

# PROGRESSIVE RANDINGS: CROSSOVER-RANDINGS & WRAP-RANDINGS



## Plate1: Whitecaps Basket

Maker: Flo Hoppe

Materials: Natural round reed, dyed flat-oval reed

Dimensions: 4.5" H.; 10.5" top diameter

Techniques: The major design feature of the basket is the mid-section worked in *basic wave crossover-randing* which is bordered above and below with two rows of three-rod wale. With 33 warps (4x+1) the design spirals upward to the left.

Photography by John C. Keys

Having concluded our discussion on French randing and its variations we are focusing this article on more multiple-weaver randings that we've categorized under the term, "**progressive randings**". Progressive randings are woven in steps with a specific progression for each of the weavers. At least one of the weaving elements is worked with an over/under randing stroke. Differences in working methods as well as differences in size, flexibility, and materials of the weavers are key to creating the overall design. One of the weavers is the dominant one (wider and stronger); we call this element the "**core-weaver**" or simply "**the Core**". Finer weavers engage the randed core element during their over/under weaving movements adding strength and creating distinctive patterns. We've used the method of engagement of these decorative weavers to further define the subcategories: "**crossover-randings**" in which the flexible "**crossover-weavers**" cross over the core element during their weaving stroke and "**wrap-randings**" where decorative "**wrap-weavers**" are worked in a forward spiral movement that "wrap" the Core. The number of weaving elements, variations in technique, choice of color and weaving material offer a wide variety of design possibilities. While we first observed these techniques on Japanese bamboo baskets, we recognize that they lend themselves to a large variety of materials. Most examples provided are made with dyed round and flat reed (rattan) with color used as a major part of the design. At the end of this

article we present a "**complex crossover-randing**" and a few creative possibilities for these weave structures. Note: The new terminology presented in this article is based on a more complete analysis of the techniques presented in the two editions of *Contemporary Wicker Basketry: Projects, Techniques, Inspirational Designs* authored by Flo Hoppe in 1996 (Lark Books) & 2005 (self-published) under the names "Japanese diamond weave", "basic wave weave" and numerous "wave weave variations". Illustrations and working methods included in those publications have been revised and new illustrations added to bring a new presentation and over-all understanding of these progressive randings. Some of the basket images also appear in those publications.

## Crossover-Randings

**Basic wave crossover-randing**, also known as "basic wave weave", is a two-step progressive randing where both the wide core-weaver and the flexible crossover-weaver are worked with a repeated basic randing stroke. We've chosen this name because of the up-and-down "wave-like" movement of the decorative crossover-weaver, which we call the "**wave-weaver**". Worked over an odd number of warp elements, this weave structure creates predominant upward spirals slanting in one direction with interrupted diagonals between the spiral lines (resembling broken waves going in the opposite direction). The decorative patterns are created by the wave-weaver while the

randing of the wide core-weaver creates the background to the over-all design. When the number of warp elements is a multiple of four plus one ( $4x+1$ ), the pattern spirals upward to the left as shown on Flo Hoppe's "Whitecaps Basket" (Plate 1), which has 33 warp elements. The two-step working method is illustrated in *Figure 1: Basic Wave Crossover-Randing with  $4x+1$  Warps*. The complete weaving stroke for both weavers is over-one/under-one/over-one/under-one. The Core, started behind Warp 1, is always worked first (exiting to the outside between Warp 5 & Warp 6), and followed by the wave-weaver, which is started behind Warp 2 below the core. This crossover-weaver was brought diagonally UP across Warp 3 and behind Warp 4 above the Core, then continued diagonally DOWN across Warp 5 (crossing the core again) and exited to the outside between Warps 6 and 7. This two-step sequence is repeated as shown in *Figure 1a: Two-Step Weaving Sequence*. Note: the repeat weaving for the core element (shown with dots) must precede the up-and-down weaving of the wave-weaver. As shown in the illustration, it is necessary to lift the core element so that the wave-weaver can go under the core and under Warp 10 and exit to the outside at the bottom in the warp space to the right of the Core. Since this pattern sequence covers a four-warp span, and there are  $4x+1$  number of warps, the slanted diagonals are created naturally by the "down-strokes" of the wave-weaver as one row builds upon the other; see *Figure 1b: Second Row of Weaving: Design Spirals Up to the Left*. The working method is exactly the same when there are  $4x-1$  number of warps, however, the spiraling lines will build on the "up-stroke" of the wave-weaver, creating an over-all design with upward right-slanting diagonals. Altering the width of the core-weaver, combining basic wave crossover-randing with wrap-randings, and grouping the warp elements are some of the ways to expand the design possibilities as shown in Keiko Takeda's basket featured in Plate 2.



