Eyewitness to Design
Futurist Paul Saffo Beyond 2000
JCDecaux's Urban Aesthetics
Futurist Paul Saffo on Design

What will the future hold for business and design? Paul Saffo, director of the Institute for the Future in Silicon Valley, talks about the impact of new information technologies with Peter Lawrence, chairman of Corporate Design Foundation.

In this increasingly digital and virtual world, is the design of physical things still important?

Absolutely. I think physical design is more important than ever because we are not just designing inanimate objects anymore. Computers, now in everything, are making objects interactive. That means that designers must design physical things that are seamless links to the electronic. They must think less in terms of designing an object and more in terms of designing a process.

Why is the shift from object to process important?

When objects were inanimate, you built an artifact that remained inert until someone picked it up and did something with it. Now we’re beginning to see more devices with rudimentary intelligence and the ability to respond to the environment around them.

How is this a change from the desktop computer days?

It means that the age of interface is over. Interface as a concept made sense when computers just squatted on our desks and waited for us to do something. It made sense when we had two parallel worlds – the physical world of “reality” that we occupied, and the purely symbolic “cyberspace” world that computers occupied.

We peered into cyberspace through the porthole of the computer screen. Computers, for the most part, had no idea that anything was on the other side of the screen. But now through a combination of sensors, bandwidth and everything else, we’ve blasted that screen away. Computers are invading physical space, moving ever deeper into our lives. That’s why designers need to eliminate the word interface from their vocabulary and think in terms of interaction.

Define the difference between interface and interaction?

With interface, you can pretty much predict everything. It involves a limited number of formal, very stylized exchanges. With interaction, you must design for the unexpected. Computers no longer wait for us to do things; they’re doing things on our behalf, and we may not even know that a computer exists inside. Interaction implies a deeper symbiotic relationship. That can have a down side, as we witnessed in the 1987 stock market crash, where program trading software – basically computers talking to other computers – were so busy talking to each other they didn’t have time to let humans in on the conversation.
Is interaction also about connecting the analog world with the digital world? It’s a big part of it. The reason computers are becoming so abundant is due to the small part to the sensor revolution. Carmakers are already adding microsensors to everything from emission systems to fire huts, and microsensors are finding their way into other applications. We’re basically hanging ears, eyes, and sensory organs on the computers, asking them to observe the physical world on our behalf and, not stopping there, we’re asking them to manipulate it. The more you connect computers to the physical world, the more the issue of interaction becomes important.

How will supercomputing and sensor technology change the design of things? They are giving us the ability to dematerialize things, put less stuff in our stuff. For instance, in the past, the way to change the performance on a car engine was by boring out the cylinders differently and building a lot of physical stuff. Now we can just swap in a new chip. What we’re really doing here is making even more efficient physical stuff — lighter, cheaper, faster, more effective.

What is obsolescence in a cyberspace world? Everything is obsolete. That’s one of the really dark sides to all of this. The moment you put a computer into something, you accelerate its obsolescence. The obvious reason is that it’s going to get replaced by better computers. But the subtler problem is that it hits rot and software rots, it falls apart, it degrades and becomes unreliable. So you’re going to see people having to replace perfectly good devices because the software part is aging too fast and becoming unreliable.

What role can designers play in responding to this? Designers are keepers of the larger picture. In some ways, designers are the conscience of our artifacts, they look at things from an outside-in perspective. They can add dimensionality in a way that traditional engineers and computer scientists can’t do because they’re too close to their machines. I think that designers live on the edge of that point where artifact and the physical world interact. Their job is almost one of material alchemy, reconciling the object with the world and making the two coexist.

Is this view of designers widely shared? No. Designers are the Rodney Dangerfields of the industrial age. “They don’t get no respect.” Occasionally, one or two famous designers are paraded out in front of the public, kind of like a trained seal, but then people don’t understand what designers do. Designers still struggle for relevance. The good news is that the role of design is going to become steadily and ever more central to the future of what’s going on here.

Does that mean designers are going to get more respect? No, I think they’re going to get less. I think the struggle is going to continue. It’s a lot easier for computer scientists to pretend to know something about design, even though they’re ignorant of the subject, than for computer scientists to pretend they know computer science. Computer scientists and engineers are going to end up driving the process. Hopefully, they will be willing to collaborate with designers.

