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*A Whole New Mind* by Daniel H. Pink  
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*Four*

## DESIGN

The late Gordon MacKenzie, a longtime creative force at Hallmark Cards, once told a story that quickly entered the folklore among designers. MacKenzie was a public-spirited fellow who often visited schools to talk about his profession. He'd open each talk by telling students he was an artist. Then he'd look around the classroom, notice the artwork on the walls, and wonder aloud who created the masterpieces.

"How many artists are there in the room?" MacKenzie would ask. "Would you please raise your hands?"

The responses always followed the same pattern. In kindergarten and first-grade classes, every kid thrust a hand in the air. In second-grade classes, about three-fourths of the kids raised their hands,

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though less eagerly. In third grade, only a few children held up their hands. And by sixth grade, not a single hand went up. The kids just looked around to see if anybody in the class would admit to what they'd now learned was deviant behavior.

Designers and other creative types repeated MacKenzie's tale—often over drinks, usually in a wistful tone—to show how little the wider world valued their work. And when MacKenzie related the story himself to large audiences, people would slowly shake their heads. What a shame, they would mutter. Too bad, they would cluck. But their reaction was, at most, a lament.

In fact, they should have been outraged. They should have raced to their local school and demanded an explanation. They should have consoled their children, confronted the principal, and ousted the school board. Because MacKenzie's story is not some teary saga about underfunded art programs.

It is a cautionary tale for our times.

The wealth of nations and the well-being of individuals now depend on having artists in the room. In a world enriched by abundance but disrupted by the automation and outsourcing of white-collar work, everyone, regardless of profession, must cultivate an artistic sensibility. We may not all be Dali or Degas. But today we must all be designers.

It's easy to dismiss design—to relegate it to mere ornament, the prettifying of places and objects to disguise their banality. But that is a serious misunderstanding of what design is and why it matters—especially now. John Heskett, a scholar of the subject, explains it well: "[D]esign, stripped to its essence, can be defined as the human nature to shape and make our environment in ways without precedent in nature, to serve our needs and give meaning to our lives."<sup>1</sup>

Look up from this page and cast your eyes around the room you're in. Everything in your midst has been designed. The typeface of these

letters. The book you hold in your hands. The clothes that cover your body. The piece of furniture on which you're sitting. The building that surrounds you. These things are part of your life because someone else imagined them and brought them into being.

Design is a classic whole-minded aptitude. It is, to borrow Heskett's terms, a combination of *utility* and *significance*. A graphic designer must whip up a brochure that is easy to read. That's utility. But at its most effective, her brochure must also transmit ideas or emotions that the words themselves cannot convey. That's significance. A furniture designer must craft a table that stands up properly and supports its weight (utility). But the table must also possess an aesthetic appeal that transcends functionality (significance). Utility is akin to L-Directed Thinking; significance is akin to R-Directed Thinking. And, as with those two thinking styles, today utility has become widespread, inexpensive, and relatively easy to achieve—

which has increased the value of significance.

Design—that is, utility enhanced by significance—has become an essential aptitude for personal fulfillment and professional success for at least three

reasons. First, thanks to rising prosperity and advancing technology, good design is now more accessible than ever, which allows more people to partake in its pleasures and become connoisseurs of what was once specialized knowledge. Second, in an age of material abundance, design has become crucial for most modern businesses—as a means of differentiation and as a way to create new markets. Third, as more people develop a design sensibility, we'll increasingly be able to deploy design for its ultimate purpose: changing the world.

"I think designers are the alchemists of the future."

—RICHARD KOSHALEK,  
president,  
Art Center College  
of Design

I saw all three of these reasons converge one brisk February morning, half a block from Independence Hall in downtown Philadelphia, at a place that Gordon MacKenzie must be smiling down on from heaven.

IT'S 10 A.M. in Mike Reingold's design studio. As soothing music is piped through the air, one student is posing on a chair that sits atop a table, while her nineteen classmates sketch her form on their large drawing pads. The scene is straight out of a tony arts academy, except for one thing: the young men and women sketching away are all tenth-graders, and most of them come from some of the roughest neighborhoods in Philadelphia.