### Plate 2: Untitled

Maker: Keiko Takeda, Tokyo, Japan

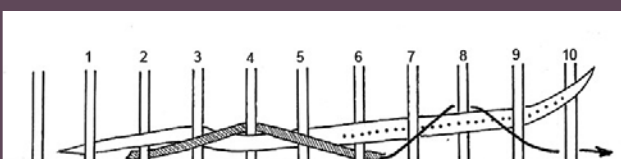
Material: Dyed rattan

Techniques: *Basic wave crossover-randing* worked over  $4x+1$  number of warps makes the upward left-slanting spiral pattern on this basket. Part way up the side, an additional blue-dyed wrap-weaver has been added which doubles the over-one down-stroke, creating a more prominent upward left-slant diagonal. The spacing of the warp-units (four are treated as a single unit) as well as the width of the core element influence the design: the core-weaver is created from four round-reed elements at the base; near the top of the basket it is reduced to three, then two, and finally a single round-reed. A band of three-rod wale caps the basket.

Photography by Yoshihiko Naka

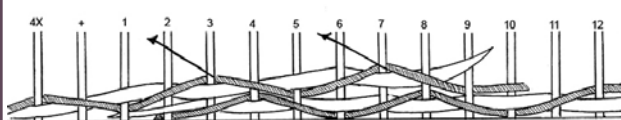
Another decorative crossover-randing used for side weaving is **diamond crossover-randing** (also known as "diamond weave") which has three weaving elements: a wide core-weaver and two flexible crossover-weavers which we've labeled Wave-Weaver A (started first) and Wave-Weaver B. It is a four-step progressive randing. The core-weaver is randed with a simple over-1/under-1 stroke before working the up-and-down o1/u1/o1/u1 "wave-like" stroke for each of the wave-weavers. The "up-stroke" of one wave-weaver always crosses over the "down-stroke" of the other wave-weaver on alternate warps creating the distinctive diamond pattern. With the background core-weaver worked in plain weave and both wave-weavers being the same color or material, the pattern can appear as large alternating diamonds as featured on Flo Hoppe's "Magazine Basket" (Plate 3). "Diamonds and Diagonals Basket" (Plate 6) and Keiko Takeda's "Cosmos I & II" (Plate 7) also have alternating diamond weave as part of their over-all design. It takes three rows of **alternating diamond crossover-randing** to give the larger diamond design. The first three parts of *Figure 2: Alternating Diamond Crossover-Randing* illustrate the working method (which is the same for all diamond crossover-randings). As illustrated in *Figure 2a: Beginning All Elements*, it starts with the Core, which is started behind Warp 1, worked over Warp 2 and under Warp 3 (to the outside). Wave-Weaver A is started above the core-weaver (behind Warp 2) while Wave-Weaver B is also started behind Warp 2, but below the core-weaver. As mentioned, the over-one "down-stroke" of the crossover-weaver is woven first, therefore, the initial crossover-movement is Wave-Weaver A over-one down (crossing over Warp 3) and under Warp 4, exiting to the outside below the Core. After this start for all three elements, the repeated four-step progressive randing sequence begins. It is helpful to notice: whenever the three weaving elements exit in three consecutive warp spaces, the core-weaver will be in the center and it is also the next weaver to be worked. The four-step progressive randing

**FIGURE 1: BASIC WAVE CROSSOVER-RANDING WITH  $4X+1$  WARPS**



**Figure 1a:**

Two-Step Weaving Sequence



**Figure 1b:**

Second Row of Weaving: Design Spirals Up to the Left





**Plate 3: Magazine Basket (above)**

Maker: Flo Hoppe

Material: Varying sizes of natural round reed, dyed 1/2" flat reed for core-weaver

Dimensions: 22"x 14" x 10"H

Techniques: The row-by-row alternating diamond crossover-randing is the major design feature of this basket with 46 warps. Above and below the decorative side weave are bands of three-rod wale in natural reed. Basic rolled border tops the basket and the handle is worked with a double cross-wrapped rope handle.