What other responsibilities must a designer assume? It used to be that designers made an object and walked away. Today the emphasis must shift to designing the entire life cycle. For instance, designers can make a plastic bag that’s not just an object, but a process designed to photodegrade under sunlight. Some things you want to become part of the natural environment, other things you want to last forever. If you’re merely thinking in terms of designing an object, you may or may not be giving people what they actually need.

Is technology affecting current aesthetic trends? Inevitably, whenever things get faster, too technologically
cal, they start out being very utilitarian and then swing to the baroque. In the ’30s, toasters with streamlined fins were definitely baroque. The personal computer has gone from “you can have any color you want as long as it’s putty” to the candy-colored iMac. Things always start out utilitarian and then get stylized.

I’ve noticed that you take notes on paper but use the latest technology.

Yes, I write in a paper journal, use a paper calendar, and carry a Palm Pilot V. But it’s not a retro thing. There’s a word that’s leaking into our vocabulary: nostalgia. A nostalgia for things that don’t yet exist. I think too
Jean-Claude Decaux
Chairman
JCDecaux S.A., Paris
Jean-Claude Decaux created the concept of providing cities with advertising-supported street furniture in 1964 and built it into a worldwide business.

As a young man more than 35 years ago, Jean-Claude Decaux made a living posting bills on buildings around Paris. His modest livelihood came to an abrupt halt after the local government declared this practice illegal. That’s when Decaux came up with a better idea—one that would allow him to continue posting bills and do it in a way that would contribute to the quality of life and beauty of the city.

Decaux’s inspiration came one stormy day when he noticed people getting soaked while waiting for a city bus to come by. Why not offer to build bus shelters for free in exchange for the right to sell advertising on them, Decaux thought. He took his proposal to the Mayor of Lyon and got permission to go ahead. That rainy day marked the start of the world’s largest street furniture company—with projected revenues in 1999 of $1.4 billion, primarily generated from advertising.

Today the street furniture of JCDecaux S.A. is installed in more than 1,200 cities around the world. In early 1999, it acquired Havas Media Communication-Outdoor Advertising, Europe’s largest billboard advertising firm, extending the company’s presence into 31 countries and more than 11,000 cities.

Over the years, the company has expanded its street furniture offerings from bus shelters and kiosks to new racks, traffic signage, light posts, litterbins, benches, interactive information panels and automatic public toilets. “When I created the first advertising bus shelter, free of charge to local authorities, I wanted to remedy the problem of dilapidated equipment; to fight against surplus and unsightly advertising, and, by revaluing it, make known the lively role that quality advertising can play,” says Decaux, who still manages the privately owned company along with his sons, Jean-François and Jean-Charles. “Our main concern has been the cleanliness of cities and the setting up of public services essential to the comfort of city dwellers.”

Although the field of private contractors vying for city contracts has become crowded, JCDecaux has distinguished itself by producing street furniture that is as attractive as it is functional. In addition to its own in-house talent, it has commissioned some 30 of the world’s best architects and designers to create a wide array of street furniture that is sensitive to the cultural urban nuances of their native countries. Jean-Michel Wilmotte, Philippe Starck, Mario Bellini, Sir Norman Foster, Massimo Vignelli, Martin Szekely, Charles Gwathmey, Robert Stern, Peter Eisenman, Knud Holscher and James Polshek are among the legendary names who have contributed to JCDecaux’s furniture line. Porsche’s design department, Style Porsche, also used its affinity for the street to come up with striking designs, as did the Mackintosh School of Architecture in Glasgow, Scotland.

JCDecaux sees its role as designing what French architect Jean-Michel Wilmotte calls a city’s “interior architecture,” deserving of “as much thought as that given to private spaces.” It believes that bus shelters,
kiosks and other street furniture are too integral to the urban landscape to be built without attention to aesthetics.

Sadly, this philosophy is not always shared by local officials, "Public design is all too often an inharmonious piecing together of cheap solutions," observes Danish architect Knud Holscher, adding that "J.C. Decaux attaches great importance to the quality of design which it fully adapts to the character of each city."

J.C. Decaux has even adapted Paris’ renowned Morris kiosk into a variety of historic and contemporary styles. Increasingly, it is developing multifunctional kiosks to reduce sidewalk clutter and provide public amenities where they are welcomed most. Through technological innovations developed by the company’s extensive R&D arm, many J.C. Decaux advertising kiosks now integrate bookstands, bottle banks, water fountains, telephone booths, clocks, automatic public toilets, ticket dispensers, interactive information terminals and even automatic vending machines.

