

THE NEW YORKER

THE FINANCIAL PAGE

WASTE AWAY

by James Surowiecki

MAY 6, 2002

Seventy years ago, the Ford Motor Company's River Rouge factory, in Dearborn, Michigan, was the show horse of the second industrial revolution.

Spread out over a thousand acres, it included a steel mill, a power plant, glass and cement factories, and an assembly plant. Coal, iron ore, and sand were hauled down the Rouge River on giant freighters, and were transformed first into steel and glass and then into Model A's, tractors, and airplanes.

Today, there's a new show horse at the Rouge. As part of a two-billion-dollar redesign, Ford is covering much of the roof of its new factory with a plant called sedum, effectively turning the roof into a ten-acre garden. Skylights and giant windows will flood the factory with natural light. And the complex will include acres of natural swales and wetlands. The change will please the tree-huggers but should please the bean counters, too. The "living roof" lowers energy costs by keeping the factory cooler. The skylights and windows reduce the need for artificial light. And the wetlands serve as a natural filtration system for rainwater running off the buildings. It might seem silly to build an environmentally friendly plant to turn out gas-guzzling trucks, but the new Rouge may well offer the possibility of a new industrial revolution.

Or so William McDonough believes. McDonough is an architect and product designer whose ideas inspired the Rouge renovation. He is also something of an environmental heretic. In his new book, "Cradle to Cradle," McDonough (with his co-author, Michael Braungart) argues that the battle between environmentalists and industrialists is as outmoded as Earth Shoes. "The growth/no-growth argument is specious," he said last week. "Growth is good. The question is, how do you want to grow?" McDonough's guiding principle seems simple enough: the source of our environmental woes is waste. There is nothing wrong with cars, TV sets, and running shoes. What's wrong is the waste—chemicals, heavy metals, CO₂—that's produced when we make them, use them, and, eventually, throw them away. Eliminate that waste, and you eliminate the problem.

Right, and why not cure cancer while you're at it? Last time we checked, waste—landfills, smog, river sludge—was the price we paid for a healthy economy. McDonough doesn't see it that way. We don't need to make less stuff. We only need to make stuff differently. In McDonough's future, there would be only two kinds of products. The first would be made of natural substances—he calls them "biological nutrients"—and they'd be perfectly biodegradable. Had enough of those pants? Just toss them out the window, like an apple core. The second would be made of "technical nutrients"—steel, plastics, polymers, silicon, glass—and would be endlessly reusable; old shoes would become new shoes, old cars would be turned into new cars. Everything would be raw material for something else.

McDonough hasn't simply imagined these products; he has started to make them. A new fabric that he created for Designtex, which Lufthansa is testing for airplane seat cushions, is free of poisonous dyes and fibres; you can eat it, if you like. He thinks we'll soon have an ice-cream container that biodegrades in a matter of hours. "It's fun to just throw stuff away," he says. "You could put 'Please litter' on the wrappers." The pages of "Cradle to Cradle" are made not of paper but of a new waterproof polymer that can be reused forever.



This isn't merely a souped-up form of recycling. For one thing, recycling tends to be economically inefficient. For another, most recycling is actually downcycling, with the material becoming less valuable each time it's used. When the steel in old cars, for instance, is melted down, it becomes too weak for making new ones. Products aren't made to be reused. They're made to be thrown out. Products that will live forever (or die right away) must be designed that way from the beginning.

We may be decades—centuries?—away from McDonough's perfect world, but he does seem to point to a path out of the seemingly unwinnable trench war between conservation and commerce. Never mind the invisible hand; McDonough's talking about the invisible hand-me-down. Thirty years ago, two scientists named Paul Ehrlich and John Holdren, who were looking for a way to measure the burden that economic growth places on the earth, came up with the $E=mc^2$ of the modern environmental movement. The equation was $I=PAT$, meaning that environmental impact was the product of population size (P), level of affluence (A), and technological capability (T). The equation expressed some of the movement's central tenets: population growth, economic growth, and consumption are bad, technology rarely makes things better, and when you combine them all you get Armageddon. Translated into public policy, these tenets helped produce a thicket of environmental regulations, all predicated on the assumption that the only way to save the planet was to set limits and keep businesses and consumers from violating them.

Of course, those regulations have done a great deal of good. But they also encourage companies to devote tremendous time and energy to figuring out how to get away with as much as possible, and to think of environmental concerns only as obstacles to profitability. Environmentalists, meanwhile, are stuck in the role of scolds, nagging corporations, in essence, to wear hemp and drink soy. But McDonough is saying that affluence and technology don't have to be enemies of the earth. In fact, they could be its best allies. We can save the world and get rich, while littering the yard with our biodegradable beer cans.