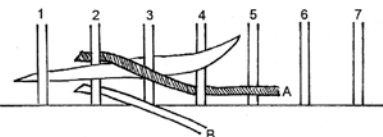
Photography by John C. Keys

sequence is shown in *Figures 2b & 2c*. As illustrated in *Figure 2b: First Two Steps*: the Core is woven over Warp 4 and under Warp 5 (shown with dots), followed by the up/down o1/u1/o1/u1 weaving of Wave-Weaver B (which had been the left weaver). After completion of this step (as illustrated) the three elements will again exit from consecutive warp spaces, but Wave-Weaver A will be on the left. *Figure 2c: Next Two Steps*, shows how the central core-element is woven first over-Warp 6/under-Warp 7 (shown by dots), followed by the up/down o1/u1/o1/u1 crossover movements of Wave-Weaver A which exits outside, right of Warp 8. This four-step progression (Figs. 2b & 2c) is repeated again and again. The last part of the illustration *Figure 2d: Transition to Second Row of Diamond Crossover-Randing* shows how all the elements can make a continuous transition to the next row of weaving when there is 4x+1 number of warps.

Alternating diamonds can also be created with an even number of warps by working the core-weaver row-by-row (overlapping the ends of the core-weaver) and bringing the wave-weavers under two warps as they transition to the next row of weaving. Flo Hoppe's "Magazine Basket" (Plate 3) uses this technique. *Figure 3: Alternating Diamond Crossover-Randing with Row-By-Row Core* illustrates the working method. To complete the first row, the wave-weaver which crosses down across Warp 1 has to be brought to the inside and at this time the ends of the wide core-weaver of the first row need to be overlapped and secured *before* that weaver

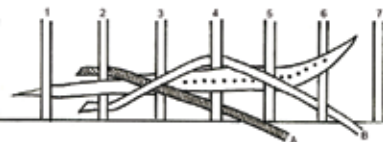
is brought up *under* Warps 2 and 3 exiting to the outside in the warp space between Warps 3 & 4 above the core-weaver of the first row. It's ready for weaving the second row. The next step is to begin the wide core-weaver for the second row: anchor the end behind Warp 2, and work the Core over Warp 3 and under Warp 4. After that step, the other wave-weaver can complete row one and begin row two at the same time with an altered transitional (row-to-row) up/down over-1/under-2/over-1/under-1 "wave-like" stroke. The first over-1 (up-stroke) diagonally crosses the other wave-weaver on Warp 1 of the first row, then it is brought to the inside between Warps 1 & 2 (above the core-weaver of the first row) and under Warps 2 & 3 (and behind the randed core-weaver of the second row) coming to the outside right of Warp 3 *above* the second row core-weaver. The second o1/u1 down-part of the "wave" is completed by working it diagonally down across Warp 4, and under Warp 5 exiting to the outside below the new core-weaver. The four-step progression is repeated with the core-element being worked over-1/under-1 before each of the wave-weavers, until the second row is completed in a similar fashion. As the diamond crossover randing is continued, building row-upon-row, the overlapping ends of the next core-weaver are stepped to the right. Whatever the working method or the number of warps, alternating diamond crossover-randing can be applied to many different structures. We've seen stunning large Japanese natural bamboo baskets with the entire vessel worked with this technique,

**FIGURE 2: ALTERNATING DIAMOND CROSSOVER-RANDING**



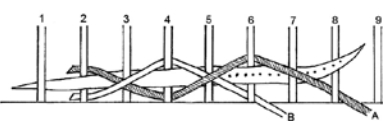
**Figure 2a:**

Beginning All Elements: Core o1/u1, Weaver A o1/u1, start Weaver B below



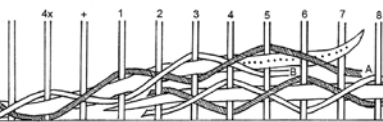
**Figure 2b:**

First Two Steps: Core o1/u1, then Wave-Weaver B



**Figure 2c:**

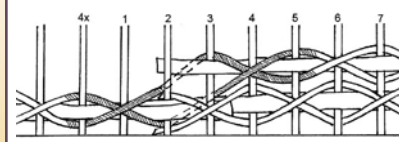
Next Two Steps: Core o1/u1 then Wave-Weaver A