The company also is introducing a new generation of “smart furniture” such as information kiosks that have the smallest possible footprint in combination with the largest available LCD to ensure easy legibility. In addition, it has spurred the development of a new device that gives passengers on-line bus information for specific routes. Commuters receive that data either on J.C. Decaux’s patented hand-held Infobus pager or in the bus shelters.

Another company signature is the scrupulous servicing of its facilities, which provides premium value to advertisers who don’t want their messages desecrated by vandals and turned into an urban eyesore. More than 3,500 service employees maintain the company’s street furniture worldwide. Any broken glass is replaced within 24 hours. Graffiti is scoured clean. In places like Amsterdam where graffiti has become a public art form, J.C. Decaux has equipped its maintenance workers with motorbikes so they can remove it all the faster.

Photographs: ©Whitney Young

Designed to complement their surroundings, J.C. Decaux transportation shelters and kiosks help build a city’s contemporary image without detracting from its unique historic character.
A Choice of Kiosk Styles

JCDecaux advertising kiosks are offered in a variety of styles and optional functions to suit the needs of client-cities. Many were designed in-house by JCDecaux's 120-person industrial design department. Others were designed by well-known architects and designers (identified here) commissioned by the company. Each kiosk has three panels, two for advertising and one for an integrated service or public art display.

"This company is defined by a love for good taste and a certain aesthetics and quality," says JCDecaux USA CEO Bernard Parisot, based in New York. "From the architects we work with and the street furniture they create to the way we've designed our letterhead and the way we keep our street furniture clean, Decaux is a business built on those beliefs."

Although JCDecaux is currently in hundreds of European cities, its entry into the American market is relatively recent. Through a bidding process, in 1995 it won a contract from the city of San Francisco to provide kiosks and automatic public toilets, a patented product originally invented to replace the pissoirs of Paris. The company found an unlikely ally in film director Francis Ford Coppola, a native San Franciscan. An admirer of French industrial design, Coppola had asked to see the engineering of the new public toilets on a visit to Paris, and was invited by Jean-Claude Decaux, an avid film fan, to tour the company's R&D facilities. Back home, Coppola lauded "Monsieur Decaux...a true connoisseur of art and design," and added "how wonderful it would be if a man like this and his exceptional company could design a city of the future."

San Francisco signed a 20-year contract with JCDecaux for 20 universally accessible automatic public toilets and 90 kiosks, 70 of which are newsstands and 20 that display art—provided at no cost to the city. San Francisco has since expanded its partnership ahead of schedule to include 30 additional toilets and 135 more kiosks. Outside of Moscone Convention Center, 14 JCDecaux streetlamps, designed by Philippe Starck, stand as elegant vertical sculpture during the day, lowering automatically to a horizontal position at dusk when the lights come on.

While the idea of acquiring free street furniture designed by renowned architects is enticing to many cash-strapped local governments, the JCDecaux program isn't right for every city. In 1992, Seattle requested a full line of street furniture, but vetoed the deal because it didn't want the contract to include advertising.

JCDecaux, in turn, is only interested in cities that have sufficient population and pedestrian street traffic to generate advertising revenue to support its street furniture program.

The company makes no apologies for its advertising-driven business. "In Europe, the level of advertising creativity has actually gone up because of our street furniture. It's become a real showcase for ad agency creative people," says Suzanne Davis, senior vice president, JCDecaux USA. In San Francisco too, JCDecaux kiosks are noted for their upscale advertising display.

JCDecaux is beginning to garner attention on the East Coast as well. However, city politics—with public hearings, local contractor requirements, etc.—present many obstacles. In 1996, JCDecaux, in partnership with GE Capital Services, enlisted seven different architects and designers to create coordinated street furniture prototypes for New York City. But last June, Mayor Rudolph Giuliani's administration suspended its search for new bus shelters, newsstands and toilets.

JCDecaux is hopeful that New York City will reconsider that decision. It's easy to see why: The winning company, in the competitive bidding, could have expected gross revenue of between $1 billion and $2 billion over the 20-year contract from advertising income, against an investment of about $100 million to build the structures, as well as the costs of maintaining them. It is also promised great promotional value as the provider of fixtures designated as NYC's official standard.

