

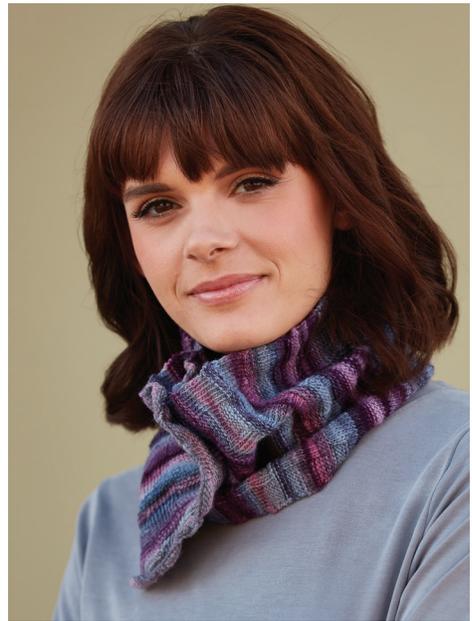
SpinOff PRESENTS

THE AMY TYLER COLLECTION

A Selection of Articles and Projects



Photos by Anita Osterhaug (left), George Boe (center) and Amy Tyler (right).



Photos by George Boe

Amy Tyler has spent her adult life studying human movement, both in art (modern dance) and in science (kinesiology, physiology). She spent nine years teaching physical therapy students about motor learning, neuromuscular physiology, biomechanics, and evidence-based therapy. She left the academic life in 2004 to pursue fiber arts. When asked recently by a former physiology colleague if she uses her science background in the fiber arts, she replied, "Every single day!"

Contents

- 1 3-D Effects with Energized Singles**
Amy Tyler, excerpted from *Spin Off* Spring 2018

- 9 Energized Cinder Blocks Cowl Pattern**
Amy Tyler, excerpted from *Spin Off* Spring 2018

- 12 Bugs and Wraps: Break Plying Rules for Subtle Texture**
Amy Tyler, excerpted from *Spin Off* Fall 2015

Need assistance?

If you are having technical issues or any general site issues, please contact our Customer Service by emailing support@longthreadmedia.com.

3-D Effects with Energized Singles

by Amy Tyler

Originally published in *Spin Off* Spring 2018

I still remember my excitement when I started knitting with unplied singles. Sitting in a workshop with Rita Buchanan in 2003, my head practically exploded with ideas.

I had read Kathryn Alexander's 2002 article "Knitting with Singles," and I was ready to dive into the world of what she aptly called energized singles. These are singles that are not "balanced"; instead, they have active twist. That twist produces marvelous effects in knitted fabrics.

Kathryn took advantage of these effects by combining Z-spun singles with S-spun singles to get amazing textures. She also incorporated loads of colors, entrelac knitting techniques, I-cord, and triangular shaping to create eye-popping, fantastical projects. And she did it all while working primarily with stockinette stitch.

I have explored in a different direction, sticking with just Z-spun singles. To get structural and textural effects, I have used a variety of stitch patterns, some very basic, most very easy.

TWO-DIMENSIONAL EFFECTS

Early on, I explored the biasing—or zig and zag—effects that can result from working in stockinette stitch with energized singles. When you work an energized Z-spun singles in stockinette stitch, you get a resulting fabric that biases upward and to the right. If you turn the fabric over so that the "wrong" side, or purl side, shows (reverse stockinette), then you get a fabric that biases upward and to the left. If you knit a fabric that starts with stockinette and then is followed by reverse

stockinette, you get a fabric that zigs to the right and then zags to the left.

For my earliest projects with energized singles, I exploited this zigzag effect by combining stockinette, reverse stockinette, and garter stitch in a series of six scarves ("A Study in Zig," *Spin Off*, Spring 2006).

Garter stitch does not show the biasing effect of stockinette and reverse stockinette. Think of garter stitch as one row of stockinette followed by one row of reverse stockinette. Each row actually biases, but the alternating direction of the rows cancels out the overall bias effect. For similar reasons, seed stitch also does not bias with energized singles.