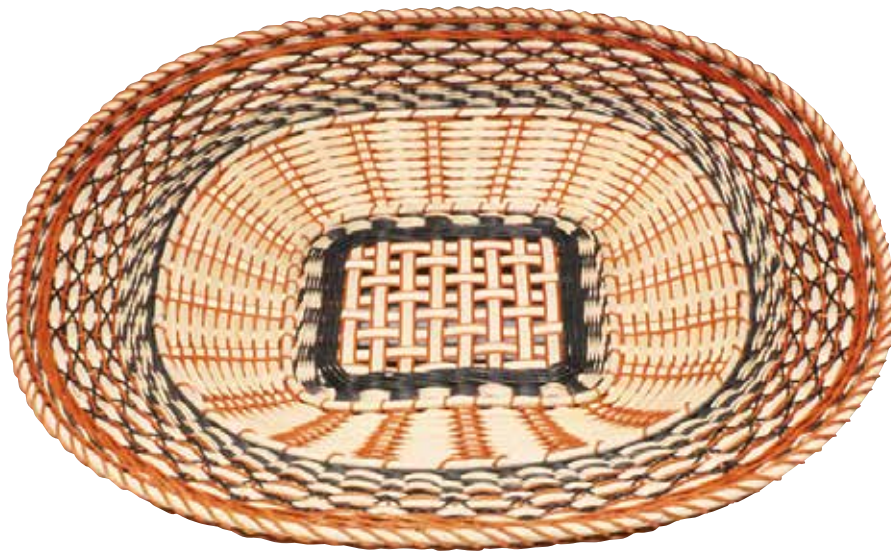


**Figure 2d:**

Transition to Second Row of Diamond Crossover-Randing, 4x+1 warps

**FIGURE 3: ALTERNATING DIAMOND CROSSOVER-RANDING WITH ROW-BY-ROW CORE**





#### Plate 4: Untitled Plate

Maker: Sally Metcalf

Material: Dyed and natural rattan

Dimensions: 25" x 19"

Techniques: 2/1 twill plaiting (base), twining, ti-twining, chase randing, diamond crossover-randing and basic randing. As the structure increases in diameter, more warps (flat reed with orange round reed on each side) are added at each corner, and then, after the second row of ti-twining they are separated into wide flat warps alternating with smaller round warps. Four rows of *alternating diamond crossover-randing* (the core-weaver is a wide flat natural reed and the wave-weavers are blue-dyed round reed) add to the over-all design. Each row of diamond crossover randing is separated by a single row of basic randing with a round orange weaver.

Photo courtesy of the artist

#### FIGURE 4: VERTICAL DIAMOND CROSSOVER-RANDING WITH 4X WARPS

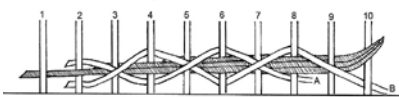


Figure 4a:

Beginning Diamond Crossover-Randing with Triple-Core

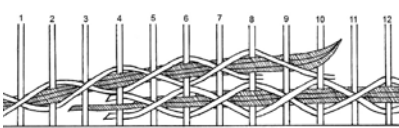


Figure 4b:

Stacking Core Elements with Second Row of Weaving

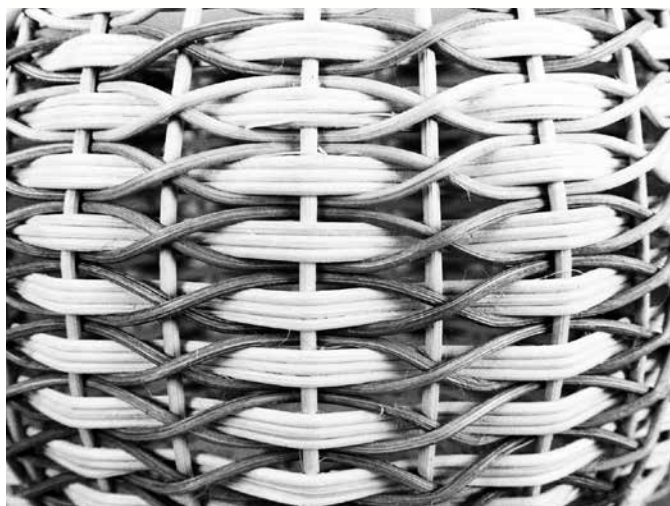
on the other hand, many artists enjoy combining diamond weave with other weaves and using lots of color. See Sally Metcalf's "Untitled Plate" featured in Plate 4. The combination of weaves, color and choice of materials as well as spacing of the warp elements influence the design.

