Purple Prose

Watch for purple words and phrases throughout the book, as they tell you that there is more to find on that topic. In the paper book, you will find more about highlighted terms either in the Basics section or in the Table of Contents.

In the eBook, you will find that there are even more colours, and each of them are clickable, and take you to more photographs, patterns, information, galleries, or to the artist's personal web sites or online shops, or perhaps to a bead store, magazine article, or indexed reference. We are excited to offer you these worlds within worlds and will continue to add to the online resources as new work appears and time permits.

Don't forget your sense of play and adventure as you explore our ideas. Most of our discoveries were made by happenstance, as we followed some idea down a winding lane. We are happy to be distracted by sunbeams, stray thoughts and sounds from over the hill. How else would we evolve? As Roger Von Oech says,

"Most people think of success and failure as opposites, but they both are products of the same process...It's important for the explorer to be willing to be led astray."

Below: Two Tri-Wing Rings by Dustin Wedekind and Kate McKinnon

Opposite: Photo of Gabriella van Diepen (and our oh-so-wearable bangles) by Kyle Cassidy. These shots were taken in Sabino Canyon, in Kate's home town of Tucson, Arizona, with a crew that included (in addition to Gabri, Kate and Kyle) Jean Power (our style mistress), Emma Bull (our severely overqualified grip) and Jeroen Medema (our lightmaster). Bangles on Gabriella's arm by Jean and Gabri.

"Space is the breath of art."

Frank Lloyd Wright

Basics

"If there is a problem you can't solve, then there is an easier problem you *can* solve: find it."

George Pólya

Yes You Can!

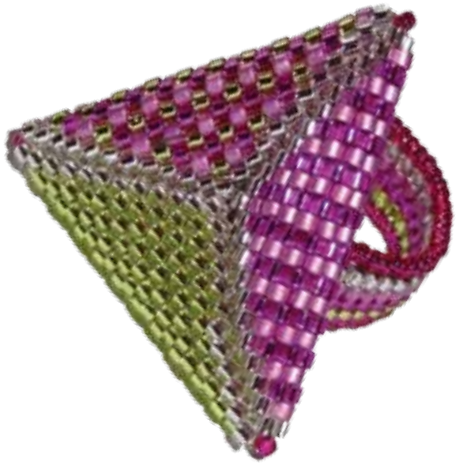
At first glance, *Contemporary Geometric Beadwork* may not look like a book meant for beginning beaders, but that doesn't mean that beginners can't make the work. It's all rather straightforward, as most of the pieces are based on just a few structures: a great Bellyband, a simple triangle, a flat square, a few herringbone-style increases and decreases.

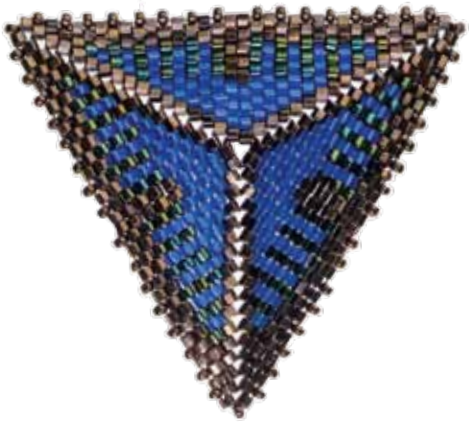
Anyone with decent vision (or a good pair of reading glasses) and a love of small handiwork can pick up a needle and beading thread and start off with a Basic Flat Square, or a Flat Peyote Triangle, and then maybe a Tri-Wing Ring.

For very basic basics, and to learn more stitches and techniques that can be used to build or embellish your work, we encourage you to explore the world of the beading magazines. They teach useful stitches and have beginning projects in every issue, and many of them also have lists of bead stores and bead shows in your area. Please also see the Team Pages (230-231) to discover great beginner-level beading and pattern books by Dustin Wedekind and Jean Power.

Below: a Power Puff Ring (pg. 62) by Carol Taylor and a Flat Peyote Triangle (pg. 50) by Kate.

Opposite page, from top: a Flat Peyote Triangle by Kate, a Möbius Double-Cone Ring (pg. 225) by Christina Vandervlist, and a Fortuneteller Bangle (pgs. 164-195) by Christina Porter.





Basics: Supplies

Getting Started

You don't need much in your toolbox to start beading. You'll want a pack or two of needles (they bend and break with use and need replacing), beading thread, something to cut the thread cleanly (we use things like little sharp scissors and snips) and a few different kinds of beads.

We'll tell you our favorite things, but the world is stuffed with choices and each product has its fans. Admittedly we have strong feelings, but that's only because we are passionate and nerdly people, incapable of ambivalence.

Thread

For the core crew of this book, the thread of choice is definitely Nymo B or D from the cone. It's old school, we know, but it's what we like. Nymo is a lush, sturdy nylon Italian upholstery thread, and it comes in a variety of weights and colours. It has a positive "hand", it means business, it feels like silk and needs no waxing. But this heavenly Nymo of which we speak only rolls off of the large cones.

The little paper bobbins of Nymo (which are sold in almost every bead store) are conveniently sized for travel but the thread is uncoated and is really *nothing* like the cone thread. If you only know Nymo from a bobbin, you don't know Nymo. And if you use the bobbins, plan on waxing. Most beaders love the little containers of microcrystalline or synthetic wax but some are old school and have actual beeswax.

Other threads used by beaders who contributed to this book are KO, Sono, One G, CLon, Fireline, Silamide, and Power Pro. Try them all, and see what suits you. Thread choice is a personal and important element in your beadwork. Don't even *think* of letting us tell you what to do.

Thread As A Secondary Structure

If you're using any single ply unpierceable thread, your product of choice can't easily be used to weave a secondary structure inside your work.

Unpierceable thread (such as Fireline) holds the beads together by their holes; their fates are the same and they make a single structure. Many beaders prefer unpierceable thread, and there are certainly applications for which it's perfect. For the beadwork in this book, however, we chose Nymo from the cone because it *can* be pierced, which means that we can use it to weave our little strong-webs inside the beads.

Doing this, working like weavers, moving through previously placed threads as we place our new stitches, we can make a robust secondary structure inside the beadwork, creating a fabric that resembles a linen weave. This enhances our tailoring, giving us both a hidden support structure that we can rely on to take some of the pressure off of the beads, and something to sew into besides the bead holes. (You can imagine how handy it is to have both the bead holes and the fabric of the thread weave when sewing on snaps, buttons, or embellishment.

Because of the way it's made, of joined fiber strands, Nymo has a grain. It's really much like your hair; ideally, you don't want to rub it backwards. If you can't tell which end you are on by gently running it through your fingers, thread the end that comes off of the spool first, and you'll always be right. This grain also means that the thread tends to felt itself together as you pierce it, and backing out mistakes can be very difficult.

Remember to think kindly of the thread as you pull your needle through the beads. Pull the needle straight out of the bead holes, so that the thread isn't pulled across the bead edges. If a length of thread goes bad, and begins fraying, fuzzing or tearing, simply weave it in and start a new one.

Simple hair ties, beer can cozies and produce nets come in handy to keep the thread neat on our large spools.

Needles

Needle preference has a lot to do with hand size and dexterity. Most of us on the CGB crew prefer needles in size 11 or 12, 2" long. Beading needles are inexpensive enough for you to experiment with- we recommend that you try them all and choose the ones most comfortable for your fingers. Kate swears by Size 11 Pony needles, 2" long, from India, and Christina prefers the John James #12 shorts.

An interesting fact about needles is that their eye-holes are punched. This means that one side is rough, and one smooth. If you are having a hard time threading a needle, turn the eye over and try again.

When we thread our needle, we are really needling our thread. We pinch the thread (which we have likely licked) between our finger and thumb, and slide the eye of the needle down on top of it. Try it!

To Knot Or Not

For a variety of reasons having to do with tailoring, lumps and bumps, most of Team CGB don't knot. Whenever possible, we prefer to weave threads in (or out) when beginning or ending. Be sure to leave little tails when you weave in or out, and don't cut them until you are finished working in those sections. We very much like Valerie Hector's suggestion of using a removable stop bead on all new threads, not just when you start a new piece.