Besides the stitch pattern, two other factors influence the biasing effect. One factor is needle size. The larger the needles, the greater the angle of bias, but also the looser the fabric. (If you have a slightly energized yarn and you do not want the bias to show up in your knitting, use smaller needles to knit at a tighter gauge.)

Another factor is the amount of twist you insert into your singles. The more twist, the greater the angle of bias. There is another effect, however: the more twist added, the stiffer the yarn. I do not enjoy knitting with highly twisted singles, so I go for a middle ground: enough twist in the singles so that if I plied the singles, they would make a "respectable" plied yarn.

THREE-DIMENSIONAL EFFECTS

Of the six scarves I designed for "A Study in Zig," all but one resulted in a flat fabric that showcased the biasing effect; in five of the scarves, I used stockinette and reverse



Each of the samples above is knitted from Z-spun singles into swatches of 32 stitches by 44 rows.
From top: Samples 1 and 4 knitted on US size 2 (2.75 mm) needles. Samples 2 and 5 knitted on US size 3 (3.25 mm). Samples 3 and 6 knitted on US size 5 (3.75 mm).

Tips for Knitting with Energized Yarns

- How nice that you do not need to wash or finish your singles before knitting! You can just knit right off the bobbin. I put my bobbin on a lazy kate and put the lazy kate on a table next to me. Sometimes I tension the bobbin to help control the willful singles; sometimes that is not necessary.
- Use a knitted or cable cast-on. I learned the hard way that using a long-tail cast-on with energized singles can be problematic.
- Weave in the cast-on tail after knitting a few rows; otherwise, it will untwist and drift apart.
- After weaving in the cast-on tail, it can be difficult to identify the right side of the fabric. Use a locking stitch marker (or safety pin) on the right side of the fabric to help keep track.
- You may need to knit more slowly and pay more attention to your knitting when using energized singles. (If I don't, I make more mistakes.)
- If you do make a mistake, take stitches out one at a time instead of ripping the stitches out.
- When you wash or block the finished knitting, do so lightly; do not stretch the fabric.

stockinette sequentially. But on one of the scarves, I knitted stockinette side by side with reverse stockinette. This one scarf did not lie flat; it was three-dimensional.

When stockinette is worked side by side with reverse stockinette, the opposing bias directions of the two sections push against each other to create hills and valleys. Combining square or rectangular areas of knit and purl stitches creates one kind of effect (Samples 10 and 12, opposite), while combining triangular areas creates another (Samples 7, 8, and 11), and adding bits of seed or garter stitch will create yet another (Sample 9).

Over the past few years, I have scoured my many stitch dictionaries for patterns that will produce a 3-D fabric when knitted with energized singles. Not all knit-purl stitch patterns produce an interesting effect. If the number of stitches in the knit section (stockinette)

and the purl section (reverse stockinette) is not great enough, the knitted fabric does not produce the lovely hills and valleys. I did find a few, and I also created some new (to me) stitch patterns.

On page 4, you can see six different knit-purl stitch patterns worked with a balanced two-ply yarn. These patterns have their own charm. Pennant Pleating and Welt Waves even have a bit of three-dimensional effect with balanced yarns.

Compare the stitch patterns worked in balanced two-ply (the left swatch in each pair) and Z-spun singles (the right one in each pair). I tried to spin these singles to the same approximate thickness as the two-ply balanced yarn. Both yarns were spun from Romney wool roving and knitted with US size 2½ (3 mm) needles. The two-ply measures about 14 wraps per inch; the singles measures about 16.