A very different pattern is created in **vertical diamond crossover-randing**, which requires an even number of warps. This technique is also a four-step progressive randing with the same beginning and the same sequence of steps: (1) weave Core o1/u1, (2) weave left wave-weaver up/down o1/u1/o1/u1, (3) weave Core o1/u1, and (4) weave left wave-weaver (it will be the other one) up/down o1/u1/o1/u1. The difference is in the manipulation of the core-weaver that goes over-and-under the same warps in every row of weaving, "**stacking**" the core-weaver. Likewise, the wave-weavers cross each other on the same alternate warps in every row. As a result, these crossover-weavers create a vertical chain of small diamonds on odd warps while the stacking of the core element creates vertical bars on the even warps as seen in Plate 5: "Vertical Diamond Weave". The working

method is illustrated in *Figure 4: Vertical Diamond Crossover-Randing with 4X Warps*. Another interesting design feature on this basket is its "triple-core" element created by uniting three smaller round weavers. A smooth transition is possible by staggering the start of each round core-weaver behind alternate warps (Warps 1, 3, & 5) as illustrated in *Figure 4a: Beginning Diamond Crossover-Randing with Triple-Core*. If the core element were a flat weaver this weave structure could be woven row-by-row (overlap ends) in a manner similar to *Figure 3*, however, with a triple-core it is preferable to make a continuous transition from one row to the next as illustrated in *Figure 4b: Stacking Core Elements with Second Row of Weaving*.

#### Wrap-Randings

Two-element wrap-randings are also two-step progressive randings, which begin with a repeated basic (o1/u1) randing of the core-weaver, followed by a forward spiraling "wrapping" movement of the other weaver, what we call the "**wrap-weaver**". The over/under plain weave randing of the core element creates the background to the upward spiraling design created by the up or down wrap-movements of the wrap-weavers. In titling these wrap-randing techniques we have listed the up-movement followed by the down-movement of the wrap-weaver. It is the



#### Plate 5: Vertical Diamond Crossover-Randing

Maker: Theresa Ohno

Material: Natural and dyed rattan

Techniques: An even number of warps is required to make this basket woven with *vertical diamond crossover-randing*. The stacked tripled core elements create the prominent light columns that alternate with the vertical chains of "diamonds" created by stacking "the crossings" of the wave-weavers.

Photography by John C. Keys





## Plate 6: Diamonds and Diagonals Basket

Maker: Flo Hoppe

Material: Natural round reed and dyed flat-oval reed (core-weave)

Dimensions: 14" x 9 3/4" x 9 3/4" H

Techniques: The decorative side weaving is created by *diamond crossover-randing* and *two-element wrap-randing*. This basket has 39 warps (4x-1), thus the central right-slanting diagonal lines are created by an o1/u3 wrap-weaver. Three-rod wale is worked below and above the design area, framing the pattern area and strengthening the basket.

Photography by John C. Keys

over-one part of the movement that determines the spiral design. The number of warps and the method of wrapping influence the over-all design. When the number of warps is a multiple of four minus one (4x-1) and the wrap-weaver is worked with an up-wrap over-1 movement the technique creates a pattern with upward right-slant diagonal lines. We have titled it: **"over-1/under-3 wrap-randing (4x-1 warps)";** see *Figure 5*. This technique is used in "Diamonds and Diagonals Basket" (Plate 6). The progressive working method is illustrated in *Figure 5a*: *Step Sequence: Core o1/u1/o1/u1, then Weaver o1/u3 out*. The dots in the diagram show the second repeat for the Core, which was worked over-Warp6/under-Warp7/over-Warp8/under-Warp9 and is shown exiting to the outside to the right of Warp 9. The active weaver is now Wrap-Weaver A which is worked over-1/under-3: going diagonally UP over Warp 7 (crossing the Core) and then it is brought diagonally down *behind* the Core and the next three warps, Warps 8, 9, and 10, exiting to the outside between Warps 10 and 11 as indicated by the arrow. This two-step sequence is repeated again and again. Because the pattern unit requires four warps and the number of warps is 4-1, the upward right-slanting over-one movements of the wrap-weaver are shifted one warp to the right with each row of weaving. After a number of rows of weaving the overall design is apparent: the upward right-slant diagonals begin on every 4th warp where the wrap-weaver is worked over one warp (Warps 3 & 7) while the under-3 movements separate the diagonals as illustrated in *Figure 5b*: *Building Right-Slanting Diagonal Pattern*.

