto Portfolio (Number 3), the designs composed of only one tie-dye pattern; whereas the illustration from the Okinawan Portfolio (next page) shows plain warp stripes with jaspe in the weft only, in a design which requires threads dyed in two patterns.





The Guatemalan weaver who wishes to produce simple weft jaspé is fortunate to be able to purchase skeins of the tie-dyed yarn in many of the village markets. The North American weaver is not so fortunate. Although commercially spot-dyed yarns in enchanting color combinations may be found on many yarn counters, these are not suited for producing jaspé designs because the span of any single color is too long to form a design when such yarns are woven. The North American handweaver must dye his own yarns. Fortunately, elaborate dyeing methods are not required, and the most interesting designs are accomplished with very simple patterns tied into the weft thread. Start with one tied arrangement and fairly heavy thread of a light color dyed to a dark color. For our own first experiments we used 10/2 cotton (Lily Article 314) in various light colors, and black Putnam dye.



*Weft Jaspé with Warp Stripes
Number 27, Okinawan Portfolio*

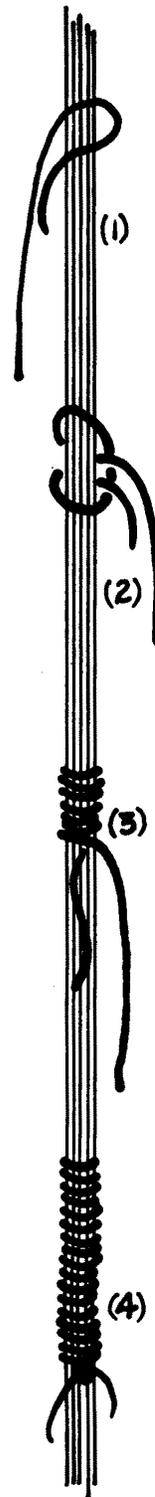
PREPARING THE TIE-DYE YARN. The first process is to wind the selected material into a taut skein. The skein length is not arbitrary, though the total number of inches of the skein's circumference should be divisible by four. Most of the skeins available in the Guatemalan markets are only twenty-four inches, though some are thirty-six. We wound ours two yards, using a horizontal warping reel. Many other winding arrangements would have served as well, provided the total distance around is carefully calculated and set: a squirrel-cage swift such as those made by Leclerc and by Gilmore which can be firmly clamped for any desired distance would be excellent, or three or four pegs of a warping board, or even heavy nails (dowels would be better) driven into a board. Perhaps the most practical winding frame would be the Gilmore-type Inkle loom, using the tensioner board for adjusting the skein length, releasing the tensioner when necessary during the tying process to move the skein to convenient positions. The skein for tying cannot be wound large, if the spots are to be spaced with the required accuracy. We found that about two hundred turns of the reel with the 10/2 cotton gave a workable skein. More turns could be made with fine material, and fewer with heavy material. When the desired number of rounds of thread have been wound, tie the begin-

ning and completing ends together and leave dangling, so that they may be found and the knot cut for the eventual bobbin winding.

Cut pieces of carpet warp about eighteen inches long for the ties. Snitch a length of carpet warp around the skein as shown in the diagram, leaving one end long and one end short. Pull the snitch very tight and let the short end hang down the skein. With the long end wrap very tightly and closely down the skein, incorporating the short end, for the desired length, making a double cover. When the desired length has been wrapped, tie the two ends together in a tight square knot. Snitch the next cord loosely below this and measure accurately from the top of the previous tie to the exact position where the top of the new tie should be; then tighten the cord at this point and wrap as before. Continue this around the entire skein. Perfect accuracy of measurement is necessary in order to make the distance between the first and last ties, when the circuit of the skein is completed, exactly the same as that between the other ties.