When weaving in a thread, try to follow the existing thread path as much as possible to avoid distorting your beadwork in unpredictable and possibly undesirable ways. As long as you change direction at least twice, the thread will be securely anchored. If you are using unpierceable thread, you may have a deeper need to knot. Make your decision based on your materials.

Visible Thread is Vulnerable Thread

Whenever possible minimize your thread exposure. If it's necessary to use thread to attach another element, such as a soldered metal ring or a clasp, make a loop that gives the ring room to move, and consider covering it with tiny beads that cover your thread (see Tetrahedrons, pg. 87, for an example). We try never to leave thread exposed on the edges of our work, whether flat or dimensional.

Work Surface

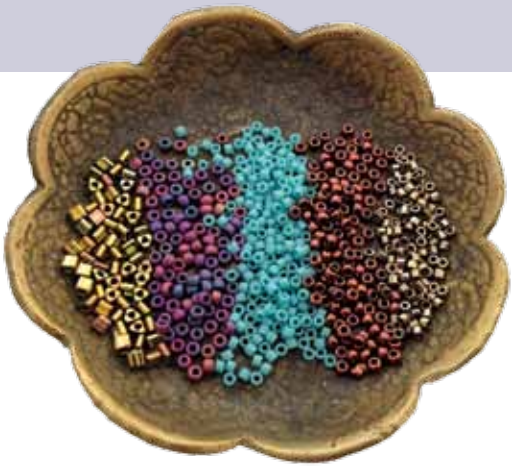
Some people enjoy beading on synthetic bead mats, because they are foldable, lightweight and tend to hold the beads in place. They can be used on cookie sheets, put in stacking trays, or laid out on beach sand. Christina swears by them. Below, you can see a shot of her setup while she was beading our first Fortuneteller Bangle. Note the beads neatly sorted into piles, the perfectly neat work field. (Those of us with messy trays say, "Snork!")

Dustin beads from a shallow wooden bowl, like a shaman reading water or mixing herbs. All of the beads are together, and he fishes the one he wants out of the bowl with his needle. Marcia DeCoster mixes her beads together as well, and she says it gives her a better feel for the colourway to let the beads play on the tray as well as in the piece in progress.

Kate loves to have neat little piles of beads but always ends up with a scatter of sparkle across her purple velvet board. Teresa Sullivan only likes to work on white plates with a bit of curve. Sandy Wogaman likes a watercolour tray (devilled egg servers are good too) to keep her beads separate. Both Kate and Cath Thomas like to work in stackable trays, which can be quickly moved out of the way without disturbing the projects in process, or stacked to the rafters when we find that we are working on twenty things at once. Jean Power can work anywhere, on anything, and use any thread, but if we were all Jean Power, the universe would explode, and so the rest of us get by.

For travel, we love the aluminum tins that snap securely together. They come with synthetic pads, but any sort of custom pad or covered board can be used. See our online Resources section for where to buy real velvet pads, stacking trays, and travel tins. Find the synthetic pads at any bead store.

Basics: Supplies



Right: Each of these beads is marked 11°, but you can see how different they are in shape and girth.

Seed Beads

Seed beads are little glass marvels in a doughnut shape. The ones you see in bead shops usually hail from the Czech Republic, India, or Japan, and are found in many sizes. For the work in this book, we used them in sizes 8° and 11° for beadwork and 13° and 15° for edging, embellishing and tailoring.

Japanese seed beads are very even and work well for precision patterns. Czech and Indian seed beads are made with looser sizing standards and different equipment, and they vary both in dimension and hole size. We mix it up, and use Japanese seed beads where consistency is desirable, and Czech seed beads where texture is more appealing. Czech and Indian seed beads are often sold by the hank, and Japanese beads are packaged loose.

Cylinder Beads

Cylinder beads are even more miraculous in the world of glassworks. The cylinder beads used in this book were all made in Japan, and are incredibly precise and predictable. They have thinner walls than seed beads, which means larger centre holes and more room for thread passes.

Beading is ancient, but precision cylinder beads are new, only having arrived in America in the 1980s. We're the first generation of beady humans to have the opportunity to work with them, and we think about that with happiness and humility. It's a privilege to have these exquisite materials.

The most common size is 11°, although the 10° is gaining in popularity. The 15° can be very fragile, and the holes are much smaller, which make pieces like Lia Melia's (pg. 45) all the more astounding. We used cylinder beads from Toho (Aikos and Treasures) and Miyuki (Delicas) in the making of this book. We do tend to avoid the silk-finished cylinder beads, as they are so fragile.

Crystals and Fire Polished Beads

Leaded glass crystals are extra sparkly, and we use them to emphasize structure or provide an attractive embellishment (see A.J. Reardon's Power Puff Bangle, which features them at every Point Round, pg. 55).

Fire-polished faceted Czech glass beads are also very pretty, and have nice soft holes. (This matters- if you like to use fiber thread, sharp-edged beads and crystals can damage it.)

Swarovski makes leaded crystal beads in many sizes and shapes; the most commonly used are faceted round or bicone shapes. These are usually measured by the millimetre, through the centre of the bead from the entrance hole to the exit hole.

Accent Beads

Gemstone daggers and round gemstone balls make appearances in pieces like the Jalisco Bangle, by Cath Thomas (pg. 214), and glass drop beads appear on various Rick-Rack Bangles, Wing- and Horn-tips. You'll see glass triangle beads show up in MRAW Bellybands, and you may see dichroic Aiko cylinders (look closely in Kate's *Sea Monster* (pg. 99) or Jeannette Cook's fantastic *Triangles* (pg. 90).

You'll see rivolis (flattish crystals with no holes) pop up in bezels, as in Marcia DeCoster's Puff Bezel (pg. 63) and in Jeannette's pendant. There is no bead that we do not love, that we do not contemplate with the eye of a crow and a seamstress.

Right: An assortment of larger seed beads, crystals, fire polished Czech glass, glass daggers, gemstones, handmade glass and rivolis in various sizes. The world is simply stuffed with beads! Isn't it wonderful?

Bead Breakers

A bead breaker can be as simple as a slender pushpin and an eraser, a low-tech solution to that awkward pair where you meant to add just one, or find a bead in the wrong place. The pushpin tip goes into the bead and explodes it outwards from pressure (preserving your thread from sharp bead shards) and the eraser catches the tip of the pushpin before you donate blood to the project.

The excellent thing about Japanese puzzle erasers (besides how adorable they are) is that they come apart, giving you lots of little shapes to get into tight spaces in your beadwork. The strawberries even have little handles. So cute.

Corners and Side Spaces

When building a geometric shape, corners are created by adding increases to the structure. Any space in your beadwork can be filled with 1, 2 or 3 beads, depending on the effect desired. Any increase or decrease will create a corner, even if begun in the middle of a side.

You can see this in the photo at left; one side of our starting Bellyband has had three increases added to it, forming a triangular opening on that side. The other side of the Band remains blissfully unaware of the disruption and remains round.

Side spaces are where the structure takes on a solid, fabric-like appearance, building a single bead at a time. As you add increases to the corners of a piece, the number of side beads required will grow. In related news, when you are decreasing, the number of side beads will diminish.

Counting

Geometric beadwork has so many aspects that it can be hard to be sure we are talking about the same thing when we say "Round 5" or "five beads per side".

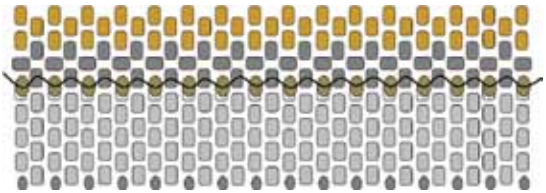
In the illustration at upper right, you can see the variety of ways to count to Round 5. When teaching, we focus on the toothlike appearance of the bead edges (we call them Toothrows), suggesting that students count the teeth rather than the spaces.

When decreasing a geometric shape, the most straightforward way to define size is to count the working beads remaining per side (i.e., decrease down to two beads per side, as illustrated, right).