Welcome to CHAD—the Charter High School for Architecture and Design—a tuition-free Philadelphia public school that is demonstrating the power of design to expand young minds, while also puncturing the myth that design is the province of a select few.

Before they came to CHAD as ninth-graders, most of these students had never taken an art class, and one-third read and did math at a third-grade level. But now, if they follow the route of those in the senior class, 80 percent of them will go on to two- or four-year colleges—and some of them will enroll at places like the Pratt Institute and the Rhode Island School of Design.

When it was founded in 1999 as the country's first public high school with a design-centered curriculum, CHAD's goal wasn't merely to train a new generation of designers and to diversify a largely white profession. (Three out of four CHAD students are African-American; 88 percent are racial minorities.) The aim was also to use design to teach core academic subjects. Students here spend 100 minutes each day in a design studio. They take courses in archi-

ecture, industrial design, color theory, and painting. But equally important, the school marries design to math, science, English, social studies, and other subjects. For example, when they study the Roman Empire, rather than only read about the Roman water delivery process, the students build a model aqueduct. "They're learning to bring disparate things together to a solution. That's what designers do," says Claire Gallagher, a former architect who previously served as the school's supervisor of curriculum and instruction. "Design is interdisciplinary. We're producing people who can think holistically."

One student who has flourished in this whole-minded atmosphere is Sean Canty, a junior. He's a smart, skinny kid who is as poised as a veteran designer, yet as gangly as a typical sixteen-year-old. When I talk to him after classes let out, he tells me that in his rough-and-tumble middle school, "I was the kid who always sketched in class. I was the kid who was always good in art class. But you're always the oddball because the artistic person in the classroom is the weird one." Since enrolling as a freshman, he has found his comfort zone and

gained a range of experience unusual for someone his age. He interns two afternoons a week at a local architecture firm. He's traveled to New York to design a poster with the help of an architect mentor he met through CHAD. He's built models of "two cool towers" he'd like to see constructed one day. Yet

Canty says the most important thing he's learned at CHAD is broader than any particular skill: "I've learned how to work with people and how to be inspired by other people."

Indeed, merely walking the halls here is inspiring. Student art-

**"Good design is a renaissance attitude that combines technology, cognitive science, human need, and beauty to produce something that the world didn't know it was missing."**

—PAOLA ANTONELLI,  
curator of architecture  
and design, Museum  
of Modern Art

work is on display in the lobby. The hallways sport furniture donated by the Cooper-Hewitt Museum. And throughout the school are the works of designers such as Karim Rashid, Kate Spade, and Frank Gehry, some of which are presented in lockers CHAD students have converted into display cases. The students all wear blue button-down shirts and tan pants. The boys also wear ties. "They feel and look like young architects and designers," the school's development director, Barbara Chandler Allen, tells me, no small feat in a school where a substantial portion of the student body is eligible for free lunches.

For many of the students, the school is a haven in a harsh world—a place that's safe and orderly and where the adults care and have high expectations. While the typical Philadelphia public high school has a daily attendance rate of 63 percent, at CHAD it's 95 percent. Equally revealing is what isn't here. CHAD is one of the only high schools in Philadelphia without metal detectors. Instead, when stu-



*CHAD student Quincy Ellis, who graduated in 2005 and enrolled at the Rhode Island School of Design.*

dents, teachers, and visitors pass through the front door on Sansom Street, they're greeted by a colorful mural crafted by the American minimalist Sol Lewitt.