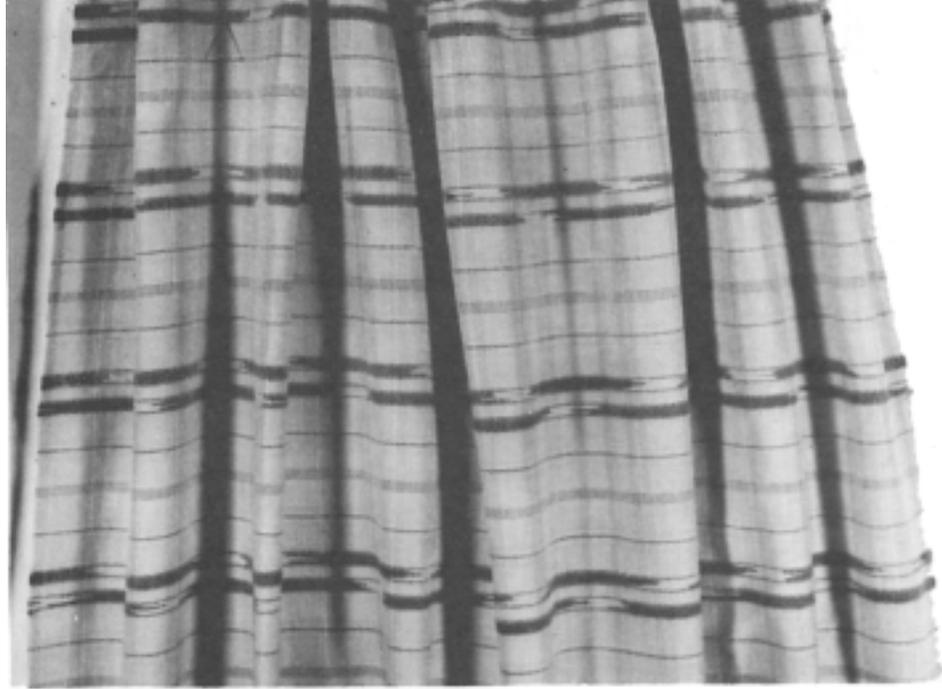
The next problem is determining the arrangement of ties. Four basic arrangements are diagrammed on the marginal sketches, all showing eight inches of skein in exact scale, with the inches indicated. The first one wraps an inch and leaves three inches unwrapped. The second wraps one inch and leaves one inch unwrapped. The third wraps one-half inch, skips one inch, wraps one-half inch, skips two inches. The fourth wraps two inches and leaves two inches unwrapped. Arrangements may be made on the basis of three-inch repeats if preferred. Any one of the given arrangements may be used alone for forming different design borders, or two patterned yarns may be used together to form more complicated patterns. As the weaver's experience increases, three and four different pattern yarns may be used together to form complex patterns, and the weaver who becomes truly intrigued with the technique will experiment with different tie spacings. Mrs. Atwater's article gives a clever method for creating the more elaborate borders, similar to the Guatemalan and the Turkestan ones illustrated.

When the ties are completed, the skein is removed from the reel or pegs and is ready for dyeing. Any good commercial dye is satisfactory for the weaver not particularly intrigued by home dyeing; while those weavers who find dyeing their own yarns one of the more fascinating facets of the craft will probably do extra special work here. We used drugstore package dyes, following the directions on the package, but increasing the proportion of dye per quantity of water and weight of yarn, and reducing the boiling time considerably, to give the dye bath less opportunity to penetrate the resist areas. Results were satisfactory and colors have proved fast. When the skein is completely dry, cut the knot at the bottom of each tie and unwrap. The Guatemalans and Mexicans slit the ties skillfully with a sharp knife and remove them at lightening speed, but our natural caution against the possibility of cutting one of the skein threads indicates the slower process of unwrapping. When loosened, the skein is ready to be wound onto bobbins for weaving. We found that there was shrinkage caused by the dyeing process, but this created no problem in the weaving.





