

## A Manifesto for Postindustrial Design

By Jamer Hunt

Mass production, as we know it, will soon be extinct. So say goodbye to heavy metals, huge warehouses, and durable goods. And say hello to the bearable lightness of living networks, metabolism, and code.

A new kind of design practice is emerging against the background of our own shifting cultural landscape. Information and code have become the basis for understanding life, and the old, mechanistic models—drawn in part from the Industrial Revolution—have fallen away. Code (genetic and digital) has emerged as the reality common to all things material and immaterial. Code levels difference, uniting things as surface variations that are built upon different, deeper combinations of code. Sacred oppositions such as human and machine, mind and computer, matter and information, real and virtual, and natural and artificial no longer seem so absolute in our dreamworld of transgenic species, prosthetic intelligence, augmented reality, and DNA computers. And what makes code so revolutionary is that it has no essential form. It can be changed at will. Cut, paste, remove, save, find, replace, blend, insert, save as. Life is a file to be manipulated with Photoshop ease and flexibility. And you can always move back in time. Just undo it.

In this primordial ooze of mutating code, the industrial mode of production is just a rotting old carcass, decomposing but still taking up space. Originally, as a professional practice, industrial design was built upon a sturdy foundation of manufacturing cycles, business needs, tooling costs, central distribution networks, planned obsolescence, and seemingly abundant natural and synthetic resources. These conditions, simply put, are no longer relevant. We operate within a technological, economic, and cultural infrastructure that has long moved on from its industrial base. Industrial culture needs to be obsolete not because it is evil, immoral, profligate, toxic, or gluttonous (though it is many of those things), but because it no longer reflects the facts on the ground. It can no longer keep up in a world of light speed and versioning. Its byproducts are too slow, too permanent, and take up too much space. Ironically, industrial design, the engine of planned obsolescence, is now obsolete. For where we used to produce durable goods—which weren't really that durable after all, except in our landfills—we will now circulate code, capacity, and connections.

It doesn't take a rocket scientist to see that we live in an information and service economy, not a manufacturing economy. We see the impact of these changes not only in the ravage and rot of former industrial cities but also in the rhizomatic boom in edge-city development and sprawl (where more than three-quarters of all office space currently exists). But just acknowledging that we live in a service- and information-based economy doesn't capture the peculiar characteristics of postindustrial culture. Postindustrial design is a qualitatively different way of designing in this new culture. Three things are propelling this revolution: distributed intelligence, computer-aided design and manufacture, and ecological realities. The result is that designers will no longer dictate form from the system's center and then foist their wares upon a passive marketplace. Instead, more and more design will be a code and a set of parameters. That code will then be let loose in an electronic ecosystem so that it can be manipulated, changed, improved, hacked, and produced in multiple variations in myriad places.

These new processes of design are more biological than mechanical. They are flexible, adaptable, sustainable, and self-organizing. The "design" will gain energy and vitality through this distribution and circulation, just as genes do. Code, too, has its own characteristics, traits, patterns, and needs. It has metabolism. It survives through modified loops of input, stimulation, feedback, circulation, and change. Sprawling networks of data that are ubiquitous, immediate, and infinite will amplify and distribute that code. In this way, code becomes dynamic; it is alive to its environment. The old order of vertical integration and of centers and peripheries is giving way to flux and code, mutability and drift. Out with hard goods. In with soft wares.

Incubating within this new design mode are different dynamics of market research, design, manufacture, distribution, and ownership. We saw it first in information technologies, but it is now seeping into the product design world as well. This model is closer to the open-source mode of software creation than to the romantic, genius-in-a-tower version. How does this matrix of connectedness and code-shifting change our understanding of a design process? It affects every aspect of every step of the process. We are not simply upgrading the familiar. Postindustrial design is as different from industrial design as industrial design was from the artisanal mode of production that it supplanted. No longer will companies rely upon imprecise statistical models and historical projections to determine the quantity and qualities of the things they make. There is too much wasted motion in even the most precise and efficient of these production models. While economies of scale and task specialization created unimaginable abundance, the industrial manufacturing process is beset with a top-down, top-heavy, centralized distribution system. It is inherently bloated, conservative, and risk-averse.

