A NATURAL EVOLUTION

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THROUGH HIS ROLE AS PRODUCT DESIGNER FOR INTERFACE, DAVID OAKEY ENTERED THE COMPLEX YET COMMON-SENSE WORLD OF BIOMIMICRY AND SOON BECAME AN AUTHORITY ON THE SUBJECT.

Above: Carpet styles B601, B602 and B603 (in the colour Atlantic) from the Interface *Net Effect* collection

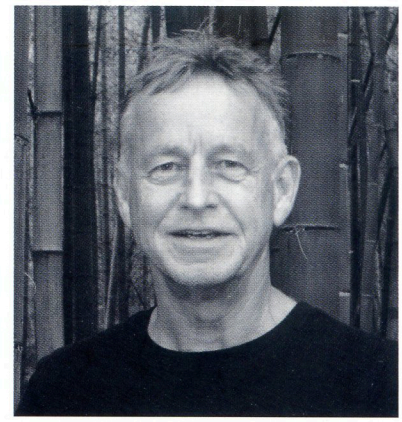
TWENTY-ONE YEARS AGO Ray Anderson, the Founder and Chairman of American modular carpet tile producer Interface, set a bold challenge for his company: to move away from the traditional industrial model of production and toward a model of closed-loop sustainability. He set the mission of making his company sustainable in all dimensions (people, process, product, place and profits) by 2020. In so doing, he set in motion an incredible process of transformation.

Designer David Oakey (who studied carpet design at Kidderminster College in the UK, where he grew up) had just signed a three-year contract with Interface, and found himself suddenly at the epicenter of a branch of design that was considered 'out there' on the fringe. "We'd make nylon product and after its life we didn't know what to do with it," he says of the time. "It couldn't be recycled," he adds, noting that there were also problems associated with making product from natural materials such as wool and hemp.

He explains, "A lot of people were saying you've got to go back to nature and make natural products. That was true perhaps only when the world population was a couple of billion. Now it has outgrown the carrying capacity of the earth."

Struggling with the question of how to make sustainable products if going back to nature was not the right way, Oakey read the book *Biomimicry: Innovation Inspired by Nature* by Janine Benyus. It changed his entire approach to design, bringing the realisation that the sustainability desired by Interface required participation in the natural cycle. "Everything is natural – even fossil fuel. The problem is that when people extract materials, we don't put them back into a natural cycle. We're just taking, making and wasting."

Biomimicry is essentially the emulation of nature's patterns and strategies, and it is an approach that has become central to Oakey's practice – both for Interface and through his own studio David Oakey Designs (based in Georgia, US), which he established in 1985. In transitioning



Interface toward a biomimetic model of design, Oakey began posing a guiding question for every design problem: What would nature do? "We've got to resemble and honour nature, and use the same principles," he says.

The manner in which the company now uses nylon provides a good illustration of its new approach. There is no waste in nature, Oakey points out; there is reuse. The Interface Net-Works™ programme targets a closed-loop system for nylon by purchasing and recycling used nylon fishing nets (a serious ocean pollutant) from coastal communities around the world. Here, biomimicry informs the design of a system.

In terms of product design, Oakey's biomimetic approach has yielded not only carpet collections that evoke the scenes of nature – undulating oceans in the *Net Effect* collection; swirling grains, lattices of branches and leaves in the *Bioscapes* collection; and textured stone in the *Human Nature* collection, for example. His approach also considers the manner in which natural environments are composed.

"Perfection and uniformity don't exist in nature," he says. "It is a human habit to make things that are exactly the same. But what happens when there's a defect? You lose the whole thing." Oakey introduced the notion of diversity to the context of modular carpet tiles with variations of colour and texture. This allows tiles to be laid in any direction and facilitates the replacement of damaged tiles with greater subtlety.

It also overcomes the old requirement that raw materials must be identical to samples. "With the old model, the nylon would have to perfectly match the sample or we'd reject it. Now, even if it looks a little different, it can be used."

Oakey's development of a biomimetic design approach and his activity as a speaker on the topic have earned him significant recognition. He currently serves on the Board of Directors of the Montana-based Biomimicry Institute, and watches as the world's biggest companies are adopting a biomimetic approach for the design of their systems and business models. He cautions, however, that companies need to understand growth has its limits. "After all, there is no perpetual growth in nature," he says.

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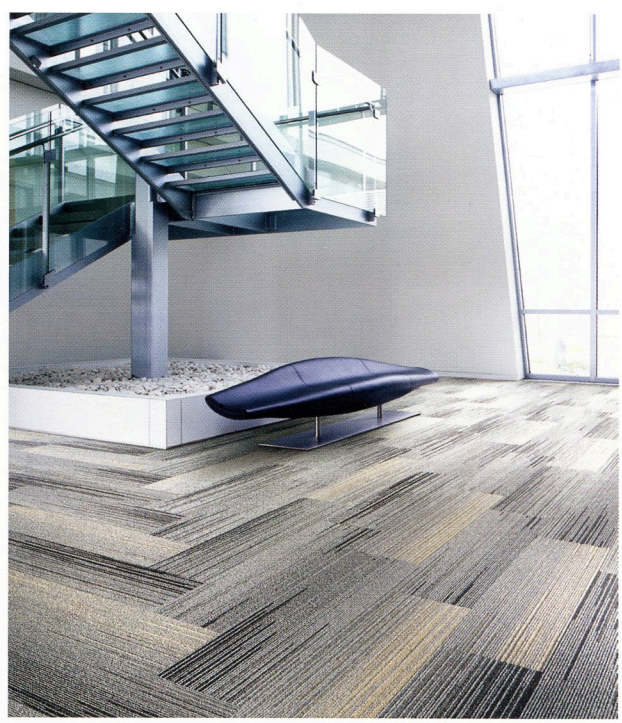
"WE'VE GOT TO RESEMBLE AND HONOUR NATURE, AND USE THE SAME PRINCIPLES."

» David Oakey



Top: Designer David Oakey has been the exclusive product designer for Interface and Flor

Bottom left: Styles HN810, HN840, HN850 (in Limestone) and HN830 (in Clementine) from Interface's *Human Nature* collection

Bottom right: Style SL930 (in Grey) from Interface's *Silver Linings* collection, which was inspired by stormy skies