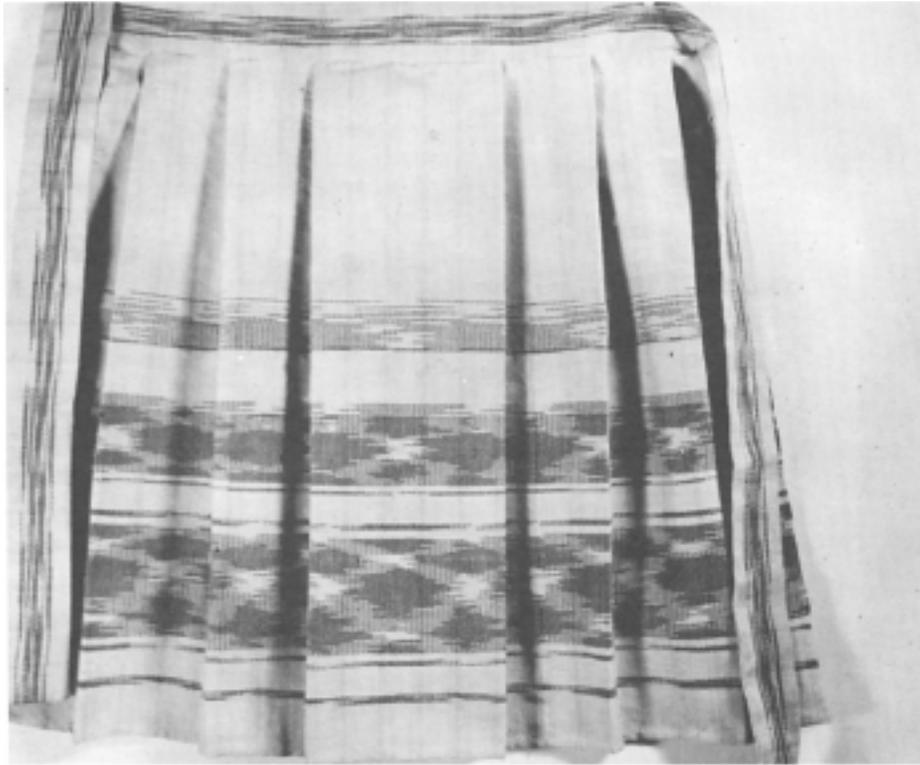
WEAVING BORDERS WITH TIE-DYE WEFT. The problem of forming design borders is simply that of arranging the spot areas in the shed so that the spots occur at the places desired. This may be done as suggested in Mrs. Atwater's article, by removing or adding warp ends at the edges so that the pattern spots coordinate exactly with the warp width. The stripes in Mrs. Shield's



Weft jaspé yardage, woven by Mrs. Geneve Shields, San Gabriel, California.

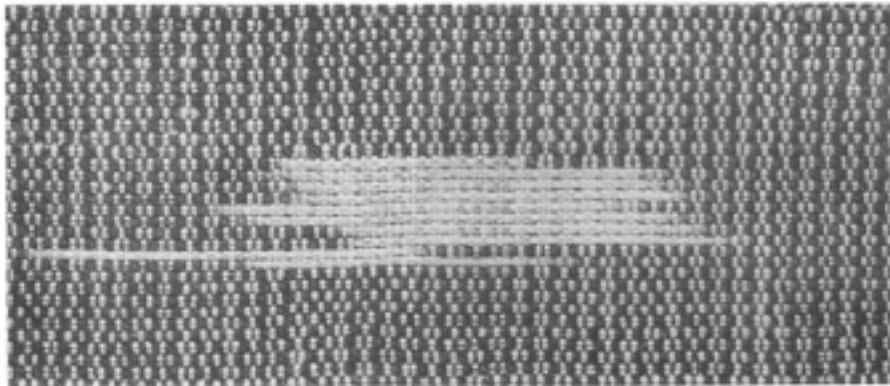
fabric show this coordination between warp width and spot arrangement: one shot of tie-dye weft was thrown and the spots arranged where desired; then the spots on the other three shots fell naturally into similar positions. Mrs. Edward's fabric shows an unexpected diamond pattern which emerged without any weft adjustment, on a warp in which the warp width and the spot arrangement were not in coordination. Pleasant, unplanned effects like the borders on this apron are one of the surprises in store for the jaspé weaver. The detail of this fabric shows a chain-like effect in the warp resulting from the sley of three per dent in a 15-dent reed. This texture is permanent when a fine, closely spaced warp is woven with a heavier, closely spaced weft. If such a warp is woven with identical weft, in perfectly balanced tabby as in Mrs. Shield's yardage, the warp groups adjust themselves when the fabric is washed, to a smooth, regular surface.