Two precedents from outside industrial design illustrate this evolution clearly. Netscape used to sell its Web browser. That made sense, since it developed the technology, wrote the code, burned the discs, distributed the packages in trucks to stores, and cleared a margin of profit by the end. But the company fast discovered that the best way to stay competitive was to give away the product for free. Linux emerged because a connected group of interests coalesced into an idea that took form only through the participation of multiple creators. While Linus Torvald gets credited with the initial genesis, the current versions of Linux bear little trace of his handiwork. He and others established guidelines for its evolution and let it loose on its native network. Even more remarkably, no one really owns it. It comes with a constitution of sorts, but that is it. Private companies can "sell" it, but all they really sell is support and documentation. They must make the operating system itself available for free. So this is the Linux story: No one entity created it; no one owns it; there is an infinite variety of possible versions; it is rapidly evolving; it has no final state. And it is challenging Windows. Who could have focused Linux? Because its source code is open and free to all, there is barely even one static thing called Linux. Compare its birth process to the love-it-or-leave-it, straining and grunting, cloak-and-dagger ploys of its competitors, and you begin to see the daring lightness of its promise.

While there is not one single product that embodies this new process completely, we can look to a range of phenomena that, like Linux, carry the future code within their genetic makeup. The examples that follow all turn conventional development processes inside out, shaking out waste, stasis, inertia, and a lot of rust.

### Front Design

Front Design, from Sweden, explores the boundaries between natural and artificial processes of product development, creating strange and wonderful hybrids that erase the designer's hand in the creation of a final form (See I.D., September/October 2004, p. 57). Front's antic Animals project leaves design to the whims of a variety of common animal species: rodents chew/design Rat Wallpaper's holey pattern; a housefly's path around a light bulb—digitally traced—forms the structure for a lamp shade. The group simply sets up the process and lets nature take its course. In its Design By projects, it cedes control to accidental processes and perturbations. The objects in the Scanner series result from capture errors as a 3-D scanner misreads an original object and then a 3-D printer compounds the misreading in a cloned, but dysmorphic, reinterpretation. At the intersection of biological randomness and technological freakishness, Front subverts design authorship. Form mutates, emerging polymorphously from processes gone out of control.

## Interface Carpet

Interface Carpet has taken at face value the unglamorous fact that we are a service-based economy and used that to redefine its business, its mission, its environmental impact, and its product. The company no longer sells carpet; it offers the service of floor coverage. The product vanishes. Waste, too, is gone from the system. Interface has closed the loop on its production cycle, meaning that it uses fewer resources, takes back everything it possibly can, traffics in long-term relationships instead of depreciating products, and feeds off the waste it produces. Like an organism, its metabolism is optimized to balance input and output and to produce nothing that cannot be consumed by someone or something else. Interface designs for disassembly and operates by the principle that waste is a waste. It also challenges the assumption that we are inherently acquisitive and proprietary and careless. In the end, who really wants to own flooring—or a heating system, a fax machine, a refrigerator, an air-conditioner—only to throw it away five to ten years down the road? Interface, and other companies (like Electrolux and even Ford), is watching the commodity model of product development vanish in its rearview mirror. Its product-as-service model assumes you want to have regular, optimal performance and you don't care much about owning the thing itself. It is closer to leasing than owning. What the company banks on, in the end, is that what it provides will last and satisfy. Interface is selling a relationship, not a product unit. What it sells can shape-shift, evolve, fold back into its production cycle, and return again as brand-new. Like nature, this living system model relies upon connection, input, feedback, and dynamic response. Sure, there will always be some stuff that people will want to own for its full lifespan (underwear comes to mind), but down the road it will be more luxurious to be free from stuff—and lightweight, mobile, aware, and connected—than to be making monthly pilgrimages to the local U-Store-It facility.