Guide Round

A Guide Round (or Row) refers to a run of beads woven on top of existing beadwork, providing either a point from which to add more structure or embellishment or a place to run a secondary support structure, such as memory wire (see the Sea Serpent, pg. 128). This sort of an add is also sometimes referred to as "stitching in the ditch".

Guide Rounds are best added in structurally sound areas, and they are easiest to add early in the beading process while the work is narrow and pliant. It may become difficult to reach the area required, or find room in the beads for your needle, when work on the main structure nears completion. Below, a Guide Round added to the lower run of beads in the starting RAW band.



Below: Kate put two Guide Rounds of lovely fat bronze 11° rounds on her Mermaid Cuff. Those rounds could have supported more structure, but currently hold only a pass each of hot red 13° rounds.

Herringbone Increase & Decrease

Increase

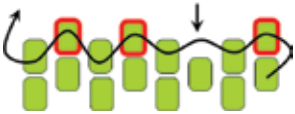
To create a herringbone increase in your peyote work, simply place 2 beads where there would otherwise be 1 bead, as we do to increase the Simple Flat Triangle, right.

By stacking the pairs of beads on top of one another you will form a rib, which can be continued up and out to build a tip, a corner, a Wing, or a Horn.

Decrease

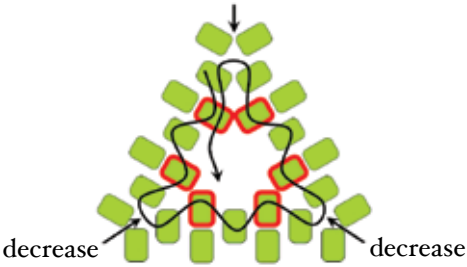
A decrease is a stitch taken while adding no beads. You can see this in the illustrations to the right, shown both in flat work and in a decreasing Power Puff Triangle.

decrease in flat work



Decreases, like Step Ups, can be hard to spot when you are learning, but in reality they are predictable, and the key to spotting them is to study the structure, so that you understand what your rounds *should* be making. That way, if things seem wrong, you can stop and ask yourself why. (And start counting teeth.)

corner decreases in circular work



Needle Back or Needle To

If we tell you to "needle" somewhere, we mean for you to pass your needle through the beadwork (following the existing thread path if possible) to reach a specific point, where presumably the next excitement will begin.

If we tell you to "Needle Up", then we are probably inviting you to either a bead party or to go to acupuncture with us. Either way, say yes!

Pass Through and Pass Back Through

"Passing Through" refers to going once more through a bead you've been through previously. Sometimes this will be done to complete a stitch (see Step Up, pg. 25), while other times it may be required to move through your beadwork to the point necessary to begin the next step.

Above: Passing Through a few beads to get to a new starting point.

We can't say why you want to start your next round one space forward in the illo at upper right, but we bet you have a good reason. Perhaps you are adding a little picot edge to a cute Tri-Wing Ring, as in the one peeking onto the page. To do that, you need to add a few beads, pass through a few beads.

Below: Passing Back Through to create a fringe.

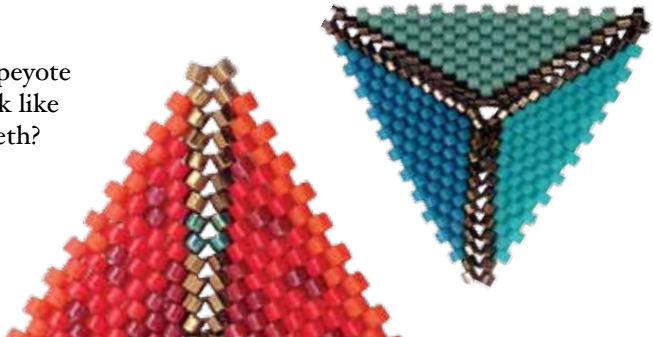
"Pass Back Through" is to pass your needle back through one or more beads that you have passed through previously, this time in the opposite direction. It is often used to create a fringe (right) or add accents to an otherwise complete section of beadwork.

Toothrow

You know that it pains us to have "Toothrow" out of alphabetical order. But perhaps it helps make the point that a Toothrow can be anywhere. Anywhere! When we speak of a Toothrow, what we mean is any peyote or RAW edge; any row or round of beadwork that presents in little teeth, waiting to hook on to something.

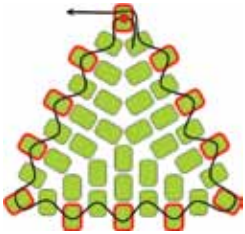
When you add a Guide Round or Row to a piece, what you are really doing is sticking a Toothrow onto it, a place for new beadwork to land.

Don't the peyote edges look like little teeth?



Point and Fill Rounds

A Point Round is added by stitching a single bead into each corner, as in the illustration to the right.



A Point Round

A Fill Round of one bead per space follows a Point Round. Fill Rounds may be followed with a Decrease (0 beads in the corner), an Increase (2 beads in the corner), or another Point Round (1 bead). Alternating Point and Fill Rounds is how to continue beading at the same diameter, to make a tube or add depth.

An Increasing Triangle

Point Round added

Fill Round added

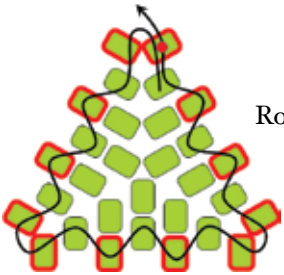
If you look at the last drawing on the right, above, and think of the Fill Round as creating little flaps you can pull in, you will see how making tube or decreasing works. Can you see how the adds make three little blue sides to fold straight up (for tube) or fold over and in (to mimic the last Increase Round) and make a Power Puff?

Rows and Rounds

Rows are how we talk about progressions in flat work, and Rounds describe circular work. Rows start and end on opposite sides of your beadwork. Rounds start and finish at the same point.

Many of the pieces in this book can either be worked flat or in the round, but we generally discuss it in terms of Rounds.

Row



Round

Step Up

To Step Up in peyote stitch, place your final bead of the current round, pass through the first bead from the previous round, and pass through the first bead placed in the current round. This bumps you up on top of the work, and puts you in position to begin the next round.

Regular Step Ups in both flat and circular peyote stitch

Usually you will pass through the first single bead added on the current round. If your increase falls in a corner, or where you have made an increase, you will pass through only the first bead of however many you added.

You will note in the Simple Flat Square (pg. 28) that you pass through the first bead of the corner-placed triplet, and in a corner increase, as shown at right, you pass through into the middle of the two beads.

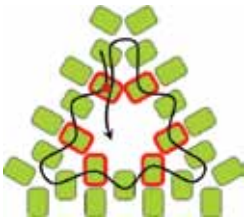
Skipping the Step Up

If you place the final bead of your round and skip passing through the bead from the previous round, and instead choose to pass immediately through the first bead placed in the current round, you will transform the work from circular to spiral.

Skipping the Step Up

Hidden Step Up

A step up can be difficult to see if it falls where your bead count changes, such as a decrease (see illustration at right). If you need to step up in this situation, remember that if the pair of beads was placed or passed through *in one move*, they must be treated as a single entity for the step up, and you will need to pass through both beads to finish the round.



Hidden Step Up

Basics: Sizing & Closures

Bangle sizers and mandrels come in very handy when measuring beadwork, but frankly, even with our combined century of beading experience, sizing 3-d work is still a matter of chance. You must experiment, and test your bead combinations.

Sizing

Sizing beadwork is an art. Each bead or type of bead is unique, and the bead finish drastically affects its girth. People's working tension varies widely; and loose or tight work can mean the difference of an entire size.

Our best advice to you is:

- Work snugly. Don't leave any loose thread, or space between beads. Pull your thread in closely after every stitch, and control your beadwork so that it isn't loose in your hand. Tighter work is more predictable.

- Get a real bangle sizer. What this can measure is not just the beadwork, but what your hand can wiggle into. You can find them in some bead shops, or online. See our online resources section for tips on where to find one, or search the web for "metal bracelet sizer" or "bangle sizer".