While it is possible to work this same technique over 4x+1 number of warps, the results may not be what is desired: all the

slanted diagonal lines are interrupted and the spiraling lines are lost. However, if the number of warps is 4x+1, it is possible to create left-slanting diagonal lines by using a down-slant over-one movement for the wrap-weaver. The technique is titled **"under-3 /over-1 wrap-randing (4x+1 warps)";** see *Figure 6*. The beginnings for the weavers and the wrapping method are different from the previous technique. While the core element is started behind Warp 1, it is only worked o1/u1 (over-Warp2/under-Warp3) for its beginning. This wrap-weaver is started *above* the Core and worked over-1: going diagonally *down* over Warp 3 and exits to the *INSIDE* under the core-weaver. Now the regular two-step progressive sequence starts as indicated in the illustration: the dots show the o1/u1/o1/u1 weaving stroke of the core-weaver which has been worked overWarp4/underWarp5/overWarp6/underWarp7 exiting to the outside between Warps 7 & 8. The under-3/over-1 wrapping movement for the wrap-weaver is shown with the arrow. Starting from the *inside* it is worked diagonally UP to the right *behind* the randed core-weaver and Warps 4, 5 & 6, then it is brought to the outside between Warps 6 & 7 (above the Core) and worked diagonally DOWN (to the right) crossing Warp 7 and exits to the *INSIDE* below the core-weaver. See how the core-weaver is lifted to open up the space for the inward movement. This wrap-randing technique is more challenging to execute than o1/u3 wrap-randing where all the elements exit to the outside of the basket. Keiko Takeda combined the u3/o1 wrap-randing with basic wave crossover-randing to add emphasis to the left-slant diagonals in her basket featured in Plate 2. What about combining these two different wrap-randings into one technique? It is a

## FIGURE 5: OVER-1/UNDER-3 WRAP-RANDING (4X-1 WARPS)

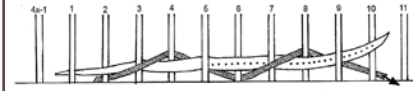


Figure 5a:

Step Sequence: Core o1/u1/o1/u1, then Weaver o1/u3 out

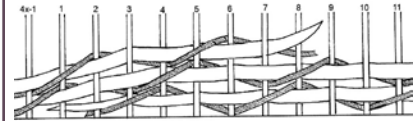
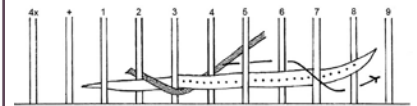


Figure 5b:

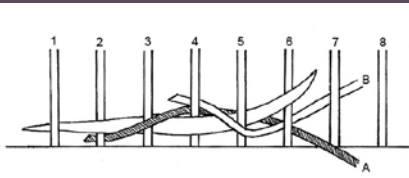
Building Right-Slanting Diagonal Pattern

## FIGURE 6: UNDER-3 /OVER-1 WRAP-RANDING (4X+1 WARPS)



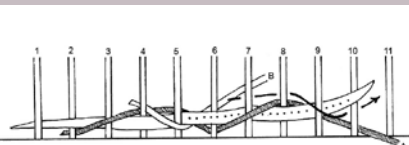
**3-element wrap-randing.** We call it **"combined over-1/under-3 & under-3/over-1 wrap-randing"**. That is what Keiko Takeda has done in her baskets featured in Plate 7: "Cosmos I & II". It is fascinating how these two vessels are so similar and so different at the same time (color choice and warp number are critical). By using three different colors for the core element and each of the wrap-weavers, the patterns of the design are highlighted: the background is one color, the upward-spiraling diagonal lines are another color, and the interrupted diagonals (small waves which are between the diagonals) are a different color. We have illustrated the working method for this three-step progressive randing in *Figure 7: Combined Over-1/Under-3 & Under-3/Over-1 Wrap-Randing*. The beginning is different for each weaver in this three-element

**FIGURE 7: COMBINED OVER-1/  
UNDER-3 & UNDER-3/OVER-1  
WRAP-RANDING**



**Figure 7a:**

Beginning All Elements



**Figure 7b:**

Three-Step Sequence: Core o1/u1/o1/u1, Wrap-Weaver A o1/u3, Wrap-Weaver B u3/o1 inside

wrap-randing as illustrated in *Figure 7a: Beginning All Elements*. The Core is started behind Warp 1 and worked first: over-Warp2/under-Warp3/over-Warp4/under-Warp5 exiting to the outside as shown between Warps 5 & 6. After anchoring the end of Wrap-Weaver A (behind Warp 2) below the core element, it can work its full o1/u3 wrapping stroke: diagonally UP crossing over Warp 3 (and the core) then to the inside, continuing diagonally DOWN behind the randed Core and under Warps 4, 5, & 6 exiting to the outside at the bottom between Warps 6 & 7, the warp space to the right of the core-weaver. Wrap-Weaver B is started behind Warp 4 above the Core and worked diagonally DOWN over Warp 5 and then exits to the INSIDE between Warp 5 and Warp 6 - atop Wrap-Weaver A and under the core-weaver (which is lifted to open up space for this movement). The full three-step progressive randing sequence is shown in *Figure 7b: Three-step Sequence: Core o1/u1/o1/u1, Wrap-Weaver A o1/u3, Wrap-Weaver B u3/o1 inside*. The dots show how the Core has been woven over-Warp6/under-Warp7/over-Warp8/under-Warp9 exiting to the outside. Wrap-Weaver A is worked diagonally UP over Warp 7 and then moves to the inside where it goes behind the Core and diagonally down under Warps 8, 9 & 10 exiting to the outside at the bottom to the right of the core element in the space between Warp 10 and Warp 11. The last