Nonetheless, JCDecaux continues to make progress in bringing to American streets the style and functionality already familiar to Europeans. Last year, in a demonstration program, Chicago took on 24 of the company's pedestal newsstands. JCDecaux expects an RFP (request for proposal) for a more expansive line of street furniture to be issued shortly.
The company is also committed to new technology and new avenues of expansion in America, says JCDecaux USA CEO Bernard Paradisot. In 1998, JCDecaux established its MallScape operations, a program that positions the U.S. shopping mall as a new advertising medium. JCDecaux signed an exclusive 15-year contract with the Simon Property Group, the world’s largest commercial real estate owner and manager. As a result, JCDecaux will install over 5,000 advertising structures in 130 malls in 35 states. In addition, it signed a contract with Urban Shopping Centers, America’s third-largest shopping center operator. That deal adds more than 35 prestigious malls like Water Tower Place in Chicago, San Francisco Shopping Centre and Copley Place in Boston.

“It’s an extension of our business. With their mixture of entertainment and retail, American malls are more like a recreation of your traditional downtown areas. They even have names like ‘Town Center’ or ‘Town Square,’” says Paradisot. “We’ve been working with developers from concept. They want them to incorporate signage, to function like a downtown.”

JCDecaux USA’s colleagues in Europe are now exploring their own version of those American efforts.

If the U.S. subsidiary is beginning to influence European operations, it’s the company’s continental traditions that may help change the face of American urban life. Much of the outdoor advertising in Europe has long been accepted as a lively kind of street art, with ad agencies turning out some of their most sophisticated work for use on city streets. The U.S., of course, has a different history of the medium. Inconsistent at best, much of the country’s outdoor ads are relegated to bottom-of-the-barrel billboard status. JCDecaux’s street furniture elegantly frames outdoor ads, showcasing them in large back-fit kiosk panels. In doing so, the company helps elevate the medium, enhancing the quality of what is already an inevitable part of urban life, and makes it more palatable for cities to incorporate it into their urban design planning – making street furniture work double duty as an advertising forum and means to reduce street clutter.

“It’s an obvious urban solution,” says the company’s US chief, Paradisot. “JCDecaux wants to enhance the quality of life and offer services at no cost.”
Few things are more maddening—or effective, depending on how you look at it—than having a silly advertising jingle stuck in your head. Ask practically anyone to repeat some that come to mind, and you’ll be bombarded with taglines and slogans, often for products that haven’t been produced in decades. Like children’s rhymes, these marketing slogans are part of our cultural vocabulary. We love them because they’re approachable, friendly, to the point. They speak to who we are as individuals and what we want. They humanize the brand and give it personality as well as an identity. Try matching these slogans to their products.
Picture This

At a time when print communicators are lamenting that broadcast and electronic media have carved deep inroads into their market, British publisher DK Eyewitness Books is selling millions of visually lavish travel guides and reference books worldwide by making words and pictures work together on the printed page.

Say the word “reference book” and most people think of something boring and academic. But DK Eyewitness Books is proving that doesn’t have to be the case by showing readers in pictures what other books only tell them in words. Since DK introduced its Eyewitness series in 1988, it has sold over 40 million copies in 44 languages (and that’s not counting the millions of other books packaged under the DK imprint).

What makes DK Eyewitness Books so compelling is a “lexigraphic” design style developed by Peter Kindersley. A graphic designer by training, Kindersley co-founded DK with editor Christopher Dorling in 1974 to package books for sale to outside publishers. Then in 1982, DK began publishing highly illustrated reference books on its own. Despite the company’s success, Kindersley felt that books in general weren’t keeping up with the speed and entertainment value of broadcast media. His search for a solution led to a design approach that integrates words and images in a way that conventional books had never done. By wrapping expository text around silhouetted images, DK books used pictures to give meaning to the words and words to give meaning to the pictures.

In 1987, DK tested this lexigraphic concept in a children’s reference series, causing a sensation worldwide. “The style led us to build a whole children’s business out of books based on that look and also to take it into other areas,” says Christopher Davis, DK’s deputy chairman. Parents and educators quickly embraced the lexigraphic approach, and DK began hearing from people who told them that even dyslexic children loved its books. “Faced with a gray wall of solid text, children with learning difficulties are often intimidated,” Davis theorizes. “But when words and pictures are linked in bite-size chunks, they find it easier to ‘graze’ on the page and absorb manageable amounts of text. They can see that the text is explaining the picture and the picture brings the text to life.”