- Be flexible. If you make a ring that is slightly bigger or smaller than hoped, you likely have something close to ten fingers, and happily you probably have friends with fingers too. If you happen to make a Zigged Band (pg. 42) that turns out to be too small for your hand, make it into a knockout MRAW Flower (pg. 161). Experiment by making maquettes like rings.

- Try other beads. If you are locked into a size range, like the number of Points in a Helix, and you need it half a Point bigger, add in a coated bead. If it's just a snitch too big, perhaps a matte bead would have been just enough smaller...

- Make Removable Bellybands. Especially a Zigged One. Once you nail your size, you can make as many bangles off of the Band as you want. Make them in several sizes, and amaze your friends.

Closures

You'll see a wide variety of closures on the pieces in our book, from none (bangles or memory wire) to handmade, like those shown in action below.

The most important things to consider when choosing clasps are weight and points of attachment. Heavy clasps pull down to the bottom of your wrist, and that may or may not work for your design. Think of your clasp as one of the elements of (and a reflection on) your work. All points of connection should be gentle, with smooth metal edges and spacious rings. If you sew to metal rings, you might connect your work to them with bead-covered loops large enough to let their rings move freely.

Our favorite clasps are those that work with the beadwork, like hidden snaps, sewn not into the bead holes but into the network of thread connecting them. See Deb Bednarek's lovely tailoring on her Helix Bracelet (pg. 197) for an example of a combination of an inner snap and a button and loop.

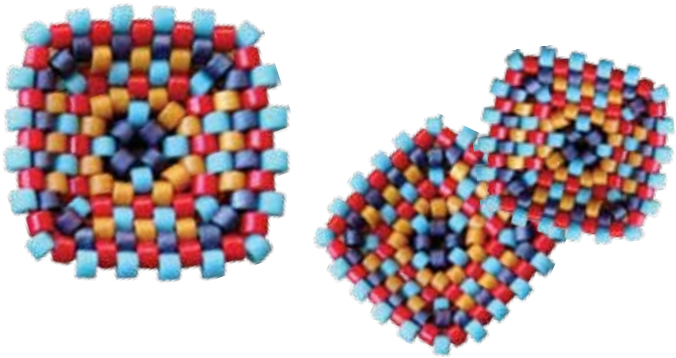
Beaded toggles are lovely, but must be well-crafted to stand the extra wear. We love Tiena Habing's square toggle bar on her Ocular Chain (pg. 37).

Below, right: Beadwork by Kate McKinnon, clasps by Kate (fine silver, the *Lovely Bone*) and Stephanie Price (copper, the *Walker Clasp*). These clasps are removable, and slide into slender tubes sewn into the ends of the beadwork. See our companion eBook for a tutorial on making them, or our web site, www.ContemporaryGeometricBeadwork.com, for places to purchase them.

Left: Tetrahedrons connected to metal rings with freely-moving loops, by Christina Vandervlist. See pg. 86 for the pattern.

Basics: Simple Flat Square

This shape is the base of the Pyramid Bangle (pg. 84). The basic pattern was adapted by Cate Jones from those used previously by Julia Pretl and Diane Fitzgerald, and it stays nice and flat unless you work it too tightly. The actual size of 9 rounds, worked in 11° cylinder beads, is about 1/2" square.



Round 1: Join 4 beads into a circle, and pass through at least one to secure your thread.

Round 2: Using circular peyote stitch, place 1 bead in each gap.

Round 3: Add 3 beads in each space (the middle of these three is part of the "X" pattern you can see in the structure).

Round 4: Add 2 beads over the top of the centre bead of the triplets placed in Round 3, and 1 bead in each side space.

Round 5: Point Round: peyote 1 bead in each space, including 1 between each corner pair.

Round 6: Fill Round: peyote 1 bead in each space.

Round 7: Peyote 1 bead in each side space and 3 in the corners.

Round 8: Peyote 1 bead in each side space as well as 2 beads in each corner, over the centre bead of the triplet.

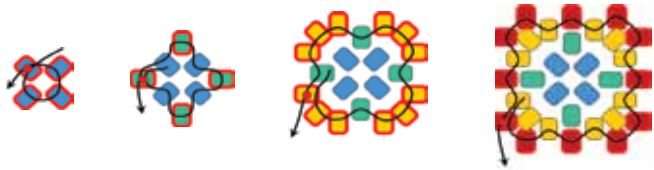
Round 9: Point Round: peyote 1 bead in each side space and 1 bead between each pair in the corners. Continue repeating the pattern until your Flat Square is the desired size.

Materials:	medium weight beading thread (we used Nymo B) 1 g. 11° cylinder beads
Technique:	circular peyote
Tension:	soft to moderate
Difficulty:	You can do it!

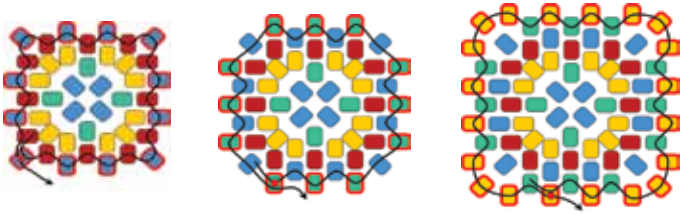
Although the most visually exciting Squares are probably those made with block and line patterns, we think that it's easier to learn circular beading if every round is a different colour. This is especially true when the instructions seem improbable, as in this pattern, which tells you to put three beads on each corner, and then stack two beads on top of those. It sounds absurd, we know, but look how easy it is to see when drawn in alternate-colour rounds.

The style and size of bead that you use will drastically affect the look, feel and behavior of your Squares. Each of these takes only a few minutes to make, so it's a perfect project to explore size and finish combinations. See Francesca Walton's mixed-bead squares on pg. 33 for inspiration.

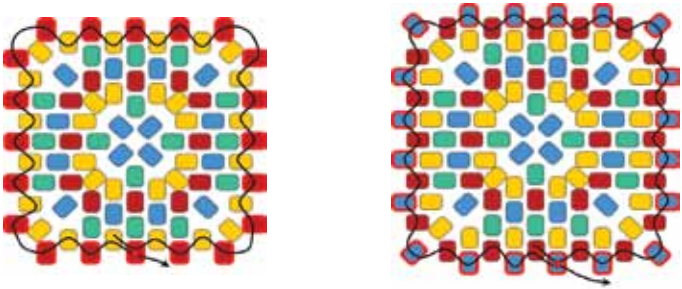
Rounds 1 - 4



5 - 7

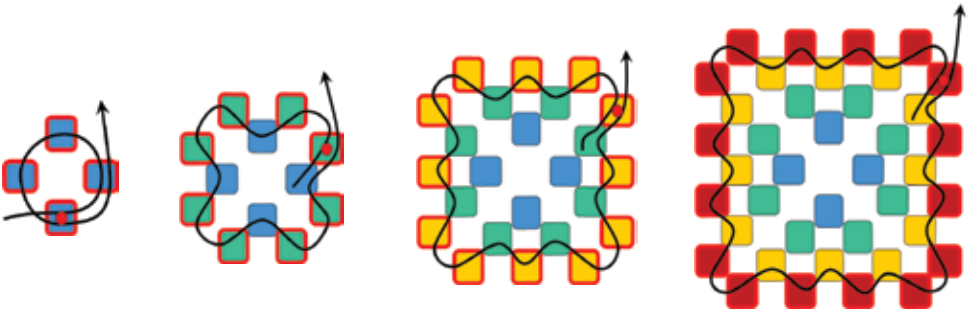


8 - 9



Basics: Warped Square

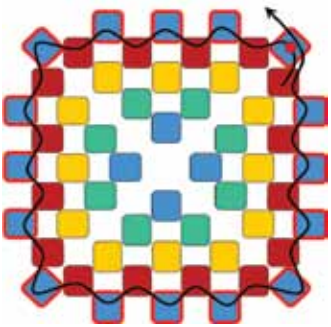
This square will warp almost right away, and can be used to build fantastic shapes like Jean Power's *Geometric Stars*, and Phyllis Dintenfass's *Tetraphyls,* both shown on the opposite page. Bead this one tightly!



