

# What About Ijunk?

**With the right design, a manufactured good can be broken down into a number of universal, toxin-free components.**

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NEWSWEEK

From the magazine issue dated Sep 29, 2008

On July 11, a really cool piece of gadgetry went on the market and, in the blink of three days, into more than a million pockets. New buyers' attitudes toward the iPhone 3G were by and large uniform: stoked. But in one respect the revolutionary phone is as old as, say, the Walkman: it has anticipated needs we didn't know we had. Which raises a different sort of question, one whose urgency long predates the iPhone, the iBook, the YouTube, the Wii: what happened to all the once useful things we wanted before? The cell phone that's not a computer, the GPS that's not a phone, the squarely three-dimensional television, the *videotape rewinder*? In most households—nothing. A recent survey by the classified-ads Web site Kijiji.com says that 70 percent of Americans simply keep old hardware around. When it comes to electronics, the overwhelming trend is in with the new, no change with the old.

This is a problem for two reasons: old electronics can't be tossed out with watermelon rinds because they contain toxic elements, and most of them needn't be tossed anyway because they aren't waste. Batteries will leak nickel and cadmium—carcinogens for humans—if left to fester in a landfill; computers, televisions and cell phones add fatal doses of mercury, beryllium, lead and arsenic, among other toxins. Most people are at least vaguely aware of this, which is why they end up never getting rid of the stuff at all. But enough people aren't—or don't care—so that the United States nevertheless sends between 300 million and 400 million electronic items to the dump every year.

The current strategy of environmentalists is to buy time before products irrevocably become waste. You can pass on working hardware to a charity, or sell it. (Though be warned: according to Kijiji, old stuff is worth far less than people think—the camera that cost \$250 a few years ago now has an estimated street value of \$24.)

But what if the waste problem could be solved as a design problem? The architect-chemist team of William McDonough and Michael Braungart advocates a cradle-to-cradle model for manufacturing. They believe that an industrial product—say, a carpet—can have a renewable life cycle, just like a plant. With the right design, a manufactured good can be broken down into a

number of universal, toxin-free components—what McDonough and Braungart call "technical nutrients"—which then feed again into the production cycle in a closed loop. A substantial portion of the raw materials needed for manufacturing a new product would simply come from the old. A cradle-to-cradle computer, says Steve Bolton, a senior consultant at McDonough Braungart Design Chemistry (MBDC), might consist of "just one or two types of plastics, easily taken apart" and put back into the streams of production. Nothing is thrown out because nothing is waste.

Even without the dramatic redesign MBDC calls for, though, we can waste less than we think. Up to 80 percent of a cell phone is already recyclable: the batteries, once neutralized, yield reusable metals like iron and aluminum; components like the wiring board and LCD screens provide more metals like gold, silver and copper. McDonough and Braungart would like to be able to turn your old cell phone into a new one, but short of that, it can still become part of a speaker set or a stethoscope. What's important is that the waste question is being asked and progressively answered by the manufacturers themselves. Nokia has expanded its initiatives to reclaim old cell phones in the United States and abroad—in China, its Green Box program, in partnership with China Mobile and Motorola, collected more than 30,000 phones in the first three months—and consistently tops the Greenpeace Green Electronics rankings. Dell leads the computer industry's growing acceptance of product stewardship (won in no small part by the likes of the Computer TakeBack Campaign, an aggressive advocacy group): it picks up the shipping and recycling fees for its own products. If it's slightly ahead of the curve, it's actually not too far ahead of the law: in 15 U.S. states and New York City, legislation holds electronics manufacturers responsible for recycling old products.

Though a bunch of paradigm-shifting radicals at heart, MBDC welcomes this kind of incremental progress. In March, it gave Cradle-to-Cradle certification to an unexpected third party in the recycling effort: the U.S. Postal Service, recognized for a pilot program in small-electronics recycling. Special envelopes let you send old PalmPilots, BlackBerrys, digital cameras and the like free of charge to the Clover Technologies Group, an electronics-recycling company that has a "zero waste to landfill" policy.

All these, in the end, are varying stripes of a short-term solution. What cradle-to-cradle really calls for is recycling that is, in fact, restoration, and a relationship between industry and consumer that recognizes the transience of goods. It means that we think about products not just as gadgets we buy and keep but rather as services. We could be leasing our electronics the way we lease our cell-phone service—though the average shelf life of a cell phone isn't even as long as the iPhone plan (two years). Leasing versus buying: it's worth crunching the numbers, and soon—rumor has it the BlackBerry 9000 is almost ready.

URL: <http://www.newsweek.com/id/160129>

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