weaver in the progressive sequence is Wrap-Weaver B worked diagonally UP behind the Core and under Warps 6, 7 & 8 where it shifts to the outside between Warps 8 & 9 (above the Core) and is worked diagonally down across Warp 9 and then worked to the INSIDE below the Core between Warps 9 & 10 (on top of Wrap-Weaver A).

**Complex Crossover-Randings and Creative Possibilities**

There are so many possibilities for crossover-randings and wrap-randings that we have just touched the surface, so to speak. After finding an interesting Chinese basket (Plate 8: "Asian Import") and analyzing its techniques, Flo Hoppe simplified them and created her own interpretation incorporating color to highlight the design, see Plate 9: "Chinese Lantern Basket". This three-element crossover-randing has two, very different core-weavers (designated as "Core-X" and "Core-Y"), which are twill-randed and only one crossover-weaver that crosses over both of the twill-randed core elements during its up/down "wave-like" o1/u1/o1/u1 weaving stroke. We call it: "**complex wave crossover-randing with two under-3/over-1 twill-randed cores**" and present the working method in *Figure 8*. Each of the three elements is started behind a different warp as illustrated in *Figure 8a: Beginning the Three Elements*. The wide Core-X (started behind Warp 1 with its tapered end worked under three warps) is worked over Warp 2 and exits to the inside between Warps 2 & 3; then Wave-Weaver A (started behind Warp 2 above Core-X) is begun with just an over-1/

under-1 down-slant stroke: going over Warp 3 and under Warp 4 exiting to the outside between Warps 4 & 5. The end of Core-Y is anchored behind the third Warp (behind the woven wave-weaver and below Core-X) and worked over Warp 4 above Wave-Weaver A and brought to the inside below Core-X. *Figure 8b: Three-Step Weaving Sequence* illustrates the three-step progression. Notice that both core-weavers begin on the inside and also exit to the inside after their over-1 movement. This is the sequence: Core-X under-3/over-1 to the inside (shown with dots); followed by the o1/u1/o1/u1 movement for Wave-Weaver A: diagonally UP crossing over the next Warp 1, under Warp 2 above Core-X and then crossing diagonally down to the right over Warp 3 and under Warp 4 exiting to the outside at the bottom right. The third and final progressive movement is the u3/o1 randing of the smaller Core-Y (which starts from the inside of the basket) is brought under warps 1, 2, & 3 and behind twill-randed Core-X, then brought to the outside between Warps 3 and 4 (going under the wide Core-X and on top of the Wave-Weaver A) then it goes over Warp 4 and exits to the inside as shown with the arrow. This movement results in "locking" the wave-weaver in place. After numerous repeats of this three-step sequence, it becomes apparent that U3/O1 Twill-Randed Core-X is always above U3/O1 Twill-Randed Core-Y and that Wave-Weaver A crosses over BOTH of these twill-randed core-weavers as it is worked in its up/down wave-crossover movement. The design that develops as each pattern row builds up the other is quite stunning. With this weave structure, the



**Plate 7: Cosmos I & II**

Maker: Keiko Taketa, Tokyo, Japan

Material: Dyed rattan

Dimensions: 9" x 10"; 12" x 5"

Techniques: These two vessels are worked with the same techniques: diamond crossover-randing and 3-element wrap-randing. The different slants to the spiraling design are created by the difference in number of warps: tall basket is 4x-1, while the short one is 4x+1. Three smaller round weavers form the wide tripled core-weaver, which creates the plain-woven background in both baskets. Three different colors accent the design: the green background of the core weaving, the natural light-colored round reed for one wrap-weaver (the white spirals), and the other blue-dyed wrap-weaver create the "broken waves" between the spiraling lines. In the tall vessel the upward right-slanting spiral is created with the o1/u3 up-stroke of the natural-colored wrap-weaver, while in the shorter basket left-slanting light spiral is created by the down-stroke of the u3/o1 wrap-weaver.