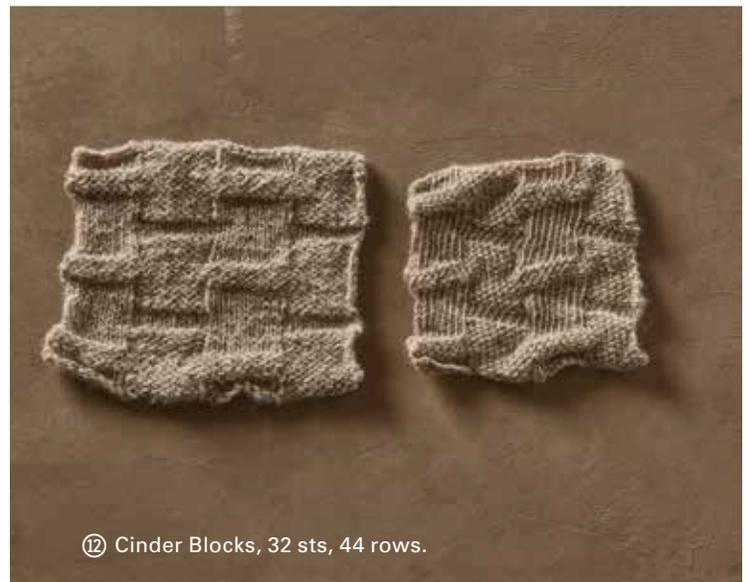
When you add energy to the knitting, interesting things happen! All of these knit-purl stitch patterns are pleasing when worked with a balanced yarn, but when worked with energized yarns, these simple knit-purl stitch patterns produce three-dimensional fabrics. The difference between the balanced swatches and the energized swatches is sometimes subtle (as in Pennant Pleating and Welt Waves) and sometimes more distinct (as in Two-Way Pennants and Cinder Blocks).

Just as with the two-dimensional biasing effect, needle size also influences the three-dimensional effect. However, the effect of needle size on the three-dimensional effect is the reverse of the effect on biasing: The larger the needle, the less three-dimensional effect the fabric has; the smaller the needle, the greater the effect (see Samples 4–6). There is a trade-off: as you use smaller needles, the knitting becomes more difficult and the resulting fabric becomes stiffer. I try to find the needle size that will give me a pleasing three-dimensional effect yet will yield a fabric with a nice hand.

As for two-dimensional fabrics, the amount of twist in your singles will influence the three-dimensional effect, with more twist resulting in a more three-dimensional appearance. However, as I mentioned before, I find that too much twist makes the knitting experience less pleasant.

THERE IS MORE TO EXPLORE

Sometimes I take a shortcut: I add twist to balanced millspun yarn by respinning a yarn using my wheel (or



spindle), thus changing it from a balanced yarn to an energized yarn. The nice thing about this strategy is that there is no need to worry about variations in thickness. Most plied millspun yarns consist of Z-spun singles that were then S-plied. I typically add more Z-twist to such a yarn, making it softer rather than ropey.

I have used only Z-spun singles in my experiments. You may want to try combining Z-spun singles with S-spun singles; if so, Kathryn Alexander's 2002 article includes a great deal of useful information.

I have not yet systematically explored the influence of fiber choice on three-dimensional effects. I knitted some swatches with energized singles spun from Cormo wool combed top, expecting the elasticity of the Cormo to accentuate any three-dimensional effects. I was surprised to find that it did not; the resulting fabric was lovely, but flat. I got much better results from the Romney I ultimately chose. Now I have in front of me oodles of spinning and knitting to find out what effect fiber (and maybe even fiber preparation) has on three-dimensional effects. I can hardly wait! ●

RESOURCES

- Alexander, Kathryn. "Knitting with Singles." *Spin Off*, Spring 2002, pp. 54–61.
- . "Swoopy Skirts." *Spin Off*, Winter 2008, pp. 60–65.
- Tyler, Amy. "Ask a Spinning Teacher: Plying for Balance." *Spin Off*, Winter 2016, pp. 24–26.
- . "Stone and Fire Cowl." *Spin + Knit*, 2017, pp. 65, 68.
- . "A Study in Zig: Six Energized-Singles Scarves." *Spin Off*, Spring 2006, pp. 58–64.
- Romney carded roving: Fiddle Knoll Farm, Skandia, Michigan.
- Targhee combed top: Yarn Hollow, Grandville, Michigan.

Amy Tyler spins and plays with both energized and balanced yarns. She shares her enthusiasm for spinning yarns in workshops around the country. You can find out more about her fiber work and teaching on her website and blog: www.stonesockfibers.com and www.stonesockblog.blogspot.com.

Charts to knit the three-dimensional stitch patterns shown on page 4 are available on pages 6-8.