Christopher J. Davis, Deputy Chairman & Publisher, DK Publishing, London
With DK Publishing since it was founded in 1974, Davis first served as publishing director and then became deputy chairman in 1987 when Christopher Dorling retired.

Douglas Amrine, Editor-in-Chief, DK Eyewitness Travel Guides, London
Amrine spearheaded the launch of the DK Eyewitness Travel Guides in 1993. Today with his 42-member staff in the UK, he oversees creative teams in over 10 countries.

DK Publishing Fact Sheet
Parent Company: Dorling Kindersley Holdings PLC
Business Line: Publisher of reference books, CD-ROMs and broadcast programs
Principal Officer: Peter Kindersley, Chairman and CEO
Revenue: $332.7 million U.S., fiscal 1999
Number of Employees Worldwide: 2,500
This signature style of all DK Eyewitness books has proved equally compelling to adult market segments that DK staffs divide into "show me" and "tell me" people—those more stimulated by images than words, and vice versa. Rich with content, Eyewitness books use a lively mix of full-color photographs and illustrations, cutaway and cross-section views, 3-D models and maps that help readers visualize the subject. The accompanying text acts like a voiceover, explaining and adding new levels of information to what the reader sees.

This picture-intensive style, printed on premium coated paper, is understandably expensive to produce. "The money goes on the page," Davis says. To recoup its sizeable upfront costs, DK focuses on reference subjects that have a long shelf life and on giving each book immediate worldwide distribution. Most non-English editions are printed with foreign partners who work nearly simultaneously on translated versions that fit into the design. "We are able to spend more on a page by having a huge community of markets to support it," says Davis. "Our books have been conceived to make sure everything backlist as much as possible. We try every which way to keep them going." Today over 80% of all the titles DK has published are still in print.

As an international publisher, DK is particularly sensitive to how its books will be received in cultures as diverse as Ireland and India. "One reason for showing silhouetted objects in the kids' books," Davis explains, "is that if a London bus or a suburban house was in the background, it would convey information that a child in Mexico City, Taiwan or Stuttgart would look at and say 'this book doesn't work for me.' We see ourselves like Benetton or Gap, where you don't think about the country where the product originates."

Another reason for DK's signature white background is its fastidious desire for absolute clarity. For its animal books, DK photographs live lions, tigers and
elephants against a huge white sheet, at considerable cost and bother. But to DK, it’s worth it. "When the animal is isolated, readers can concentrate more on the details of the coloring, the texture of the coat, than they can if it’s surrounded by jungle or green," Davis says. That dedication to accuracy is also why DK doesn’t simply remove backgrounds using a computer; reflected color would remain on the pictured object and cast uneven light and shadows.

DK’s hefty investment in clean silhouetted images has proved to be a major contributor to its success. Its picture library now includes more than 2.5 million photographs and illustrations (with about 6,000 new images added each week) – ample material for products ranging from videos, stickers, puzzles, CD-ROMs and other books to the commercial licensing of the pictures themselves. DK’s picture resource also contributes significantly to its most daring line extension to date: its lavishly produced DK Eyewitness Travel Guides series. Douglas Amrine, editor-in-chief of DK Eyewitness Travel Guides, admits that DK’s entry into this highly competitive, overpublished field was a “leap of faith” – and one that some experts advised against. Before the first travel guide came out, Amrine recalls telling the proprietor of a nearby guidebook and map shop that DK was going to do travel guides, starting with London, Paris, New York and Rome. “He said, ‘I have 60 something guides to Paris on my shelf already. I certainly don’t need another one. For the money you’re talking about charging, I doubt that many people will buy them.’ Having sold 11 million books since September 1993, we seem to have proved him wrong,”

DK’s confidence stemmed from its belief that “travel guide publishing had never really joined the 20th century,” says Amrine. “No one had ever taken advantage of color printing to make travel guides that were not only beautiful to look at but practical to use. No one had thought about how you can present travel information in a visual way.”

While the travel market was new to DK Eyewitness, the lexicographic techniques it applied were not. DK Eyewitness has packed its travel guides with over 1,000 pictures, stunning 3-D and cutaway views of museums, palaces and cathedrals, detailed street maps, handy phrases, and essential survival information. The guides are an adventure in themselves, as fascinating to armchair travelers as they are functional for those on the go. As with all DK books, the visuals in the guidebooks carry as much content as the text. “The essence of the lexicographic approach is that we always, always add an extra level of information,” says Gillian Allan, art director for DK Eyewitness Travel Guides. “Everything has to work very hard and can’t be gratuitous.”