Although CHAD is a pioneer, it is not the only school of its kind. Miami's public school system boasts Design and Architecture Senior High, New York City has the High School of Art and Design. Washington, D.C., has a charter elementary school called the Studio School, where many of the teachers are professional artists. And beyond the elementary and secondary level, design education is positively booming. In the United States, as we learned in Chapter 3, the MFA is becoming the new MBA. In the United Kingdom, the number of design students climbed 35 percent between 1995 and 2002. In Asia, the sum total of design schools in Japan, South Korea, and Singapore thirty-five years ago was . . . zero. Today, the three countries have more than twenty-three design schools among them.<sup>2</sup>

At these schools, as at CHAD, many students ultimately might not become professional designers. That's fine, says deputy principal Christina Alvarez. "We're building an awareness in students of what design is and how it can affect their lives," she tells me. "I see the design curriculum as providing a modern version of a liberal arts education for these kids." No matter what path these students pursue, their experience at this school will enhance their ability to solve problems, understand others, and appreciate the world around them—essential abilities in the Conceptual Age.

## The Democracy of Design

Frank Nuovo is one of the world's best-known industrial designers. If you use a Nokia cell phone, chances are good Nuovo helped design it. But as a younger man, Nuovo had a difficult time explaining his ca-

reer choice to his family. "When I told my father I wanted to be a designer, he said, 'What does that mean?'" Nuovo told me in an interview. We "need to reduce the nervousness" surrounding design, Nuovo says. "Design in its simplest form is the activity of creating solutions. Design is something that everyone does every day."

From the moment some guy in a loincloth scraped a rock against a piece of flint to create an arrowhead, human beings have been designers. Even when our ancestors were roaming the savannah, our species has always harbored an innate desire for novelty and beauty. Yet for much of history, design (and especially its more intimidating cousin, Design) was often reserved for the elite, who had the money to afford such frivolity and the time to enjoy it. The rest of us might occasionally dip our toes into significance, but mostly we stayed at the utility end of the pool.

In the last few decades, however, that has begun to change. Design has become democratized. If you don't believe me, take this test. Below are three type fonts. Match the font on the left with the correct font name on the right.

- |                     |                    |
|---------------------|--------------------|
| 1. A Whole New Mind | a. Times New Roman |
| 2. A Whole New Mind | b. Arial           |
| 3. A Whole New Mind | c. Courier New     |

My guess, having conducted this experiment many times in the course of researching this book, is that most of you completed the task quickly and correctly.\* But had I posed this challenge, say, twenty-five years ago, you probably wouldn't have had a clue. Back then, fonts were the specialized domain of typesetters and graphic designers, something that regular folks like you and me scarcely recognized

\*The correct answers are: 1-b, 2-c, 3-a

and barely understood. Today we live and work in a new habitat. Most Westerners who can read, write, and use a computer are also literate in fonts. "If you are a native of the rain forest, you learn to distinguish many sorts of leaves," says Virginia Postrel. "We learn to distinguish many different typefaces."<sup>3</sup>

Fonts, of course, are just one aspect of the democratization of design. One of the most successful retail ventures of the last decade

is Design Within Reach, a network of thirty-one studios whose mission is to bring great design to the masses. In DWR's studios and catalogs are the sort of beautiful chairs, lamps, and desks that the

wealthy have always purchased but that are now available to wider segments of the population. Target, a family visit to which I described in Chapter 2, has gone even further in democratizing design, often obliterating the distinction between high fashion and mass merchandise, as it has with its Isaac Mizrahi clothing line. In the pages of *The New York Times*, Target advertises its \$3.49 Philippe Starck spill-proof baby cup alongside ads for \$5,000 Concord LaScala watches and \$30,000 Harry Winston diamond rings. Likewise, Michael Graves, whose cerulean toilet brush I purchased during that Target trip, now sells kits that buyers can use to construct stylish gazebos, studios, and porches. Graves, who has designed libraries, museums, and multimillion-dollar homes, is too expensive for most of us to hire to build out the family room. But for \$10,000, we might be able to buy one of his Graves Pavilions and enjoy the beauty and grace of one of the world's finest architects literally in our own backyard.

"Aesthetics matter.

Attractive things work better."