Round 1 — Join 4 beads into a circle, and pass through the first bead strung to secure your thread.

Round 2: — Using circular peyote stitch, place two beads in each corner. These will form the herringbone rib increases of your Square.

Round 3 to end: — Peyote a bead in each gap, and continue to add two beads at each corner. Repeat until the square is the desired size, and finish with a Point Round if desired.

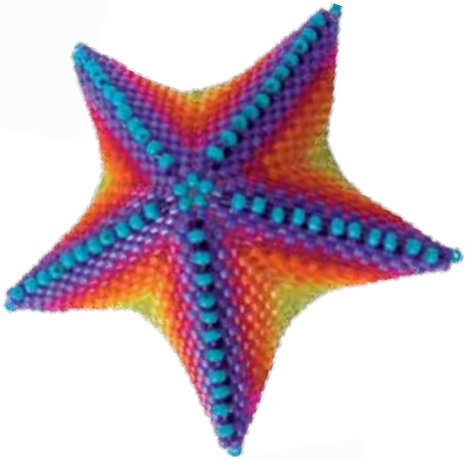


A Point Round is one bead in every space, transforming corners into points.

If you are making a form that you plan to begin decreasing, your Point Round will generally be followed by a Fill Round, in which you again add only one bead per space.

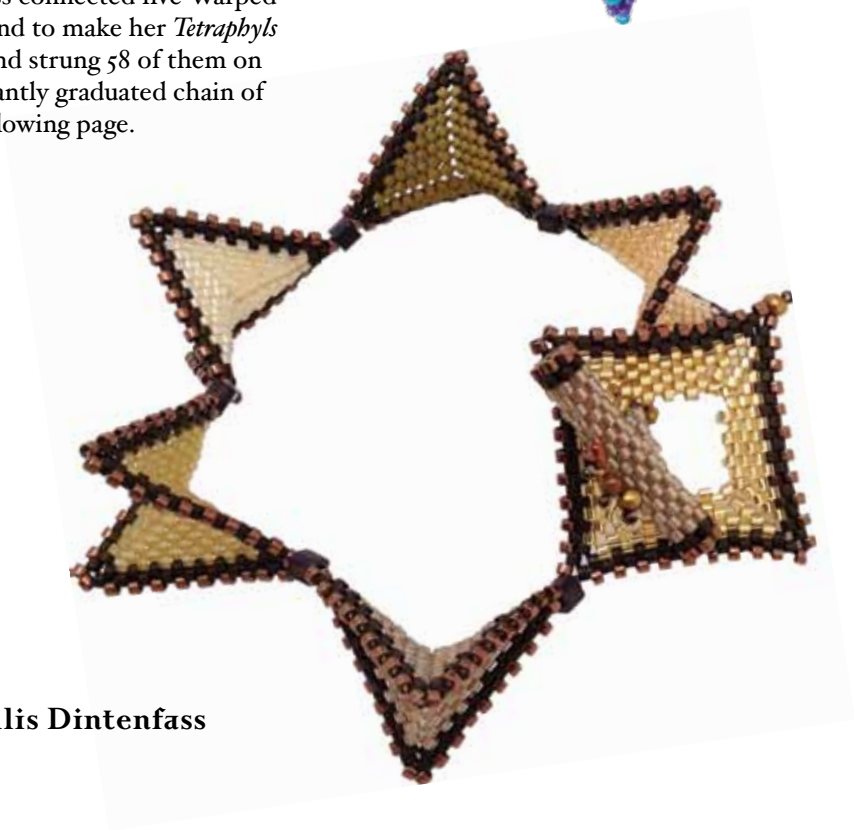
See Decreasing a Triangle into a Puff (pg. 58) for more on this.

Jean Power

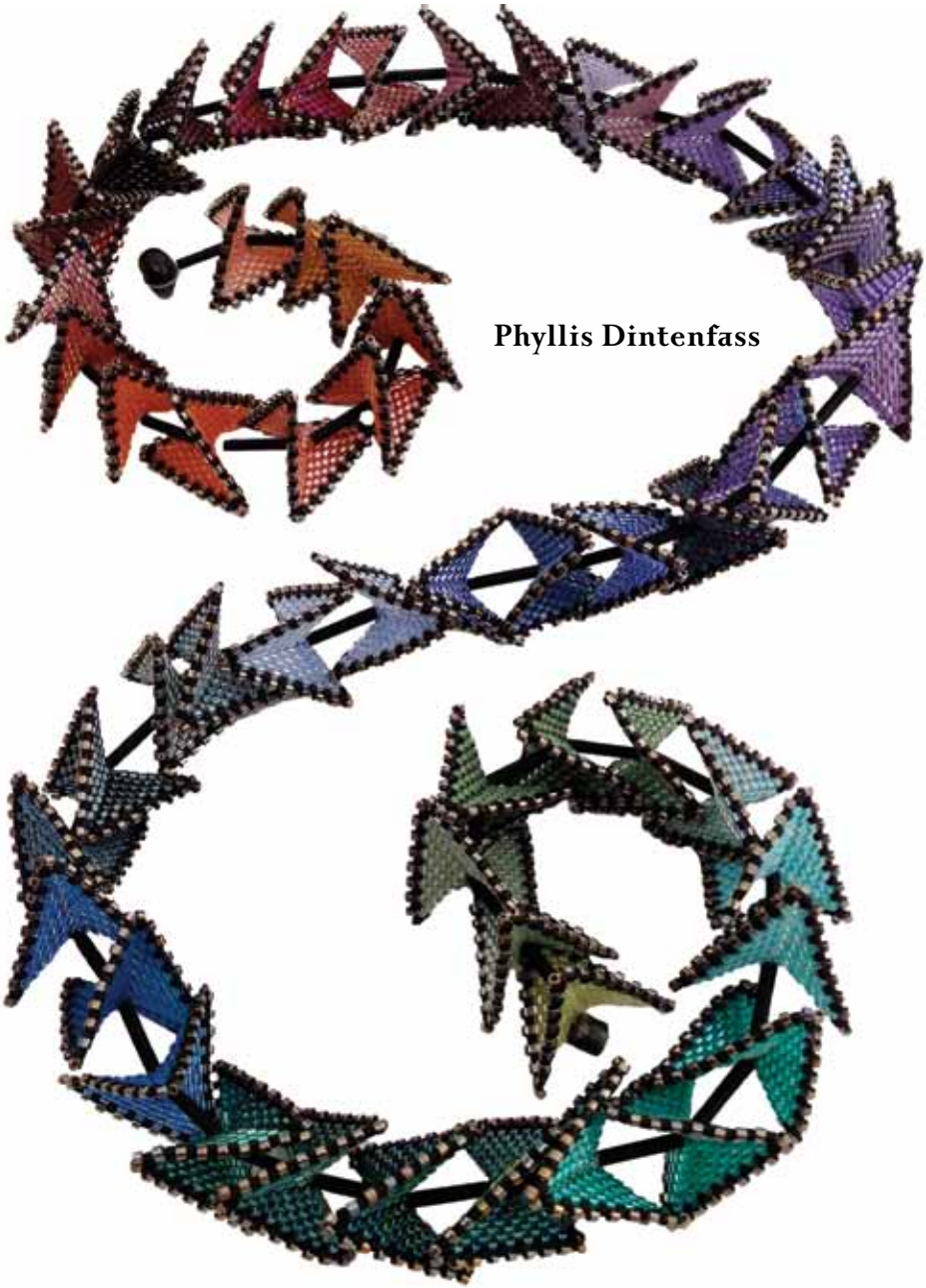


Warped Squares can be used as pattern pieces to build other shapes. Jean Power zips five of them together to make her glorious Geometric Star puffs, above, by Jean, and right, by Dana Steen Witker. See Jean's pattern in her beautiful book, *Jean Power's Geometric Beadwork,* 2012.

Phyllis Dintenfass connected five Warped Squares end-to-end to make her *Tetraphyls* bracelet below, and strung 58 of them on cord for the elegantly graduated chain of colour on the following page.