DK’s operations are organized to do just that. Unlike most publishing houses where editors drive the process and then hand off finished manuscripts to designers, DK editors and designers work closely as a team from the concept stage. The overall DK creative staff in the London main office includes about 250 editors and 250 designers, with roughly 42 people working solely on the travel guides. DK commissions subject experts to serve as authors for its travel guidebooks. A major country guide, for instance, may have as many as 20 authors, with additional researchers, specialists and contributors familiar with the destination. “The original picture list for a travel guide begins as an editorial list,” says Amrine. “An author who knows a certain cathedral may tell us the altar piece is a ‘must see,’ and we must include a photograph. Or an author may say something would work better as a cross-section than a cutaway. We’ll discuss it and try to accommodate that.”

Collaboration is continuous with travel guides, since virtually the entire book must be updated each year. The reason is that invariably the unexpected happens, Amrine says. “The first edition of our Paris guide included three or four photos of a very popular and photogenic floating swimming pool on the Seine that had been there for over 100 years. Just before we published, it sank. We quickly took out the pictures in...
the next edition." Buildings get renovated, opening hours and phone numbers change. All of that has to be researched and updated.

The Travel Guides staff is also concurrently involved in producing five or six books a year in multiple languages, with a goal of publishing many more—including travel guide editions for children. “We have been setting up creative teams outside our offices and contracting out production in many different countries,” Amrine says. “We already have creative teams in Italy, Poland, South Africa, the U.S., India and Singapore, and will have more countries coming on in the next few months. They are all working to our briefs, guidelines and standards.”

Eyewitness Travel Guides is also working toward a greater presence on DK’s website. “We plan to scan in the entire contents of our Travel Guides series,” says Amrine. “Every single double-page spread will be scanned and placed online. It will be a tremendous resource of images and information. We’ll also be posting updated information for our guides as we receive it.” This online connection is a natural for DK, which early on anticipated how people now surf the Web. “The information is presented in such a way that you can pick it up and move in any direction. You don’t have to start from page one and go to the end,” says Amrine. “I think the Eyewitness Travel Guides or any sophisticated DK reference book is about as close as you can come to a multimedia product in a printed form.”

But that doesn’t mean DK foresees becoming strictly a multimedia publisher. “People access information in many ways,” Davis explains. “It’s often easier to look up an encyclopedic entry in a book because you can see the coverage at a glance.” But more and more, he adds, DK will market its books with multimedia products and its multimedia products with books. “In the future, I think we will move forward in a parallel universe.”
The $4,000 Comma

Your annual report is printed. Everyone is pleased. And then you get the printing bill. What’s this?! A $4,000 charge for type corrections made on press! But...but...you sputter to yourself, I just added a comma and corrected a few misspellings!

Before you accuse the printer of gouging you, keep in mind that any change on press — even a single comma — isn’t as simple and inexpensive as correcting a typo on a desktop computer. A printing plant, after all, is a manufacturing operation involving dozens of complex, sequential processes and many workers. Stop the presses, and the impact is felt up and down the line. The press sits idle, while the prep department scurries to fix the problem and remake film, blueline and plates. More than a dozen people may be affected, and several hours lost.

Granted, mistakes occasionally happen, no matter how carefully the job was proofread before release to the printer. But a press check isn’t the time to start proofreading; it’s intended as a last chance to make sure that all previous corrections have been made. Avoiding proofreading corrections on press is the best way to avoid incurring additional costs. But it takes cooperation from everyone and awareness that even adding a single comma can add up to big money.

### Cost Ratio Chart

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**Notes**
1. These costs are estimates and may vary depending on your printer.
2. Pre-press expenses are included as part of the sheet-fed and web press costs.
3. Paper is not included in the stated costs since that varies considerably depending on how far into the run the change is made.

**People Involved:**
- Prep: Production Manager, Prep Foreman, Computer Operator, Stripper, Film Operator, Proofer
- Sheetfed Press: Head Pressman, Second Pressman, Feeder
- Web Press: Head Pressman, Second Pressman, Feeder, Jagger, Feeder, Flyboy

**Time Involved:**
- Total of time for labor and press down time, if necessary.
Open For Business

When Alcoa sought to break down the walls that interfered with employee interaction and quick decision-making, it did so literally. In building its new headquarters, the company banished private offices, dark corridors, central elevator banks and other physical obstacles that stood in the way of communications, informal teamwork and spontaneity.