—DON NORMAN, author  
and engineering  
professor

The mainstreaming of design has infiltrated beyond the commercial realm. It's no surprise that Sony has four hundred in-house designers. But how about this? There are sixty designers on the staff of the Church of Jesus Christ of Latter-day Saints.<sup>4</sup> And while God is bringing artists into the room, Uncle Sam is redoing the room itself. The General Services Administration, which oversees the construction of U.S. government buildings, has a "Design Excellence" program that aims to turn drab federal facilities into places more pleasant to work in and more beautiful to view. Even U.S. diplomats have responded to the age's new imperatives. In 2004, the U.S. State Department declared that it was abandoning the font it had used for years—Courier New 12—and replacing it with a new standard font that would henceforth be required in all documents: Times New Roman 14. The internal memorandum announcing the change explained that the Times New Roman font "takes up almost exactly the same area on the page as Courier New 12, while offering a crisper, cleaner, more modern look."<sup>5</sup> What was more remarkable than the change itself—and what would have been unthinkable had the change occurred a generation ago—was that everybody in the State Department understood what the memo was talking about.

## Design Means Business/ Business Means Design

The democratization of design has altered the competitive logic of businesses. Companies traditionally have competed on price or quality, or some combination of the two. But today decent quality and reasonable price have become merely table stakes in the business game—the entry ticket for being allowed into the marketplace.

Once companies satisfy those requirements, they are left to compete less on functional or financial qualities and more on ineffable qualities such as whimsy, beauty, and meaning. This insight isn't terribly new. Tom Peters, whom I quoted in the last chapter, was making the

**"Businesspeople don't need to understand designers better. They need to be designers."**

—ROGER MARTIN, *dean,*  
*Rotman School of*  
*Management*

business case for design before most businesspeople knew the difference between Charles Eames and Charlie's Angels. ("Design," he advises companies, "is the principal difference between love and hate.")

But as with the State Department's font memo, what's remarkable about the business urgency of design isn't so much the idea but how widely held it has become.

Consider two men from separate countries and different worlds. Paul Thompson is the director of the Cooper-Hewitt Museum in New York City. Norio Ohga is the former chairman of the high-tech powerhouse Sony.

Here's Thompson: "Manufacturers have begun to recognize that we can't compete with the pricing structure and labor costs of the Far East. So how can we compete? It has to be with design."<sup>6</sup>

Here's Ohga: "At Sony, we assume that all products of our competitors have basically the same technology, price, performance, and features. Design is the only thing that differentiates one product from another in the marketplace."<sup>7</sup>

Thompson's and Ohga's arguments are increasingly borne out on corporate income statements and stock tables. For every percent of sales invested in product design, a company's sales and profits rise by an average of 3 to 4 percent, according to research at the London Business School.<sup>8</sup> Similarly, other research has shown that the stocks of companies that place a heavy emphasis on design out-

perform the stocks of their less design-centric counterparts by a wide margin.<sup>9</sup>

Cars are a good example. As I noted in Chapter 2, the United States now has more autos than drivers—which means that the vast majority of Americans who want a car can have one. That ubiquity has brought down prices and boosted quality, leaving design as a key criterion for consumer decisions. U.S. automakers have slowly learned this lesson. "For a long time, going back to the 1960s, marketing directors were more focused on science and engineering, gathering data and crunching numbers, and they neglected the importance of the other side of the brain, the right side," says Anne Asenio, a design director for GM. And that eventually proved disastrous for Detroit. It took mavericks like Bob Lutz, whom we heard from in Chapter 3, to show that utility requires significance. Lutz famously declared that GM was in the art business—and worked to make designers the equals of engineers. "You need to differentiate or you cannot survive," says Asenio. "I think designers have a sixth sense, an antenna, that allows them to accomplish this better than other professionals."<sup>10</sup>