Both of the fabrics illustrated were woven in the Shuttle Craft studio on a warp of Joseph D. Acton 30/2 mercerized cotton, set at 45 ends per inch, three per dent in a 15-dent reed. The warp was mainly amber, but with a one-

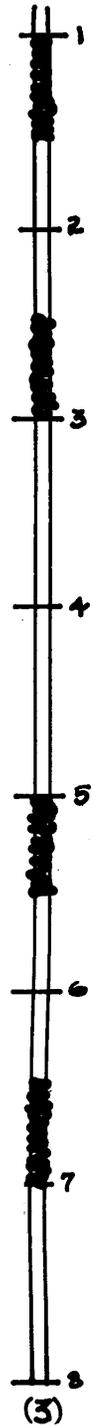


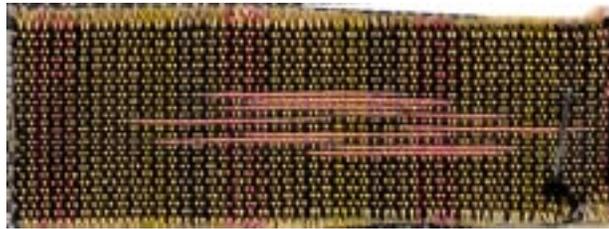
Apron with weft jaspe' borders, woven by Mrs. Elmeda Edwards, Portland, Oregon.

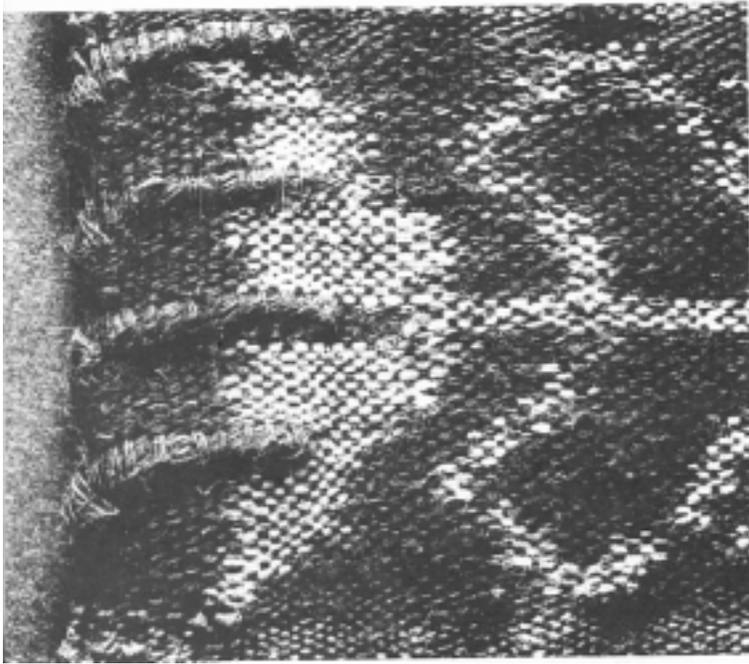
inch wide shadow stripe arrangement using rose and taupe. All of the weaving is on tabby sheds, so any threading which produces a tabby is suitable. Mrs. Shield's apron is woven in gold with stripes in black and turquoise (the turquoise color stripes do not show in the photograph) of 30/2 like the warp, with only the spot-dyed yarn in 10/2 (Lily, topaz dyed with black).



Enlarged detail of the Jaspe' spots showing warp groupings which occur from the 30/2 warp sleyed three per dent and woven with 10/2 cotton, without balance.