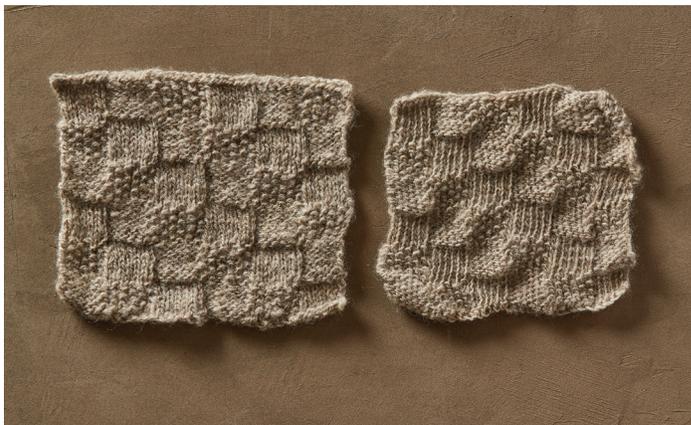
Charts for "3-D EFFECTS WITH ENERGIZED SINGLES"

In the *Spin Off* Spring 2018 issue, Amy Tyler experimented with stitch patterns to determine which qualities gave the best three-dimensional effects when knitted using energized singles yarn. She says, "Not all knit-purl stitch patterns produce an interesting effect. If the number of stitches in the knit section (stockinette) and the purl section (reverse stockinette) is not great enough, the knitted fabric does not produce the lovely hills and valleys." For comparison, Amy knitted two samples of several stitch patterns. She knitted the swatch on the left in the photos below with a balanced 2-ply yarn and the one on the right with an energized Z-spun singles yarn. Here are the charts to knit the three-dimensional stitch patterns shown on page 4 of the PDF.

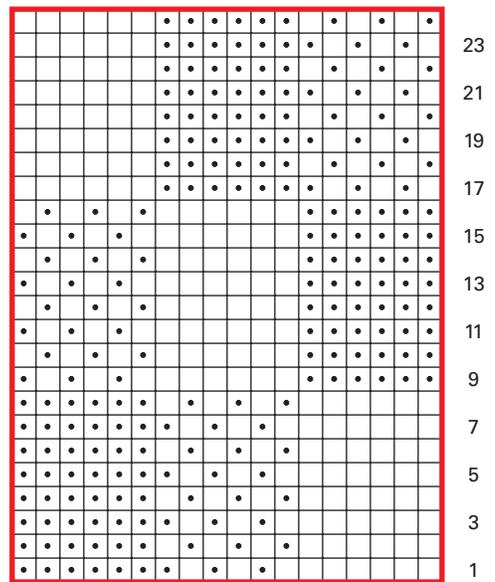
- k on RS; p on WS
- p on RS; k on WS
- pattern repeat

CHECKERBOARD

Swatch: 36 sts, 48 rows.



Checkerboard



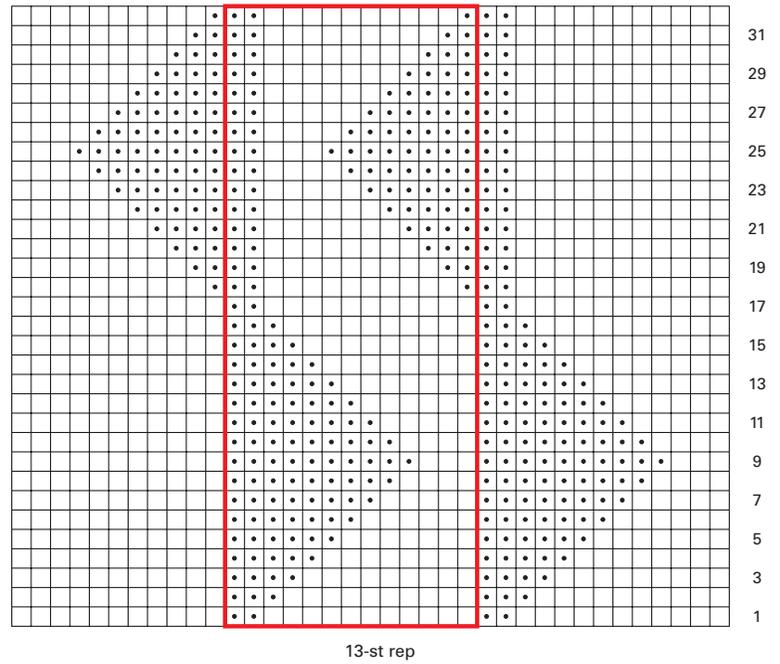
18-st rep

TWO-WAY PENNANTS

Swatch: 50 sts, 49 rows.