Other car companies have shifted gears and headed in this same direction. BMW's Chris Bangle says, "We don't make 'automobiles.'" BMW makes "moving works of art that express the driver's love of quality."<sup>11</sup> One Ford vice president says that "in the past, it was all about a big V-8. Now it's about harmony and balance."<sup>12</sup> So frenzied are the car companies to differentiate by design that "in Detroit's macho culture, horsepower has taken a back seat to ambience," as *Newsweek* puts it. "The Detroit Auto Show . . . might as well be renamed the Detroit Interior Decorating Show."<sup>13</sup>

**"Design correctly harnessed can enhance life, create jobs, and make people happy—not such a bad thing."**

—PAUL SMITH, *fashion*  
*designer*

Your kitchen offers further evidence of the new premium on design. We see it, of course, in those high-end kitchens with gleaming Sub-Zero refrigerators and gargantuan Viking ranges. But the phenomenon is most evident in the smaller, less expensive goods that populate the cabinets and countertops of the United States and Europe. Take the popularity of “cutensils”—kitchen utensils that have been given personality implants. Open the drawer in an American or European home and you’ll likely find a bottle opener that looks like a smiling cat, a spaghetti spoon that grins at you and the pasta, or a vegetable brush with googly eyes and spindly legs. Or just go shopping for a toaster. You’ll have a hard time finding a plain old model, because most of the choices these days are stylized, funky, fanciful, sleek, or some other adjective not commonly associated with small appliances.

Some pundits might write off these developments as mass manipulation by wily marketers or further proof that well-off Westerners are mesmerized by style over substance. But that view misreads economic reality and human aspiration. Ponder that humble toaster. The typical person uses a toaster at most 15 minutes per day. The remaining 1,425 minutes of the day the toaster is on display. In other words, 1 percent of the toaster’s time is devoted to utility, while 99 percent is devoted to significance. *Why shouldn’t it be beautiful, especially when you can buy a good-looking one for less than forty bucks?* Ralph Waldo Emerson said that if you built a better mousetrap, the world would beat a path to your door. But in an age of abundance, nobody will come knocking unless your better mousetrap also appeals to the right side of the brain.

Design has also become an essential aptitude because of the quickened metabolism of commerce. Today’s products make the journey from L-Directed utility to R-Directed significance in the blink of an eye. Think about cell phones. In less than a decade, they’ve gone

from being a luxury for some to being a necessity for most to becoming an accessorized expression of individuality for many. They’ve morphed from “logical devices” (which emphasize speed and specialized function) to “emotional devices” (which are “expressive, customizable, and fanciful”), as Japanese personal electronics executive Toshiro Iizuka puts it.<sup>14</sup> Consumers now spend nearly as much on decorative (and nonfunctional) faceplates for their cell phones as they do on the phones themselves. Last year, they purchased about \$4 billion worth of ring tones.<sup>15</sup>

Indeed, one of design’s most potent economic effects is this very capacity to create new markets—whether for ring tones, cutensils, photovoltaic cells, or medical devices. The forces of Abundance, Asia, and Automation turn goods and services into commodities so quickly that the only way to survive is by constantly developing new innovations, inventing new categories, and (in Paola Antonelli’s lovely phrase) giving the world something it didn’t know it was missing.

## Designing Our Future

Design can do more than supply our kitchens with cooking implements that stir both our sauces and our souls. Good design can change the world. (And so, alas, can bad design.)

Take health care. Most hospitals and doctors’ offices are not exactly repositories of charm and good taste. And while physicians and administrators might favor changing that state of affairs, they generally consider it secondary to the more pressing matters of prescribing drugs and performing