Paul M. O'Neill, Chairman and Director, Alcoa

O'Neill joined Alcoa in 1987 as chairman and CEO (a post he retired from in May 1999). He was the first person elected CEO from outside Alcoa in its 99-year history.

Martin Powell, AIA, NCARB
Principal-in-Charge, The Design Alliance

Lead architect for the Alcoa Center, Powell heads the Pittsburgh-based The Design Alliance, which handles numerous corporate architectural projects in Pennsylvania.

That's the last thing O'Neill wanted to do at Alcoa. "The size of my cubicle says to the rest of the organization that they are as important as I am as measured by their workspace," he says. "That's what it ought to be to get the organization to work together. You could never achieve that in an old-fashioned space."

Built in 1953, Alcoa's former 31-story headquarters represented O'Neill's idea of an old-fashioned space. Although larger in size than the new six-story building, it had just 11,000 square feet of usable space per floor, low ceilings, long corridors and small windows. There were eight limitations, height limitations and structural wall limitations that went along with the 1950s idea that space should be associated with position — more space for higher level people, the least desirable interior space for assistants," O'Neill explains, adding that the structure itself contributed to inefficiency and rigidity in the way the company functioned. O'Neill became convinced

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<tr>
<td><strong>Building Size:</strong> 242,176 square feet of offices, with 95,900 square feet of underground parking</td>
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<td><strong>On-Site Employees:</strong> 400</td>
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the inherent limitations of the old office tower could never be overcome, so he took a drastic step. He gave away the aluminum structure—long a Pittsburgh landmark—to a group of local counties to be used as a center for development agencies in the region.

The move into six floors of uninterrupted space has helped to break down the walls separating top management from the rest of Alcoa’s staff. “The new design is really important for connecting Alcoa leadership to everyone else in the place. It’s a way for me to see and be seen in a way I never could do before,” asserts O’Neill. “In the old building I would drive into the garage, get on the elevator right by the entry door and go upstairs. I’d run into three people on the elevator and that’s how many people I saw each day—except for those I had scheduled appointments with. Now if I have something to do on the first floor, lunch or whatever, I take the escalator down and I see 50 people or 50 people can see me. It demystifies the notion that CEOs are royalty or something who don’t have anything to do with real people. There’s a sense of connection.”

Lead architect Martin Powell of The Design Alliance says that O’Neill had that connection in mind from the start. “Paul had early ideas for collaborative work using escalators rather than elevators, using coffee areas and cafeterias as magnets for collaboration. He also asked us to design a building without hallways because they separate people and waste space.”

For O’Neill, every element of the build had to be responsive to the work style of the future and the organization’s potential. “Going forward into the next century, we’ll see more employee interdependence. We want an environment that fosters seamless communications across functional and professional specialties. We’re moving to a different stage beyond the industrial revolution—and maybe even beyond the information revolution—to one where the blending of people, information, knowledge and skills require more free-form grouping and association than what most architecture provides.”

Powell says that was the key reason for placing informal kitchens at the center of Alcoa’s architectural plan rather than at the periphery. The kitchens are designed to be integral to the workplace, not an escape from it. Alcoa also chose to recreate the atmosphere of a family kitchen rather than a public café where people are more likely to keep to themselves. “The effect of people flowing in and out of the kitchen and in and out of conference rooms has created a much more collaborative, dynamic atmosphere where things happen a lot faster,” says Powell.

O’Neill agrees. “The old space worked against us. It was typical to go into your cube and if you wanted to see somebody else, you had to make an appointment. Now we have more useful engagements by accident than we used to have on purpose.”
To further encourage teamwork, private closed-door offices were not only eliminated, workspace configurations were designed so they could be changed in a day. Even the conference rooms have glass walls so people can see what is happening inside. Still, efforts have been made to respect privacy. A white sound system and sound-absorbent ceiling, wall and flooring materials reduce noise levels and eavesdropping. Meeting rooms of different sizes offer varying levels of privacy and accommodate groups as large as 150. “We have enough meeting space so every employee can be in a meeting, out of their regular assigned workspace, at the same time,” O’Neill says.

Although it was O’Neill’s idea to go to an open plan, he is blunt in his criticism of popular notions about non-hierarchical layouts. “It’s not as simple as creating a rabbit warren,” he says. “Those arrangements are dehumanizing.”