Two-Way Pennants

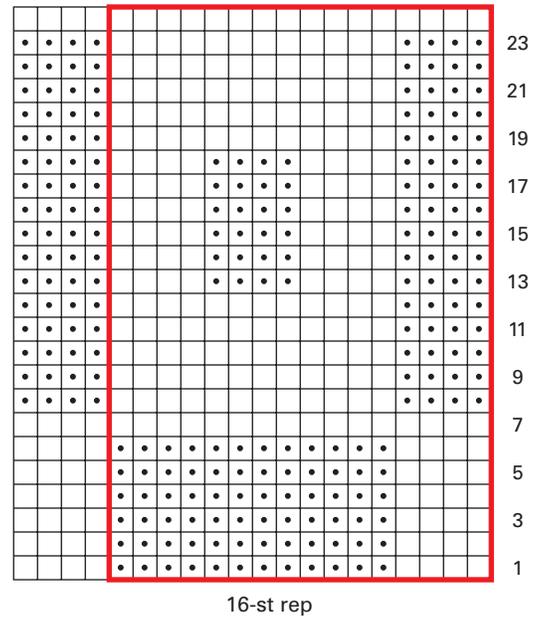


BOX IN BOX

Swatch: 36 sts, 54 rows.



Box in Box



Project

ENERGIZED CINDER BLOCKS Cowl

by Amy Tyler

FINISHING

Weave in ends. Wash and lay flat to dry. Do not stretch. ●

RESOURCES

Stanfield, Lesley. *The New Knitting Stitch Library*. Radnor, Pennsylvania: Chilton Book Company, 1992.

Targhee wool top: Yarn Hollow, Grandville, Michigan.

Amy Tyler spins and plays with both energized and balanced yarns. She shares her enthusiasm for spinning yarns in workshops around the country. You can find out more about her fiber work and teaching on her website and blog: www.stonesockfibers.com and www.stonesockblog.blogspot.com.





Stockinette with slip stitch brings all of the texture to the smooth side, while garter stitch lets the pill bugs fall more randomly.

Bugs and Wraps

Break Plying Rules for Subtle Texture

BY AMY TYLER

I like texture. Not flamboyant or dramatic texture—I’m more intrigued by modest, subtle texture. So when I spin textured yarns, they are on the quiet side.

Many textured handspun yarns (which you may also know as novelty, designer, or art yarns) are created with sewing threads or millspun “core” yarns, by manipulating the texture of the singles, by adding nonfiber objects to yarns, or by combining twist directions in interesting ways.

But it is also possible to create textured yarns with ordinary Z-spun singles. All you have to do is take the “rules” for creating a nice, consistent balanced two-ply yarn . . . and then break those rules.

Typical guidelines for a smooth two-ply yarn include:

- Similar twist and thickness of the singles being plied together
- Equal and consistent tension on both singles
- Consistent orientation of both singles
- Consistent take-up rate

- Consistent ply twist (consistent treadling, whorl or pulley size)

Simply put, a textured two-ply yarn can be made by *not* following these guidelines.

For example, a spiral yarn is created when you hold two singles under unequal tension; the singles that is held with less tension spirals around the singles that is held with more tension. You can accentuate the spiral effect by plying with singles of unequal twist or thickness. You can make any number of knot-type yarns (also called “knop” yarns) by varying the tension on the singles, or even by pushing the singles instead of pulling on them.

Here are two yarns I’ve used in my knit designs that stray from the guidelines for smooth two-ply yarns. Both of these yarns require a lazy kate, which I place on the floor under my chair behind my feet. I bring the left singles around the left leg of the chair and the right singles around the right leg of the chair (Figure 1). I then control one singles with my right hand and the other singles with my left hand.