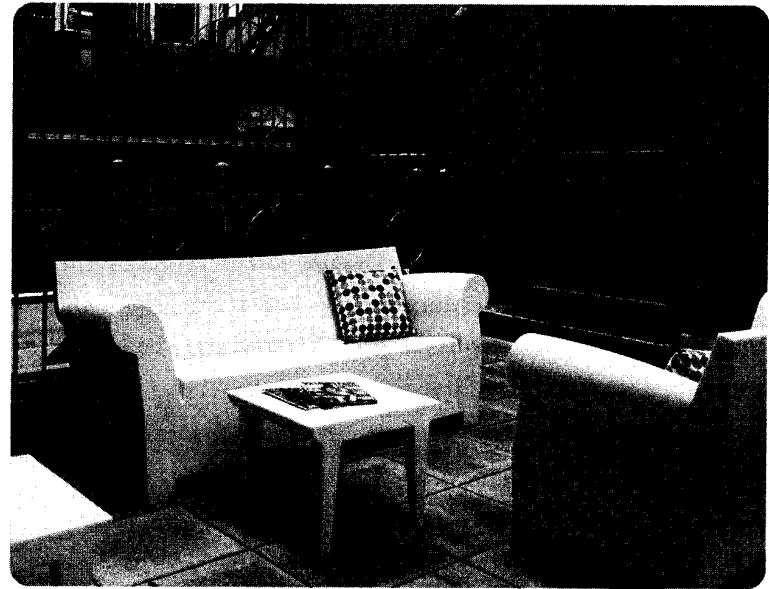
**“It’s not true that what is useful is beautiful. It is what is beautiful that is useful. Beauty can improve people’s way of life and thinking.”**

—ANNA CASTELLI FERRIERI,  
*furniture designer*

surgery. But a growing body of evidence is showing that improving the design of medical settings helps patients get better faster. For example, in a study at Pittsburgh's Montefiore Hospital, surgery patients in rooms with ample natural light required less pain medication, and their drug costs were 21 percent lower, than their counterparts in traditional rooms.<sup>16</sup> Another study compared two groups of patients who suffered identical ailments. One group was treated in a dreary conventional ward of the hospital. The other was treated in a modern, sunlit, visually appealing ward. Patients in the better-designed ward needed less pain medicine than those in the less inviting ward and were discharged on average nearly two days early. Many hospitals are now redesigning their facilities to include greater amounts of natural light, waiting rooms that provide both privacy and comfort, and an array of design features such as meditative gardens and labyrinths that physicians now realize can speed the healing process.

Similar potential exists in bringing a new design sensibility to two other settings where beauty has long taken a backseat to bureaucracy—public schools and public housing. A study at Georgetown University found that even if the students, teachers, and educational approach remained the same, improving a school's physical environment could increase test scores by as much as 11 percent.<sup>17</sup> Meanwhile, public housing, notorious for its abominable aesthetics, may be in the very early stages of a renaissance. A nice example is architect Louise Braverman's Chelsea Court in New York City. Constructed on an austere budget, the building has colorful stairwells, airy apartments, and a roof deck with Philippe Starck furniture—all for tenants who are low-income or (formerly) homeless.

Design can also deliver environmental benefits. The "green design" movement is incorporating the principles of sustainability in the design of consumer goods. This approach not only creates products from recycled materials but also designs the products with an



*Chelsea Court rooftop terrace in New York City.* SCOTT FRANCES

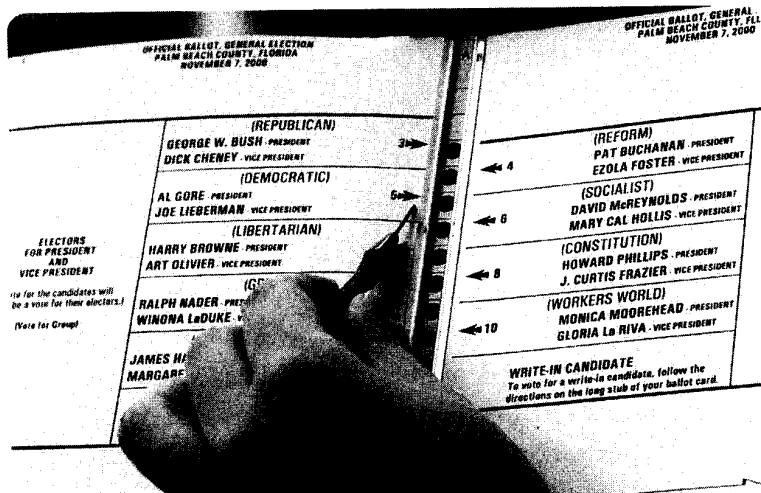
eye to their eventual disposal as well as their use. Architecture is likewise going green—in part because architects and designers are understanding that in the United States, buildings generate as much pollution as autos and factories combined. More than 1,100 buildings in the United States have applied to the U.S. Green Building Council to be certified as environmentally friendly.<sup>18</sup>

