



*by Lela Nargi*

Before I was much of a knitter, I was an avid purchaser of yarn. Namely of Vermonter Jamie Harmon's lush, variegated skeins of merino/angora, which, in mid-1990s New York, were sold exclusively by Linda La Belle at her Brooklyn shop, The Yarn Tree. I found the colorways of the skeins irresistible, with their seafoam greens and berry reds and lively blues. At that time, even as I hoarded twist after luscious twist, I lacked the vocabulary to describe their appealing qualities. Now I know that I was lured by the extraordinary vibrancy and depth of color that can only be achieved by natural dyes.

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## *Cochineal*

We're experiencing a down-right craze for natural dyes—natural *everything*—these days. Although no one will go on record with numbers, hand-dyers, knitwear designers, and shop owners all confirm they've seen a spike of interest from consumers.

"Ten years ago," Catherine Clark, the owner of my LYS, tells me, "I couldn't find natural dyed yarns to buy wholesale." Now, such is the furor for "green" that large-scale producers are scrambling to get natural dyes—both as raw material, and powdered and liquid extracts—to market, touting their eco-friendly footprint and "skin-friendly" nature.

To understand what the fuss is about, it helps to first understand a bit of the history. Natural dyeing—that is, dyeing with anything from fungi and lichens and plant parts (leaves, bark, flowers, heartwood), to mollusks and insects—has a history of thousands of years. J.N. Liles, in *Art and Craft of Natural Dyeing* (Univeristy of Tennessee Press, 1990), postulates that the earliest dyestuffs were things like turmeric and safflower, which dye (or perhaps more accurately, stain) directly. Mordanting seems to have been in evidence by about 2000 BC. By 1500 BC, the Phoenicians had thriving dye houses dedicated to Tyrian purple, where they crushed countless tons of sea snails to release the mucous secretions of their hypobranchial glands, which in turn oxidized to color textiles a deep, rich purple. "Pre-Columbian cultures could create 200 colors using three or four different kinds of dyes," says Isa Rodriguez, Studio Manager of Brooklyn's Textile Arts Center. "They totally understood the concept of changing pH and using mordants."

And then, that know-how virtually disappeared.

We have a chemist named William Henry Perkin to thank for that. In 1856, he accidentally created the first synthetic dye (mauve, as it happens) while he was trying to make quinine. Sixty years later, natural dyes had been largely supplanted by synthetic dyes, which were cheaper and easier to produce, and more intensely and consistently colored. With historic recipe books scarce, improvising crafters spent the next fifty years turning out dyed textiles with some very mixed results.

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### *Madder*

In the 1970s, technology came to the rescue. That's when, says Rodriguez, "Chemistry developed to such an extent that analysis of textiles could be made. And suddenly, all this knowledge that everyone thought was lost since the development of synthetic dyes was again possible to understand." What started out as the provenance of textile conservators slipped into the hands of artists and craftspeople.

This (comparatively) newly-reclaimed knowledge is greatly in evidence among small- and medium-scale commercial hand dyers. Jamie Harmon devised her dye formulas—which use osage orange, madder, and cochineal she smashes and grinds herself—from the recipe book of a defunct hand spinning co-op from the 1970s. Leena Riihelä, whose company, Riihivilla, sells Finnsheep wool and mitten kits, grows her own Japanese indigo and woad, and forages locally for Cortinarius mushrooms.

"I use mainly so-called historical dyes," she says, noting that she learned about them by perusing forty-year-old Finnish dyebooks. "They have proven their fastness over the centuries."

"Some of my recipes would have been used a thousand years ago, they're so basic," says Andie Luijk of Renaissance Dyeing, the French company for which she produces plant-dyed yarns and threads. Like Harmon, Rodriguez, and Riihelä, Luijk is what might be called an artisinal dyer, one who cooks up her own dye baths, carefully moderates their temperature, mordants, soaks and rinses by hand—a laborious process that Harmon likens to a cross between "making a soufflé, where you have to be careful, and a stew, where you can do what you want."