Pill bugs in garter stitch and stockinette stitch.

PILL BUG KNOT YARN

The knots in this yarn look like pill bugs (*Armadillidiidae*, “roly-polies”), so I call it pill bug yarn. I like making this yarn and I like knitting with it.

Ideally, this yarn is on the tidy side and reasonably tightly twisted, so it is not overly elastic. The yarn is constructed from two singles yarns that are both spun in the Z direction with similar thickness and twist. Because of the strategy used for plying, it is easier to create this yarn if the singles are spun from fairly long combed fibers instead of carded fibers, with somewhat tight twist.

The pill bugs are made by alternately changing the tension on each of the singles and the movements of the right and left hands. The pill bugs can be added at any frequency, but it is easiest to get a consistent yarn if you have consistently spaced pill bugs.

Recipe:

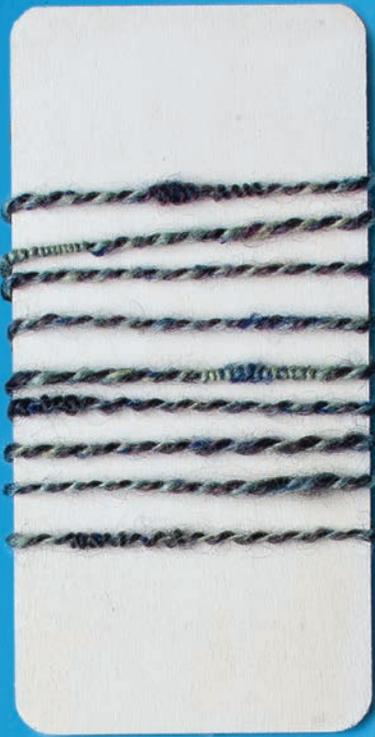
- Start by plying two singles together.
- When you want to add a right pill bug, hold the left singles strongly and pull it directly toward yourself. *At the same time*, push forward on the right singles that has already been plied to squish it into a closely wrapped bump around the left singles (Figure 2).
- With the right singles, make an additional wrap around the pill bug by taking your right hand toward the wheel and then back toward you (Figure 3). This extra wrap acts to hold the pill bug in place.
- That’s one pill bug. It should look like a mini-armadillo, with crossed threads on its “belly” (Figure 4).
- Ply a bit of yarn with even twist (holding both singles with the same tension).
- Make a similar pill bug but with the left singles wrapping around the right.



PHOTOS BY AMY TYLER



Before you ply, have your standard two-ply reference yarn at your side so that you know how much ply twist is needed to make a balanced finished yarn.



Intermittently wrapped yarns pop in a slip-stitch pattern.

When you are creating a pill bug, the singles that you hold still is becoming unspun. It is possible for this singles to become so unspun that it will drift apart. It is helpful to start with more tightly spun singles from longer fibers. You may find it helpful to sneak your hand forward on the singles that is held under tension so that it doesn't fall apart (Figure 5, previous page).

You can always make pill bugs with just the right or left singles, but you'll need more of the pill bug singles than of the other singles.

This yarn behaves in an interesting fashion when knitted. You will notice that a swatch knitted in stockinette stitch will show most of the pill bugs on the purl side of the fabric, not on the knit side. If you knit in garter stitch, the pill bugs will show up on both sides.

If you knit in an open lace pattern, the pill bugs seem to rest in the corners of the eyelets. Using a slip-stitch strategy also results in an interesting effect and is a good way to show the pill bugs on the knit side of stockinette stitch: when you come to a pill bug in your working yarn, move the working yarn to the knit side of the fabric, slip one or two stitches, then move the working yarn back to the purl side of the fabric. The pill bugs will lie in a horizontal orientation on the knit side of the fabric.