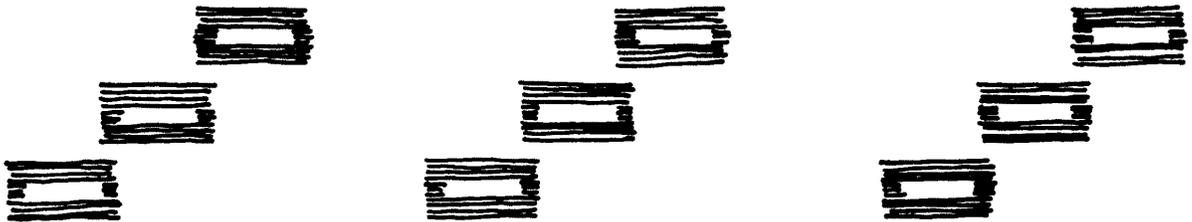






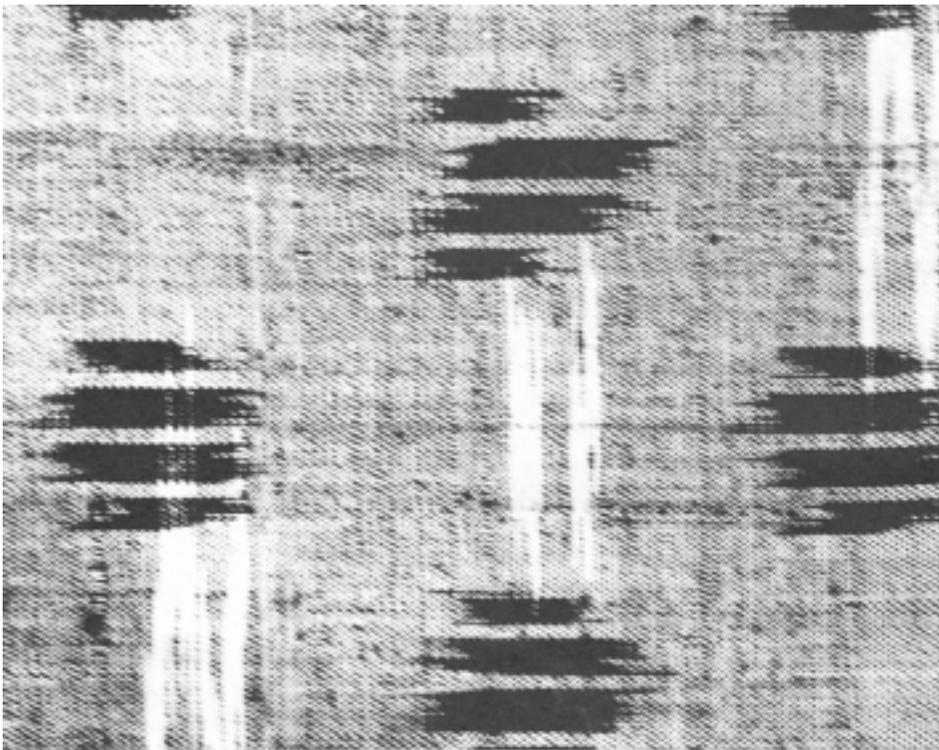
*Selvage detail from
the Totonicapán shawl,
showing treatment of weft loops.*

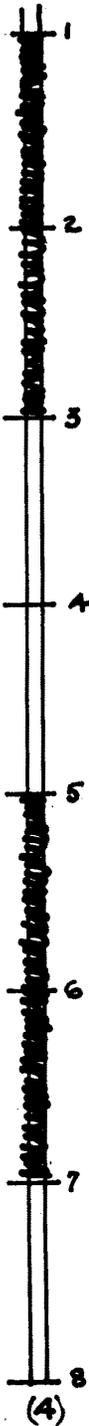
To form planned borders similar to those in the Japanese and Guatemalan fabrics, the North American handweaver must free himself of one of his most troublesome inhibitions—the selvage inhibition. He must shift his attention from the selvage to the design, and permit selvage irregularities to occur. Because each weft thread must be placed in the shed so that spots fall in exactly the correct positions, most of the wefts must be adjusted in the shed by leaving loops at the selvage. All of the Japanese textiles show this problem handled very casually: there are simply dangling loops. The Guatemalans are more particular about the regularity of the edges, but in a manner which is at first shocking to the North American weaver. The Guatemalan weaves several shots, allowing the loops to dangle; then he gathers the loops together, gives them a twist between the fingers, and thrusts the whole group into an open shed. This leaves a corrugated selvage, as illustrated, which is strong and neat and not offensive, once the handweaver frees himself of the misplaced emphasis of feeling that a machined-like selvage is paramount to design. Except for certain textiles such as table mats and other articles in which the selvages are part of the planned effect, selvage irregularities, especially when they are consciously allowed as adjustments to design, are not a sign of poor craftsmanship. Selvage irregularities are important only if they indicate lack of basic skill.



DESIGNING WITH WEFT JASPE: Jasper textiles woven on primitive looms usually have warp jasper designs in warp-emphasis or warp-rep fabrics because, on these primitive contraptions, it is easier to manipulate warps than to make sheds. The fabrics now being woven in Japan and the jasper skirt lengths one sees from Guatemala, are woven on treadle looms. The samples in the Japanese Portfolio are seven inches wide with one selvage, so that fabrics were obviously fourteen inches wide. Therefore it may be an adjustment to weaving economy that these are all slightly warp-emphasis, with the major designing in the warp. The wide Guatemalan skirt lengths, on the other hand, are sometimes in balanced tabby, but are more apt to be in weft-emphasis, though this emphasis is usually achieved through using a heavier weft yarn instead of weaving with more weft shots than warp ends per inch. Thus, it is plain that there are no balance rules for weaving jasper. Weave with balanced tabby, with warp or weft emphasis plain weave, or even with warp or weft rep. The weaver may handle the ratio of warp and weft density so as to produce the type of fabric and the design effect desired.