## Onions

Why would anyone go to all that trouble? Designer Hélène Magnússon explains that the wool she uses for Love Story—her Icelandic lace weight yarn, to be used in dress kits to support a new book she's writing—gets a lot of loving care. "It's carefully selected, washed with biological soap, left outside to dry," she says. "After all that, it would really be too bad to dye it with [synthetic] chemicals." Riihelä and Luijk have similar stories to tell, each woman having locally-sourced fibers judiciously selected and spun for them.

As a general rule, artisinal hand dyers give serious thought to what they use as mordanting agents, the (frequently metallic) substances that create a bridge between fiber and dye, allowing the latter to fuse itself to the former. Luijk says she's picky about what old dye recipes she chooses.

"Dangerous chemicals such as lead and arsenic were also used as far back as the Renaissance," she points out. She, Harmon and Riihelä all favor alum for pre-mordanting—that is, treating the yarn *before* inserting it in the dye. Says Luijk, "I will use an alum mordant bath for about ten sessions. And then I use the water on the brassicas in the garden. When I use iron, I use about five grams per kilo (about two and a quarter pounds) of wool. There is of course always the possibility that someone might be allergic to iron. But there are also people allergic to wool." Riihelä supplements alum and iron with some tannin-bearing barks, such as oak, alder and birch. "There are always alternatives to things that are toxic," she says.



## *Safflower*

Industrially-produced dye extracts can be used with eco-friendly mordants, too. But some artisanal dyers still see differences in processes. As with synthetic dyes, measurements for extracts are precise, and they are meant to yield the same results time after time, giving predictable coloration. This a happenstance about which some artisanal dyers are blasé.

“I never expect to get the same results as previously,” says Riihelä. And, shrugs Rodriguez, “I’m personally not interested in reproducing the same color each time. But a lot of designers are, and that is a challenge.” Although she has completed “ethical” dye projects for the likes of Laura Siegel, Tatyana Inglis, and Abika: “We’ve been really lucky that the people who come to us are accepting of the qualities of natural dyes” from raw materials—variations in color, as well as some vagaries in lightfastness.

Possibly a more significant concern than aesthetics for Rodriguez is the scale of current production. “A lot of natural dyes come from the heartwood of certain trees, and up till now, we were getting it as a byproduct from the furniture industry,” she says. “But if industry starts using [these heartwoods], who’s going to supply them in the quantities needed?” Potential decimation of forests worries her, as does the taking over of food farmland for the mono-cropping of dye plants, which she fears might use copious amounts of water, fertilizers and pesticides. She’s not the only one to voice alarm about this. Reportedly, the 2011 International Symposium and Exhibition on Natural Dyes (ISEND) in La Rochelle, France, was a lively affair, with some 520 participating crafters, industry representatives, and farmers hotly debating what path natural dyeing “should” take.

But once again, technology, as well as vigorous research and a certain amount of common sense, seems to be paving the way for a middle ground between the extremes of local foraging for dyestuffs, and what some are afraid will prove unsustainable environmental practices. In India, a cooperative organization called Avani has a mission to provide a stable livelihood for local farmers by growing natural dyeplants on reclaimed wastelands, as well as sourcing colors from invasive species such as Eupatorium. In France, Bleu de Lectoure grows woad organically through a 90-hectare farm collective, as part of an intricate system to supply what its founder, Denise Siméon-Lambert, calls a rich, vibrant blue that “not even indigo can reproduce.” The land has been designated by the government as requiring time to rest from food crop production; and its farmers have discovered a way to make money from what formerly would have been unproductive earth. “You can do this responsibly on a large scale,” insists Siméon-Lambert, “if you respect the soil and the plant, and not push it to the extreme of what it can give.”

“There is a growing awareness that we need to turn around and look at what we’re doing to the Earth,” says Luijk (who, incidentally, is a Bleu de Lectoure customer). “A nod towards the absurdity of buying wool that has been chemically drenched in China, while the shepherd down the road is burning his wool.”



Meanwhile, in Vermont, Jamie Harmon—who cites first and foremost the “electric neon look” of synthetic dyes as the driving force behind her decision to use natural dyes—continues to happily cook up skeins of variegated yarn with names like “seaglass.” They, and others like them, by artisinal hand dyers the world over, can lately be found in abundance in a LYS near you.

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*Photos of cochineal, madder and weld courtesy of Andie Luijk.*