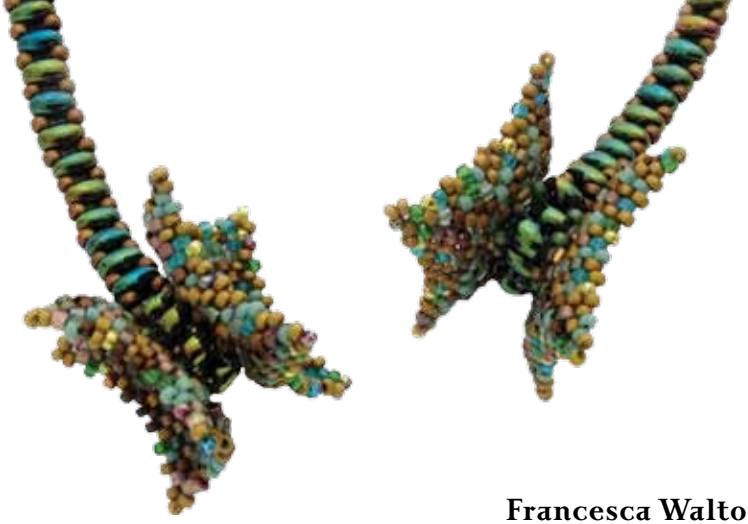


Phyllis Dintenfass



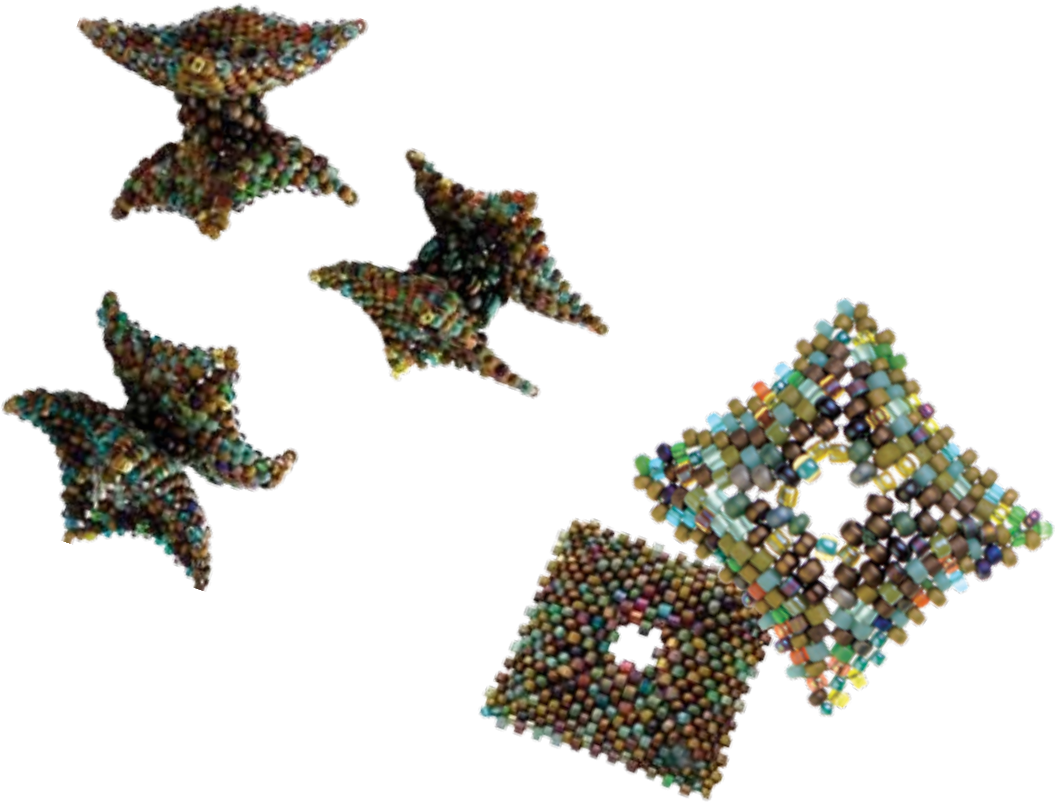
"Colour! What a deep and mysterious language,
the language of dreams."

Paul Gauguin

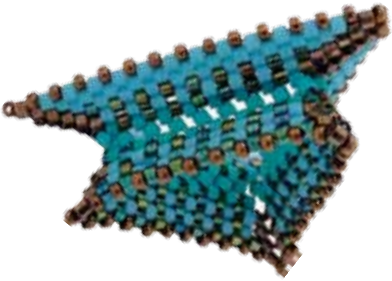


Francesca Walton

Francesca uses different bead sizes and shapes in her patterns and makes several different kinds of squares. The little spaceships excited us hugely, and we all wanted to make her *Axe of the Warrior Goddess* earrings, above.



A view of the transition from outdoor to indoor space in John Lautner's astonishing Sheats-Goldstein house in Los Angeles. *Photo Woolf Haxton, www.thevhf.com*



Spending an evening inside this house rewired Kate's brain, and Lautner's influence can be seen in each soar of a Wing and every improbable extension of a Horn in this book.

The structure of the roof is a master study in positive and negative space, and it seems both to float and to be infinitely strong; at once massive and delicate, built of heavy concrete and glass. Lautner embedded heavy cocktail glasses in the concrete to let in the light and sparkle, as we might set crystals in a field of matte beads.

An interesting thing about this particular roof is that it is clearly capable of carrying more, like the Bands in our pieces. Restrained power is a design element in itself, and we see it in Rayo Boursier's *Horned Cuff* (right).

It takes discipline to have a powerful structure, and such potential, and yet not send the house or the cuff winging off in every direction.

Basics: MRAW Bellybands

Buckminster Fuller said, when explaining his beautiful geodesic frame structures to traditionalists, "To change something, make a new model that makes the existing models obsolete."

We don't think we rendered anything obsolete with our beautiful Band, but we definitely made some new things and thought some new thoughts by working this way, and by thinking architecturally. Our Wings and Horns, our Rick-Rack Bangles, our Fortunetellers, our Sea Monsters...our Tri-Wing Rings...all of these and more are built on our fabulous Bellyband.

Practice this little marvel to make sure that you've got the thread path correct (in this case, the Path is definitely the Power) and that you can make it snug and tight. Experiment with the things we bypassed with this Band, and then see what you can make or alter by adding our little powerhouse element.

Below, in her Horned Cuff, Rayo chose to repeat the Band throughout her piece as a decorative element. This plays beautifully off of the concept of the structure, and also, like Lautner's leaded crystal circles in the concrete roof, the windows left by her Bands bring light to her piece, and allow the beads that appear from the outside to be metallic flat beige to glow like sunshine from the inside.

What more could we ask from enclosing space?

Opposite page: two Tri-Wing Rings by Kate McKinnon echo both Lautner's elegant roof and Fuller's geodesic dome sections.

Right: a Horned Cuff by Rayo Boursier. See this piece also on pg. 94.

"Ideas rose in clouds;
I felt them collide until pairs interlocked, making a stable combination."