Restraint is the guide when using weft jasper. Just a few shots of the tie-dye yarn, judiciously arranged, can carry a strong design impact; while over-use of the spot-dyed yarns produces a jumble which speaks, "I didn't know what I was doing." In the Japanese fabrics, there are a number of examples of the jasper used for all-over patterns instead of stripes, but complex designs and spacings are avoided. The illustration here shows a combination of warp and weft jasper; but the white designs are so shadowy that the effect could have been achieved by a few threads of white spaced in the navy warp to coordinate with the positions of the spot designs.





The cover photograph shows one of the most beautiful of the jaspé stripe fabrics, worked with only one tie-dye yarn pattern: one inch wrapped and one inch unwrapped, repeated throughout. (The photograph is enlarged to show detail.) Reversing warp and weft arrangements for the convenience of the handweaver, the directions are as follows. Warp of plain white at the warp setting which would make a firm twill rather than a close tabby. Plain weave throughout with twenty-five per cent more weft shots per inch than warp ends. (For instance, use 30/2 cotton set at 40 ends per inch and weave with 50 shots per inch, or 24/2 cotton at 32 with 40 shots per inch) though the Japanese fabric is finer with 80 warp per inch to 64 weft ends. Weft colors are medium tan for the background, the same dyed with dark brown for the jaspé, and plain dark brown for the alternate brown and tan stripes; the accent color here is brick red, achieved by alternating bright red with medium brown.

- Weave
- 1: 66 shots tan
 - 2: 8 shots red and medium brown alternated
 - 3: 4 shots tan
 - 4: 10 shots jaspé yarn
 - 5: 4 shots tan
 - 6: 4 shots red and brown alternated
 - 7: 4 shots tan
 - 8: 10 shots jaspé yarn, spots placed in opposite positions to 4
 - 9: repeat stripes 7, 6, 5, 4, 3, 2
 - 10: 48 shots tan
 - 11: 16 shots dark brown and tan alternated
 - 12: repeat stripes 5, 6, 7, 8, 7, 6, 5
 - 13: 16 shots dark brown and tan alternated
 - 14: 48 shots tan
 - 15: 8 shots red and brown alternated
 - 16: 4 shots tan
 - 17: 6 shots jaspé yarn
 - 18: 4 shots jaspé yarn spots placed on over lapping position
 - 19: 4 shots red and brown alternated
 - 20: repeat stripes 18, 17, 16
 - 21: 4 shots red and brown alternated
 - 22: repeat stripes 20, 19, 18, 17, 16, 15, figures oriented in opposite direction. Repeat this throughout.

The color effects of the Japanese fabrics are rich but reserved. Most of them show the strong value contrast of white with navy blue or dark brown, and sparkle added by restrained use of one or two warm colors. These sharp value contrasts are effective however because of the very fine yarns used. If the yarns are coarse enough to require a set of less than 40 ends per inch, it is wise to avoid the use of colors which give anything approaching a black-and-white contrast, or unpleasant salt-and-pepper effects will result. The Guatemalan fabrics, on the other hand, are often much coarser and employ the black and

white or dark blue and white jaspé yarns, in conjunction with plain color stripes in an assortment of very brilliant colors. These textiles are unpleasantly garish when new. They do not become beautiful until many washings and the brilliant sun have softened the poorly-dyed colors to dull, mellow tones.

PRACTICAL APPLICATIONS FOR THE JASPE' TECHNIQUE. Designs in the jaspé technique offer a rich field for handweavers, and impart a characteristic handwoven quality. Although cotton is the most common material for tie-dye yarns and yardage materials for clothing fabrics and accessories (skirts, blouses, aprons, men's shirts, childrens' clothes), the technique could be much more widely adapted. It should be quite appropriate in worsted yarns for stoles, afghans, baby blankets, full size blankets, and even for sport jackets. And in any yarn which can be dyed easily at home for bed spreads, draperies, upholstery and many other functions. Linen, because of its dyeing problems, would be an unlikely fiber.