Prior to moving forward on architectural plans, Alcoa tested the concept by converting the top floor of the old building into an open furniture landscape and situating its top nine executives and their assistants there. It was a three-year changing work in progress that ultimately proved the positives outweighed the negatives.

However, not all of Alcoa’s top managers immediately bought into the open plan. “With some of the high-level executives, it was ‘I worked like a dog to get the corner office with the private bathroom and why am I going to have to give all that up?’” says O’Neill. “But that’s not about the good of the organization, that’s about status gratification. People are discovering you can sit right out in the open and be private. Privacy is not about walls.”

In many ways, people have had to change the way they work. Still, the environment is responsive to the natural workflow and sensitive to human needs. Every workstation is situated no more than 45 feet from 11½-foot high windows. Powell notes that O’Neill, an accomplished watercolorist, has a keen sensitivity to light and believes that natural light just makes people feel better. “We get a lot of gray days in Pittsburgh,” O’Neill says. “Yet in this building you have a sense of a really light feeling. You have a sense of being outside a lot of the time. We wanted to make sure we brought in as much natural light as possible.”

The building’s organization is meant to resemble a series of villages on the banks of the Allegheny River. Pittsburgh’s downtown is defined literally and figuratively by the coalition of its three surrounding rivers. The building connects to both the city and the river on one facade and Pittsburgh’s old factories on the other.

O’Neill’s choice of the industrial waterfront site helped to outline the building’s aesthetics. “This S-shaped building is organized to face the river,” explains Powell. “It’s only 50 feet from the water, situated between twin bridges. One bridge is perpendicular to the river where it begins to curve, and the other bridge slants a little away. The river begins to sweep and that’s actually the generation of the building’s curve.” The building’s base is cut from the same sandstone supports of its bookend bridges to look as if it grows out of the riverbank. Alcoa also chose to leave its identity off the exterior to ensure that nothing interrupts the lyrical wave-form of aluminum and glass.

The waterfront site was also a way for Alcoa to underscore its civic commitment. Alcoa became a pioneer supporter of revitalizing Pittsburgh’s rundown industrial area, and O’Neill went on to head Pittsburgh’s Riverfront Commission. (More than $2 billion of development is now under way in that part of the city.)

The Alcoa corporate center has proved to be a strategy for urban renewal as well as corporate growth. It plays into the idea of “connected interdependence” on a civic and corporate level. “[With this new building] the most important thing is for people to be able to associate with each other in an open way, almost because the space demands it,” O’Neill says. “We need to mix functions, not for the sake of mixing them, but to reflect how people’s work brings them together.”
DESIGN AND BUSINESS CLASSIC: SWISS ARMY KNIFE

The Swiss Army Knife by Victorinox has made more timely rescues than Superman. Astronauts have used it in outer space. Adventurers have taken it to the North Pole, to the top of Mount Everest and into the tropical rain forests of the Amazon. In a pinch, it’s been used to perform emergency surgery, screw down loose bolts, open tin cans and file hangnails. To Boy Scouts and “damseis in distress,” the Swiss Army Knife is a handy survival tool – small enough to tuck in your pocket or keep in your purse.

This ingenious pocketknife was invented in the late 1800s by a Swiss cutter named Karl Elsener. Elsener wanted to stimulate employment in the poverty-stricken district in which he grew up by crafting knives that were then being imported from Germany. He first designed a hefty multi-purpose knife for soldiers in the Swiss Army and followed it with other profession-specific models, bearing such names as Gaded Knife and Farmer’s Knife. But none approached the success of the amazing Officer’s Knife introduced in 1897.

Light, slender and compact, the Officer’s Knife included the blade, awl, can opener and screwdriver available on the Soldier’s Knife, plus a second small blade and a corkscrew. It became an instant bestseller for Victorinox (named Victoria for Elsener’s mother in 1909, with the suffix “inox” meaning stainless steel added in 1921).

American GIs stationed in Europe after World War II discovered the inexpensive pocketknives in PX shops and bought them by the thousands to take back home. Americans have clamored for them ever since. Today the Officer’s Knife – which most people simply call the “Swiss Army Knife” – is available in more than 100 different combinations. The flagship SwissChamp model has 33 different features packed into a 6.5 ounce “toolbox.” Precision-engineered using 64 separate parts, the SwissChamp requires more than 450 processes during manufacturing. This quality has built consumer confidence – so much so that some people have even staked their lives on it.

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