

## **The coral reef stitch Crocheters strive to warn the world about effects of global warming, pollution**

By Charles Storch | Chicago Tribune staff reporter, October 18, 2007

Here's a yarn for our times:

A Latvian emigre teaching mathematics in upstate New York in 1997 used crochet to produce the first physical model of a convoluted geometric abstraction. Inspired by her, two Australian sisters living in Los Angeles decided about two years ago to expand the model into a symbol of their homeland, the endangered Great Barrier Reef. Galvanized by the sisters, 120 Chicago-area residents began three months ago to crochet their own reef.

The upshot of this far-flung activity is the "Hyperbolic Crochet Coral Reef," a new exhibition in the Chicago Cultural Center that runs through Dec. 13. It is seven crocheted interpretations of reef marine life, with loopy kelps, fringed sea anemones and curly corals. Most reefs are richly colored, but a few are bleached white or smothered in plastic to show what damage higher water temperatures, agricultural runoff and garbage can inflict.

The exhibition is craft art with a message: Global warming and pollution threaten the Great Barrier Reef, the globe's most vast coral reef system and one of its more spectacular marine habitats. The 1,450-mile-long complex of reefs, shoals and islets is off the coast of Queensland, a northeastern state of Australia.

Margaret Wertheim, the Australian who conceived the reef with her identical twin, Christine, described it as "a conjunction of feminine handicrafts, mathematics, environmentalism and a homage to the great natural wonder we had grown up with and was very much in our consciousness."

The sisters, age 49, learned crocheting from their mother as children in Brisbane, Queensland's capital. They now live in Los Angeles, where Margaret is a freelance science writer and Christine teaches at the California Institute for their Arts.

In 2003, they created the Institute for Figuring, an organization that sponsors lectures, exhibitions and small publications. Margaret Wertheim said the institute "communicates the poetic and aesthetics dimensions of science and mathematics."

The sisters helped popularize in the art world the crochets of Cornell University mathematician Daina Taimina who, in 1997, fashioned what non-Euclidean geometers since the 1820s could only conceptualize: a physical model of the hyperbolic plane, made from crocheted wool.

The hyperbolic plane has been described as a surface where space curves away from itself at each point and expands.

Taimina used an algorithm in her crocheting: With each new row, she added stitches until the form became crenelated. She tried to knit them, but holding so many stitches on a needle at a

time was hard. A crochet hook carries one loop at a time.

The Wertheims began experimenting with the formula, producing forms that looked like natural objects -- butter lettuce, for example, or sea slugs. Their eureka moment came about two years ago when, in a nostalgic turn, Christine Wertheim offered, "We could do a coral reef."

The Chicago Humanities Festival invited them to exhibit the reefs here in conjunction with "The Climate of Concern," its two-week event that begins Oct. 27. It also proposed that a new reef be made by Chicagoans.

Lawrence Weschler, the festival's artistic director, contacted Lisa Lee, director of Jane Addams Hull-House Museum and a festival board member. Lee offered Hull-House's services, seeing the project as consistent with Hull-House's history of social engagement and craftmaking, said Catherine Chandler, Lee's special assistant.

Starting in July, Chandler organized a series of crochet workshops. The Wertheims were at several, teaching Taimina's algorithm and discussing the Great Barrier Reef. The sessions were held in Hull-House, churches, yarn shops, senior centers and art studios. Sewing circles later were formed to attach the crocheted forms.

Some 120 people took part, all but a few of them women. Lee donated money, and yarn shops and the firm Coats & Clark gave supplies. Erika and Monika Simmons, Chicago identical twins who design crochet fashions for their label Double Stitch, became spokeswomen for the project. Monika Simmons said the environmental message hooked her. She has vowed to limit buying plastic-packaged goods.

"People were drawn to the project for different reasons," Chandler said. "We had crocheters, environmentalists, math enthusiasts. Each became interested in the others' interests."

"The wool," Margaret Wertheim observed, "seems to exert its own will."

Informal crocheting workshops are to be held noon Thursdays during the run of the exhibit, "Hyperbolic Crochet Coral Reef," in the Chicago Rooms, 2nd Floor, Chicago Cultural Center, 77 E. Randolph St.

[cstorch@tribune.com](mailto:cstorch@tribune.com)

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