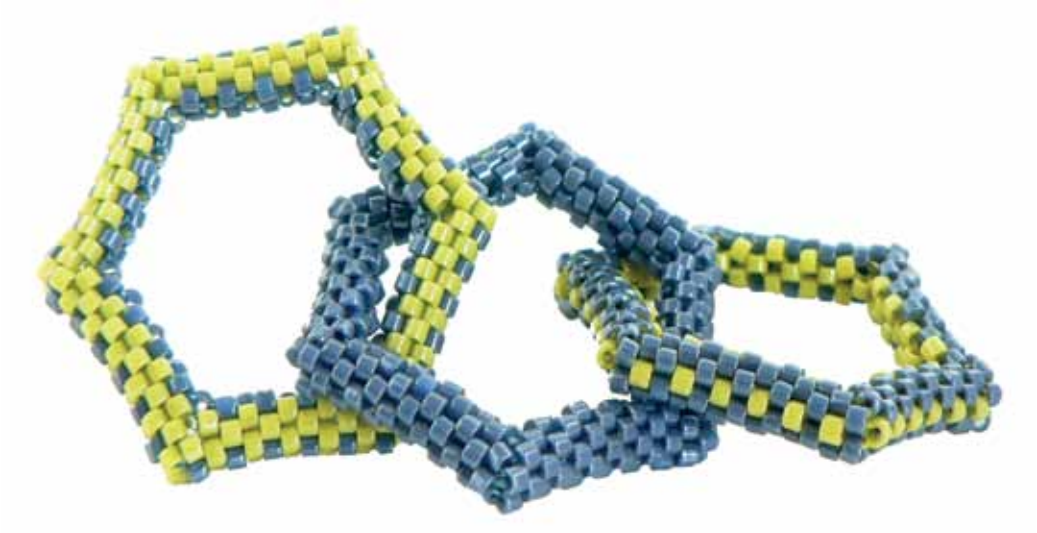
Henri Poincaré

Basics: MRAW (Modified Right Angle Weave) Bellybands

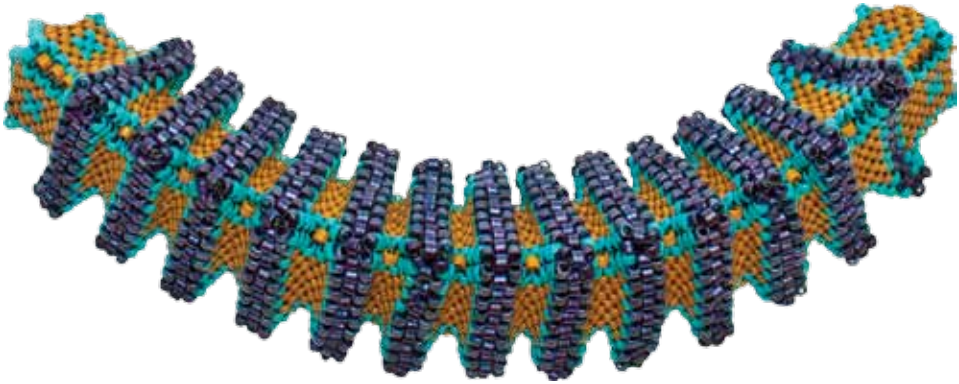
The Bellyband (sometimes referred to simply as "The Band") offers many opportunities to build more structure from the starting point, as the RAW will easily accept more rows of work, or support Guide Rounds, Helix Points, or whatever you want to build on it. Not only did the Band lead us to Wings and Horns, but it revealed itself as being a useful start for Geometric Rope like the Power Puff Bangle, offering an easy zip with no unbeading required.

We want to be clear that "MRAW" is a thread path, not a different stitch. The "M" for "Modified" refers only to the build of the Band- instead of making a RAW band and going back into the work to place the first round of peyote, our lovely thread path moves in only one direction (instead of the back and forth looping of regular RAW) and places the first round of peyote in the first pass of beadwork.

So, as you will see, the "MRAW" refers to the creation of the band, but after that, in the beadwork, the Band is just a run of ordinary RAW, and the spacer round becomes simply the first round of peyote.

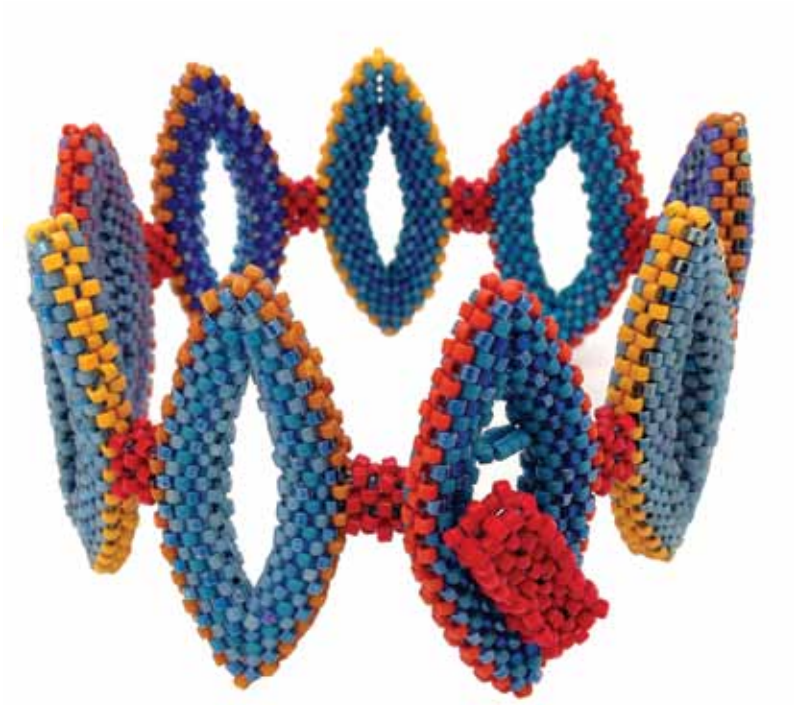


Above: some neat *Sixagons* by Cath Thomas, built on an inner-band MRAW start and a peyote outer closure, photo by Cath. She enjoyed the MRAW start and was pleased to see that pieces like her Jalisco Bangle (pg. 214) could be made more quickly and with more options with a Band than with a peyote start. She was particularly interested in the concept of the Removable Band, which you can see in action on the TinyHorn Bangle, pg. 114.



Above: a round of MRAW replaces the Point Round in a Power Puff Rope by Eileen Montgomery.

Below: Tiena Habing's stunning *Ocular Chain*. Each element begins with a quick inner band MRAW start, and is finished on the outer edge with another MRAW Band in a bright colour. Tiena connected her elements and made her toggle bar with 3-D or Cubic RAW, which uses RAW for the sides, top and the bottom of a form. Once you start playing with Right Angle Weave, you will find it to be very architectural, useful for building or beginning almost any shape or form.



Basics: MRAW Bellybands

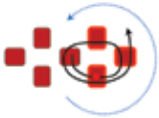
RAW (Right Angle Weave) Bellyband

To fully appreciate our nifty MRAW Bellyband, you need to make a regular RAW band first, changing directions with each unit added, and then go back into it to add a first peyote round. It makes us tired just thinking about it. You can make this band flat (for a strap bracelet, for example) or join it into a circle (for a bangle).

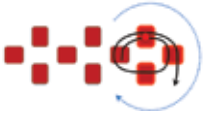
RAW uses 4-bead units. The first one is added in a group of four, the rest in groups of three. To join the band into a circle, you will use two beads. We used cylinder beads for our examples, but you can combine beads in these bands with great effect.

Step 1: Pick up four beads, join them into a circle, and pass back through the first two added to secure the thread and prepare for the next add.

Step 2: Pick up three beads, and pass down through the bead that you came down through to begin the unit. Pass through the bottom bead and the right hand bead to complete the unit and prepare for the next add.



Step 3: Pick up three beads, and pass up through the bead that you came up through to begin the unit. See how you are changing directions with each unit added?



Step 4: Repeat Step 2 and Step 3 to continue the band to the desired length.

Step 5: Join the band into a circle (optional). To do this, pick up one bead, pass through the first bead of the first unit, pick up another bead, and then pass through the last bead of the last unit. Reinforce the join by passing through more beads.

Step 6: Add one bead into each space in one of the two Toothrows of RAW to add a first peyote row or round.

MRAW (Modified Right Angle Weave) Bellyband

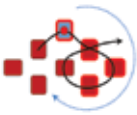
Our elegant MRAW Bellyband is a quicker path to the goal, with no change of direction. In one pass of beadwork, you get a full RAW band and a spacer row, which ends up to be your first round of peyote.

We strongly recommend using a different colour for your spacers, so that you can see the structure. Pay attention to the thread path; it matters! You should only pass through the spacer beads once, when you pick them up with your needle. To complete the unit, bypass the spacer bead and pass directly through the top bead of the unit. (See Step 2, below.)