If you're still unconvinced that design can have consequences beyond the carport and cutting board, point your memory back to the 2000 U.S. presidential elections and the thirty-six-day snarl over whether Al Gore or George W. Bush won the most votes in Florida. That election and its aftermath may seem like a bad dream today. But buried in that brouhaha was an important, and mostly ignored, lesson. Democrats alleged that the U.S. Supreme Court, by halting the recount of ballots, handed the election to George W. Bush.



Republicans claimed that their opponents tried to steal the election by urging voting officials to count chads—those little rectangular ballot pieces—that were not fully punched out. But the truth is that both sides are wrong.

According to an exhaustive examination of all of Florida's ballots that several newspapers and academics conducted a year after the election—and whose findings were largely lost amid the coverage of the September 11, 2001, terrorist attacks and utterly forgotten after Bush's 2004 reelection—what determined who won the U.S. presidency in 2000 was this:



Bruce Weaver, Getty Images

This is the infamous butterfly ballot that voters in Palm Beach County used to mark their choice for President. In Palm Beach County—a heavily Democratic enclave populated by tens of thousands of elderly Jewish voters—ultraconservative fringe candidate Pat Buchanan received 3,407 votes, three times as many votes as he did in any other county in the state. (According to one statistical analysis, if the voting pattern of the state's other sixty-six counties

had held in Palm Beach, Buchanan would have won only 603 votes.)<sup>19</sup> What's more, 5,237 Palm Beach County voters marked ballots for both Al Gore and Pat Buchanan, and therefore had their ballots invalidated. Bush carried the entire state by 537 votes.

What explained Buchanan's stunning performance and the thousands of invalidated ballots?

Bad design.

The nonpartisan investigation found that what decided the outcome in Palm Beach County—and therefore determined who would become leader of the free world—wasn't an evil Supreme Court or recalcitrant chads. *It was bad design.* The bewildering butterfly ballot confused thousands of voters and cost Gore the presidency, according to the professor who headed the project. "Voters' confusion with ballot instruction and design and voting machines appears to have changed the course of U.S. history."<sup>20</sup> Had Palm Beach County had a few artists in the room when it was designing its ballot, the course of U.S. history would likely have been different.\*

Now, intelligent people can argue whether the butterfly ballot and the confusion it wrought ultimately produced a good or bad result for the country. And this isn't partisan sniping from somebody—full disclosure—who worked for Al Gore ten years ago and who remains a registered Democrat. Bad design could have worked to Democrats' advantage and the Republicans' chagrin—and one day it likely will. But whatever our own partisan persuasion, we should consider the butterfly ballot the Conceptual Age equivalent of the Sputnik launch. It was a surprising, world-changing event that re-

\*Less well known is the ballot in Duval County in which the presidential ballot showed five candidates on one page and another five candidates on the next page, along with instructions to "vote every page." In that county, 7,162 Gore ballots were tossed out because voters selected two candidates for President. Had the instructions been clearer, Duval County, too, would have provided Gore the margin of victory.

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vealed how weak Americans were in what we'd now discovered was a fundamentally important strength—design.

DESIGN IS a high-concept aptitude that is difficult to outsource or automate—and that increasingly confers a competitive advantage in business. Good design, now more accessible and affordable than ever, also offers us a chance to bring pleasure, meaning, and beauty to our lives. But most important, cultivating a design sensibility can make our small planet a better place for us all. “To be a designer is to be an agent of change,” says CHAD’s Barbara Chandler Allen. “Think of how much better the world is going to be when CHAD kids pour into the world.”