

e-shuttle VOLUME V, number 4
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Welcome to the **24th Edition** of the AVL e-shuttle!

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Brave New World Issue!

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1. New AVLs at Convergence 2002

Join us at Convergence 2002, Textile Tides August 1-4 in Vancouver BC, Canada. We'll be right by the front door in Booth 501 with a raft of NEW products. Check out the line-up of Compu-Dobby III looms. Don't miss our latest Rug Loom and get a chance to play with our latest software.

But most of all, don't miss our revolutionary new loom ... a loom so new and so hot, that you've got to wait until Convergence to see it ... or even know it's name. Think of it as a Brave New Loom.

2. Got Silk? Er Gilk?

The Sunday, June 16, 2002 New York Times Magazine <http://www.nytimes.com/2002/06/16/>

magazine/16GOAT.html featured a fascinating story "Got Silk", written by Lawrence Osbourne, about a company in Canada who are growing goats to, get this, create a new form of silk. Here's the rather incredible story:

The company, Nexia Biotechnologies, has created a "transgenic farm" which, according to the Times, is "a place where animal species are either cloned or genetically mixed to create medically useful substances".

According to the company's President, Jeffrey D. Turner, the company is "trying to take a single gene from a golden orb-weaving spider and put it into a goat egg. The idea is to make the goat secrete spider silk into its milk." Milk silk? Or Gilk? Milk goats that are 1/70,000 spider are raised to become the creators of this new fiber.

After a series of relatively simple processes, the "gilk" is eventually extruded into a type of raw spider silk, uh milk, er gilk. In many ways it's quite similar to the creation of rayon, except that the factory is, well, a goat's stomach.

And it has a great name: BioSteel. Steel? "Spider silk is practically the world's strongest material", says Mr. Turner. "It's much stronger than steel -- five times as strong." So, what can one do with this new kind of fiber? Among other proposed uses, according to Mr. Osbourne, is a nearly weightless gossamer-like fabric that could be used in haute couture. But, writes Osbourne, "the real gold mine might be body armor: the Pentagon is working with Nexia to develop a prototype of a new kind of vest that might be made entirely out of goat silk. The vest would be only a little thicker than nylon, but it could stop a bullet dead."

For us, of course, the big question is when will BioSteel first show up on an AVL loom?

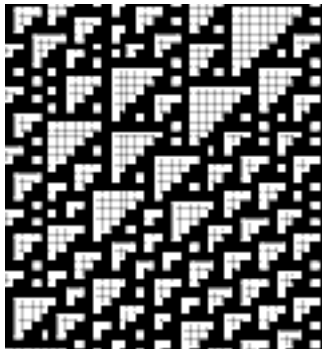
3. A New Kind of Weaving?

Is there a new way to design weaving? Is it possible that new weaves could be derived from the field of science? Could be ... at least if someone applies A New Kind of Science to it.

A New Kind of Science is the latest book by Stephen Wolfram, a man who has been called "the smartest man on the planet" by one Terrence Sejnowski, the director of the Computational Neurobiology Laboratory at the Salk Institute for Biological Studies in La Jolla, California, who, presumably is no slouch himself. Given the fact that Wolfram received hi doctorate in physics from Cal Tech at the tender age of 20, Sejnowski just may be right.

So, what does all this have to do with weaving? Wolfram's new book theorizes that the most complex elements of nature can be derived from the simplest of rules. The rules themselves are illustrated on a grid; by filling in squares on a grid ... sound familiar? Look at Wolfram's website (<http://www.stephenwolfram.com>).

In particular, take a peek at one of the pages from the book (<http://www.wolframscience.com/preview/>). You'll be astounded to see that the rules, when graphically shown, look astonishingly like a complex weave.



In an article from the May 11, 2002 New York Times, Edward Rothstein wrote, "A computer would be given a row of cells, some black, some white, along with a set of simple rules that determine how succeeding lines of shaded cells are to be generated. Such programs have been called 'cellular automata'."

As one might expect, simple rules generally yield simple patterns. But Mr. Wolfram found one rule for generating a cellular automaton that yields no clear pattern at all. Its appearance is bizarre, unpredictable, seemingly chaotic, bizarre, unpredictable ... sounds like a recipe for some unusual weaves.

There's more. Rothstein continued, "Such cellular automata are at the heart of this book, for Mr. Wolfram argues that many complex processes the movements of a fluid, the shapes of leaves, the patterns on a mollusk shell can, in fact, be modeled by simple programs like cellular automata. Such elementary programs, he suggests, can even be used to explain the nature of space and time or outline the vagaries of visual perception". Is it possible that someone could capture the nature of time and space in a piece of fabric? Check out Mr. Wolfram's book ... and get back to us.

4. Don't Forget ... More 25th Anniversary Salebrations

Don't forget, we're still in the middle of our yearlong celebration of AVL's 25th Year in Business. Right now, we're offering a full 25% OFF our new [Workshop Dobby Looms](#), the California Traveler. Go here for details on the sale. It's a great friend to take to Convergence!

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