Bypass the spacer bead in the same way each time for a smooth band. We like to pass in front of the spacer bead, rather than behind it.

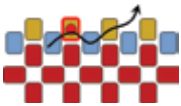
Step 1: Pick up four beads, join them into a circle, and pass back through the first bead.

Step 2: Pick up a spacer bead and three RAW beads, and, *bypassing the spacer bead,* pass through the top RAW bead. You are in position for the next add. Repeat until your Band is the desired length. Each stitch will be the same.



Step 3: Join the Band into a circle (optional). Be sure to go through enough beads after closure to neatly secure the join (see detail below). You are now at the same point as you were at the RAW band after two rounds. Whee!

Step 4: Step up and continue your piece as desired.



Joining the MRAW Band

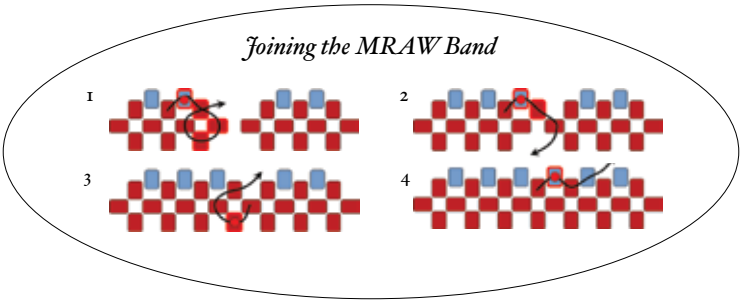


Fig. 1
Round 1

Round 2
begun

Round 2,
continued, first
spacer added.
And we're off!

Double MRAW Bands

Sometimes a design will call for more architecture, or more layers, and you will want to make a double or triple MRAW Bellyband for a base or central element.

Even a single MRAW Band offers many options. In Fig. 1 (left) we numbered four potential rounds of beadwork to build on, two of which (the edges, 1 and 4) are Toothrounds. A double Band (Fig. 2, opposite page, top) will give you seven rounds.

Please note that these numbers, 1-4, or 1-7, don't relate to the construction of the Band, which is (fabulously) only one round of beadwork. We numbered them only to show you where your options and I-Beams are. As rounds can be built on both sides, even a single Bellyband gives you a sturdy base for eight potential layers of work.

Christina Vandervlist's *Triple Crown Rick-Rack* (opposite page, bottom) was built on a double MRAW Zigged Band (see next pages). She used three of the potential seven base rounds to make it.

The Helix Bangle (pgs. 196-209) uses a double Band to hold its six rounds of Points. Build your Bands strong and tight, and join them securely!

Remember, the band isn't really flat. We just drew it that way to show it better, It's a ring, and the added layers grow out to the sides or the top of it. In the Triple Crown Rick-Rack at right, the band is sitting contentedly at the bottom of the piece.

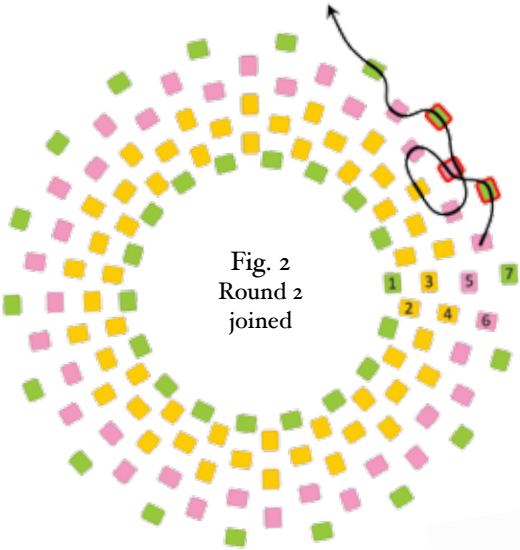


Fig. 2
Round 2
joined

Our heads spin, thinking of the possibilities... We've dreamed many more pieces on this structure than we could stuff into Volume 1. We can't wait to show you!

"The notion of infinity is our greatest friend, but it is also the greatest enemy of our peace of mind."

James Pierpont

Maria Cristina Grifone

Double-Layer Fortuneteller
photo by Francesca Pavoni
(See also pg. 186.)

Christina Vandervlist

Triple Crown Rick-Rack

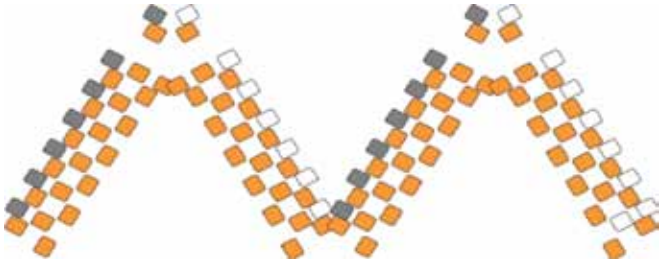
Zigged MRAW Bellyband

Our Zigged Band takes the fabulous up a notch by giving you a Rick-Rack structure in only one pass of beadwork. (Really, a single trumpet should blow on a hilltop whenever anyone reads that line. It's that exciting to us!) We do this by using our integral spacers (the "M" part of the MRAW) to add the increases and decreases that form the classic zig-zag pattern.

Of course, you can always add increases and/or decreases later, or at any point, but this start is a fabulous way to get immediate and architectural results, and allows you to avoid the only alternative zig-zag start we know, a foot-long worm of peyote.

Use a separate colour for the spacer round, so it's easy to see what you are making. We used cylinder beads for all of our MRAW Band examples, but you can also use seed beads or combine bead types for elegant results. You can leave the RAW grid showing in your work, as we do, or fill the gaps with crystals or other embellishment. We like to see the structure, it thrills us. Follow your star.

See the TinyHorn Bangle, pg. 114, to make a Removable Bellyband.

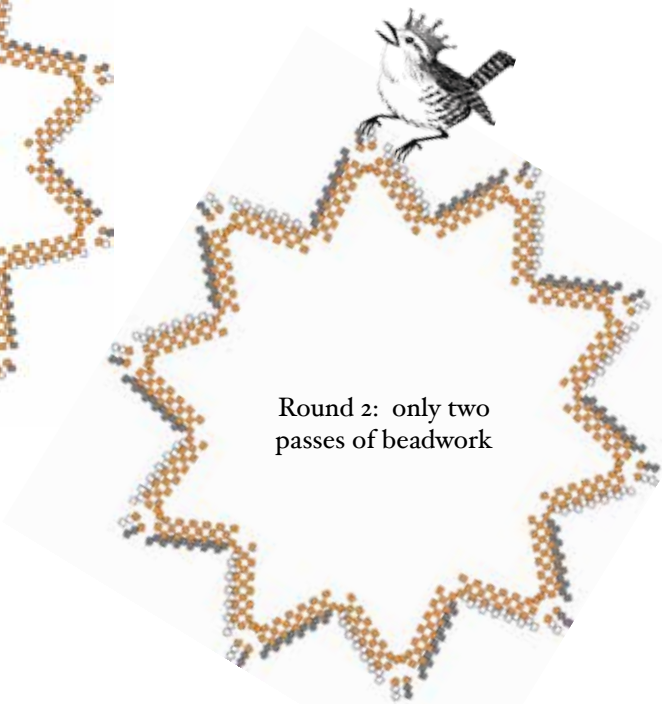


To make a Zigged Band, begin a regular MRAW Band (see pg. 39) but instead of a spacer round of single beads, place increases and decreases in regular increments around the Band.

Our example places them in every seventh spacer-space, and is the pattern we used to make the Bands and the Rick-Rack on the opposite page. Please see the Rick-Rack section, pgs. 136-155, and the Fortuneteller Bangle, pgs. 164-195, for more ways to build on this excellent Zigged Band.

Round 1, joined.

Yes! This is only one magical pass of beadwork!



Round 2: only two passes of beadwork

Below: a Double Rick-Rack Bangle by Ann Rishell. See page 140 for the pattern and bead colour listing.

"Building art is a synthesis of life in materialised form.

We should try to bring in under the same hat not a splintered way of thinking, but all in harmony together."

Alvar Aalto