## Open / Future

Two exciting experiments in product development—Ronen Kadushin's Open Design and FutureFactories' Tuber and Tuber9 lights—operate on the premise that the next phase of design will be open and distributed. Like good source code, each designer crafts a robust CAD file, then releases it into an electronic medium for adaptation, modification, hacking, and further evolution. The designer creates a template or platform for design possibilities, but the final form is now in the hands of the consumer. The key to this process is that computer-aided and robotic manufacturing systems are allowing almost infinite variation in any production run. Mass-pro-

ducing singularities was an oxymoron; it is no longer. Nor is the designer or manufacturer constrained by conventional hefty costs of idle product inventory, retail overhead, seasonal change, constant retooling, and on down the line. Combine the flexibility of design-on-demand with the advances (and likely democratization) of stereolithography and 3-D printing, and suddenly desktop product design is a freaky reality, not a sci-fi fantasy.

**These projects illuminate strikingly different approaches. Postindustrial design is not even one thing yet, but multiple, heterogeneous strains that are destabilizing the industrial mode of production. Between them, one can glimpse four characteristics in common, and from that, the outlines of something starkly new.**

## Formless

Which Tuber9 light will design magazines profile for their award galleries? Who knows? There is no one archetype that represents the product totally. We don't even have the capacity—or the visual language—to create a totalized vision of this kind of product line. Products will shape-shift internally to the point that we can only celebrate the system of their creation, not the thing itself. The idea of creating brand identity through product family resemblance, with all the top-down control that that implies, is antiquated. The product as a singularity, an immutable object, will cease to exert its charms. We will no longer design things that cannot be changed at will, by whomever, at any point in the process. Design will evolve from a process of turning natural resources into static shapes into one of distributing codes to be constantly rematerialized.

## Free

It is not that the products of postindustrial design will cost nothing, but that they will be "let loose" on networks to find and optimize their potential. They are at the pull of the consumer, not the push of heavy industry. The outputs will be right-sized by the very fact that they will not be created as one-size-fits-all, but customized to the user's idiosyncrasies. Software, soft tooling, robotic manufacturing, and smart databases will draw participation and variation into the old, clandestine fabrication process. Animated by the intelligence of thriving networks of collaborative possibility, designs will also get optimized in the infinitely iterative process of their distributed creation.

## Metabolic

The stunning promise of postindustrial design is that it can leave a lighter, more vaporous footprint. Look at the poisoned landscapes of Philadelphia and Detroit and you can see the true cost of industrial production. Fatuous and fat, it belched out standardized goods and invisible pollution, producing mass conformity, hyperconsumption, and a disposable society. We can no longer afford that hypocrisy and blindness. We still need stuff, but postindustrial design has the advantage of hindsight, working in the shadow of industrial design's legacy. Design and production that are sentient, aware, adaptive, and able to live off their own or others' waste will not only be powerfully efficient, they will be environmentally, culturally, and fiscally sustainable. They will smartly adapt their input and output and thrive within the local—and global—bounds of their ecology.

## Decentralized

The tools are in your hands, if you want them. This will not be true of all products, but imagine the possibility of creating design solutions appropriate to you or your family neighborhood, or tribe. One size doesn't fit all, and not all design intelligence resides in the center. Distributing the power to create is a plan that nature has used with spectacular success. Staggering flexibility and adaptability comes from distributing capacity out from the center. So new kinds of products, companies, and brands—labile, fluid, and protean—will challenge the hegemony of the global superbrands. And who wants a transnational, focus-tested, homogeneous megacorporation to design their stuff anyway?

**Postindustrial design embodies the potential to create and produce differently, and not to repeat the mistakes we didn't always know we were making. The role of business and the designer in this context will be to enable possibility, provide vision, and set parameters to optimize the system. That means that designers will be working with new and unfamiliar tools in strange and unlikely places. The industrial colossus is not going to collapse right away. It has provided functional, safe, beautiful, and even sublime things. But the model is extinct. Evolutions and mutations are mostly breeding outside industrial design for now—in fashion, architecture, engineering, software, the Web—but their seeds are implanting themselves in the cracks in the industrial foundation. And with that, new species of products will soon emerge.**

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