INTERMITTENTLY WRAPPED YARN

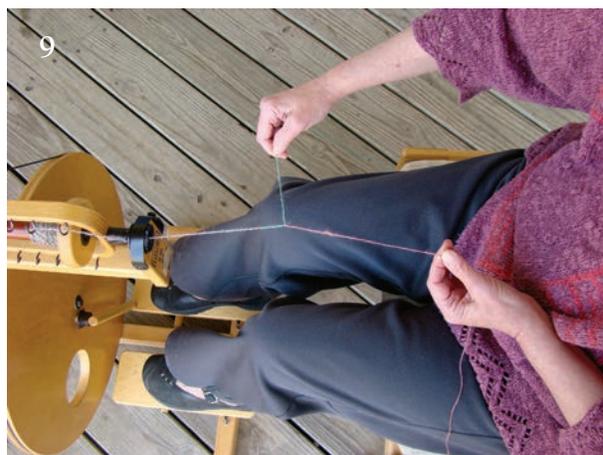
Mabel Ross referred to this yarn as “cloud” yarn. I don't find it particularly cloudlike, but that may be due to the way I make the yarn. It is quite subtle; there are no bumps along the finished plied yarn. The wraps really only show up if you use singles that are contrasting in color or hue or if you're spinning from variegated or space-dyed fibers.

The two singles should be Z-spun and similar in twist and thickness. Both carded and combed fibers work well. As with the pill bug yarn, I put the lazy kate under the chair, looping the left and right singles around the legs of the chair and controlling the singles separately with left and right hands.

The wrapping bits in this yarn are created by first unplying a section very briefly and then holding one singles tightly while allowing the other singles to wrap around it.

Recipe:

- Start by plying two singles together, holding the left and right singles under equal tension and close together (Figure 6).
- To make a right wrap, pull both singles out to opposite sides a bit so that there is about a 60-degree angle between the two singles, unplying the yarn for about 6 inches (Figure 7). This action adds potential energy to the plied section, making the next step easier.
- Hold the left singles with very firm tension, pulling it directly toward you. *At the same time*, pull the right singles directly to the right, making a 90-degree angle between the singles (Figure 8). Allow the right singles to feed onto the left singles in an even little wrap (Figure 9).
- Ply evenly for a distance.



PHOTOS BY AMY TYLER

Alternate making right and left wraps. If you choose to make wraps on only one side, remember that you will need more singles of the wrapping yarn than the non-wrapping yarn.

This is not an easy yarn to master. It does take practice to get the wrap to look consistent; it is very easy to make a knot or a snarl instead of a wrap. I have a tendency to put too much ply twist in the yarn, so I find it helpful to use the largest whorl (lowest drive ratio). It helps to have a relatively strong take-up tension, so this yarn is easier to ply on either a bobbin lead (Irish tension) or flyer lead (scotch tension) wheel; it will be more difficult on a double-drive wheel.

When I first made this yarn and knitted it using stockinette stitch, I was sorely disappointed: the wraps do not show up at all. Nor do they show up in garter stitch.

However, they show if knitted in a wide-open lace pattern. My preferred way to use this yarn in knitting is to use slip stitches (as described for the pill bug yarn). For stockinette stitch, when you get to a wrap in the working yarn, move the working yarn to the knit side of the fabric, slip as many stitches as you need to accommodate the length of the wrapped section

of yarn, move the working yarn back to the purl side of the fabric, and continue working in stockinette stitch. Even though this yarn takes practice and is only obvious under certain knitting conditions, I do think it is worth the effort. I suspect this yarn would be interesting as weft in weaving.

One idea that I have for a variation on this yarn is to create a crêpe yarn version of it: Spin two singles in the Z direction, then ply them together with too much S-twist. Spin a third singles in the S direction, then ply this singles with the overplied two-ply in the Z direction, always wrapping with the third singles around the two-ply.

I like the idea that you can take ordinary Z-spun singles and create extraordinary—albeit modestly so—plied yarns, just by changing the rules. Here's to being a plying scofflaw! 🐘

Amy Tyler spins and knits smooth and gently textured yarns in the northwest corner of the lower peninsula of Michigan. Find out more about Amy on her website, www.stonesockfibers.com.

RESOURCES

Ross, Mabel. *The Essentials of Yarn Design for Handspinners*. Kinross, Scotland: Mabel Ross, 1983.