Photo courtesy of the artist



### Plate 8: Asian Import

Unknown Maker

Material: Willow and what appears to be natural and dyed cornhusks

Techniques: This basket was the inspiration for the Chinese Lantern Basket featured in Plate 9. Worked with a *complex wave crossover-randing*, in a technique similar to Hoppe's basket. In this basket vertical columns created by stacking the wide core-element (natural cornhusks) are worked over doubled warps. The smaller core-element is the same dyed husk material that is used for the wave-weaver.

Photography by Michael Fanto.



### Plate 9: Chinese Lantern Basket

Maker: Flo Hoppe

Material: Natural round reed, dyed round reed, dyed flat-oval reed

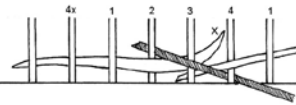
Dimensions: 8" x 8" x 5 1/2"H

Techniques: Complex wave crossover-randing creates the central design in this basket with 40 warps. The use of three different colors enhances the design: the dark green vertical bars of color on every 4th warp are created by the wider core element. Similar narrower vertical columns are created by the red round-reed core-weaver. Both are worked with an under-3/over-1 twill-randing. The left-slant and right-slant blue columns are created by the over-one up-strokes and down-strokes of the blue-dyed wave crossover-weaver as it crosses over both core elements.

Photography by Michael Fanto.

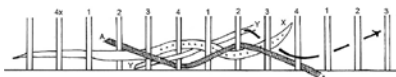


**FIGURE 8: COMPLEX WAVE CROSSOVER-RANDING WITH TWO UNDER-3/OVER-1 TWILL-RANDED CORES**



**Figure 8a:**

Beginning the Three Elements: Core-X u/o1 to inside, Wave-Weaver A u/o1/u1 to outside, Core-Y u/o1 to inside



**Figure 8b:**

Three-Step Weaving Sequence: Core-X u3/o1 to inside; Wave-Weaver A o1/u1/o1/u1 outside; Core-Y u3/o1 to inside

number of warps needs to be a multiple of four, and we have repeated those numbers for the warp elements in order to show how the core-weavers go over-one on even warps: Core-X on all Warp 2s and Core-Y on all Warp 4's. The wave-weaver's over-movement is on the odd warps: over-one down on all Warp 3s and over-one up on all Warp 1s. The wide Core-Weaver X creates the wide vertical columns, stacking on all the Warp 2s, nearly covering the warps, while the smaller flexible Core-Weaver Y stacks on all the Warp 4s and anchors the "dips" of the wave-weaver's repeated movements. Notice the impact of material choice in these two baskets. The maker of the Chinese basket has used the same dark-dyed flexible material for the wave-waver and the smaller Core-Y resulting in a stacking scallop design between the wide light columns created by the stacking cornhusk-like material. Hoppe's basket highlights the vertical columns with her use of color.

Accomplished artists, who are fully familiar with crossover-randing and wrap-randing working methods, can create baskets that exhibit even more design possibilities. Look at Keiko Takeda's baskets in Plate 10: the basket on the right exhibits what might be

called "interrupted basic wave crossover-randing". Readers may want to explore possible methods by working the techniques row-by-row over an even number of warps. Takeda's basket on the left combines basic wave crossover-randing with wrap-randing. Note the slants of the upward diagonals created by the (blue) wave-weaver and how the second lighter weaver is worked with an under-3/over-1 wrap-randing in some parts, and an over-1/under-3 wrap-randing at other points. At transitional rows, where the slants are reversed, the white weaver joins the wave-weaver before "wrapping" with the other diagonal.

Our exploration of crossover-randings and wrap-randings has helped us realize that we can give a general title to classify the technique, but to distinguish a particular technique, it is also necessary to mention the number of elements, type of weaving elements, number of warps, and, with some techniques, also specify the over/under or under/over movements of the weaving elements. We hope that the vocabulary we have adopted and our illustrations for possible working methods are helpful. In our next article we will explore some more progressive randings. ⚙️



### Plate 10: Untitled

Maker: Keiko Taketa, Tokyo, Japan

Material: Dyed rattan

Dimensions: Left 16" x 12" x 8" (left); 14" x 10" (right)

Techniques: The basket on the right with its interrupted diagonals is worked with a variation of *basic wave crossover-randing*. The basket on the left creatively combines *basic wave crossover-randing* and *wrap-randing*.

Photo courtesy of the artist