

RESEARCHING INDUSTRIAL DESIGN AND PLASTICS IN THE U.S.:

A METHODOLOGICAL AND CONCEPTUAL CASE STUDY

Jeffrey L. Meikle - Professor, Departments of American Studies and Art History, University of Texas at Austin

It is a pleasure to be invited to participate as M+ explores the history of design and industry in East Asia. Before beginning my talk, however, I must confess relative ignorance regarding our topic. Of course I'm familiar with the impact of East Asian design and industry on the U.S. and the West in general. My research into postwar U.S. design history has also revealed that Japanese designers made several fact-finding visits to the U.S. in the late 1950s. At first they did not believe what they learned, that American industrial designers manipulated the styling of new consumer products just to make older products look obsolete. As one visitor told his American host, design should be as timeless as the Buddha. However, the visitors learned the lesson of planned obsolescence and applied it when they produced automobiles and electronic goods for export to the U.S. But they did so by designing goods whose timeless quality transcended commercial considerations. I'm thinking of such companies as Toyota and Sony. More recently East Asian manufacturing has replaced U.S. manufacturing for many consumer goods, in part owing to advantageous labour markets. These statements are generalisations anyone might mention. So just what is my role in this dialogue?

I intend to discuss methodological and conceptual issues that have confronted design history communities in the U.S. and Britain over forty years-issues that might prove useful as parallels when considering the history of East Asian design. My historical investigation of the American industrial design profession began in the mid 1970s. I was a doctoral candidate in the interdisciplinary field of American Studies at the University of Texas. I had become interested in Norman Bel Geddes, a New York designer who popularised streamlining as both design style and cultural concept during the

Depression of the 1930s. His large archive, with correspondence, memos, job files, sketches, renderings, photos, models and clipping files, had been presented to my university's rare manuscript library. My adviser knew I was interested in futurism, utopianism, and technology in art and literature, and suggested I write a biography of Bel Geddes for my dissertation.

Fortunately, the designer's widow planned to write a biography of her husband (never completed) and refused to allow access to his archive for that purpose. Her refusal forced me to expand coverage to include other industrial designers from the same era, Raymond Loewy, Walter Dorwin Teague and Henry Dreyfuss. By considering a group of designers, I was able to move beyond one individual to reconstruct social and economic forces of the 1930s that had brought their profession into existence. Three of them had backgrounds in advertising, which brought them into contact with corporate executives who wanted to boost sales beyond what advertising could accomplish. Correspondence between designers and clients, and articles in business magazines, enabled me to reconstruct the economic motive for design. The style of streamlining, which came from the science of aerodynamics, where it referred to reducing wind resistance in vehicles, appealed to business executives who wanted to reduce sales resistance to their products, and eventually it appealed to consumers who wished to move smoothly through the chaos of hard times. I mention this by way of pointing out the need to ground design history in economic and social conditions. Design expresses the culture from which it arises. My training as a social and cultural historian proved essential to an interpretation that encompassed more than styles and aesthetic evaluation.

In the mid 1970s, design history did not exist as a field in the U.S. I was working alone to define issues and devise research methods—a situation with advantages and disadvantages. On the plus side was my training as a cultural historian, which not only prepared me to situate industrial design in historical, social, economic and technological contexts, but also, more practically, enabled me to find and use

manuscripts and printed documents related to the design process. My training also made me unsympathetic to traditional art history approaches of creating a canon of aesthetically perfect examples of timeless design and celebrating heroic designers who had created them. However, there was a flaw in my approach. Despite an ability to contextualise what designers were doing, I failed to recognise the central importance of three-dimensional objects, or material artefacts. Any art historian would have recognised them as essential, but I failed even to see my omission.

Only several years after publishing the book *Twentieth Century Limited* in 1979, which was based on my doctoral research, did I realise I had almost never physically interacted with any of the material objects I had interpreted. I had not touched, held, or used them. Surprisingly, not a single reviewer noticed the abstract quality of my descriptions. It still amazes me that I did not know any better and that no one criticised my lack of awareness. I finally realised my relative ignorance one day as I closely examined a chrome-plated Big Ben alarm clock that had belonged to my grandmother. The clock's designer Henry Dreyfuss had described his informal market research. After going to department stores and watching shoppers, he noticed they often lifted competing models of alarm clocks and then purchased the heaviest one. As Dreyfuss told the story, that observation led him to specify that a small bar of iron be inserted in the base of the Big Ben clock. The extra weight would attract purchasers, but it would also make the clock more stable and prevent it from being knocked off a bedside table. The story is a nice one, showing a thoughtful designer manipulating consumers while also providing them with a more functional product. The only problem is the story is not true. The Big Ben clock has no iron bar. Thirty seconds with a screwdriver revealed this to me after curiosity got the best of me and I disassembled the base of the clock.

My knowledge of the material artefacts I wrote about in *Twentieth Century Limited* was not first-hand. Instead my knowledge of their appearance came from black-and-white photos taken in the 1930s. These

were not ordinary snapshots but were carefully posed and dramatically lit. Such professional images were used to promote new products in newspapers, magazines, trade journals and advertisements. With no sense of scale or human context, gleaming images of clocks, toasters, vacuum cleaners and washing machines conveyed an abstract sense of control amidst social and economic chaos. The persuasive power of these images endured more than forty years, influencing my judgment and yielding an inaccurate portrayal of the design profession. Even so, my book possessed its own validity precisely because I lacked the object-oriented connoisseurship of a museum curator or art historian. Instead I used training as a literary scholar and intellectual historian to analyse forgotten writings of designers, advertising agents, product engineers and business executives. In the verbal rhetoric of memos and magazine articles—a secondary accompaniment to real design work—I discovered the cultural metaphors of U.S. industrial design during the 1930s.

Most of the objects illustrated in my book were unknown then except through black-and-white photos. Few private collectors specialised in mass-produced artefacts of the 1930s. No art museums and few history museums collected examples of mass-produced products whose forms and functions had been organised by industrial designers. Art museum curators regarded commercial products as tasteless. Even curators of history museums regarded 'design' as a word referring to handicraft objects from the pre-industrial era. To cite an example of the problem with relying on photos instead of objects, there is the case of Raymond Loewy's chrome-plated teardrop pencil sharpener from about 1934. After I discovered a black-and-white photo at Loewy's New York office and published it in my book, other scholars reproduced the photo. All of us referred to the pencil sharpener as if it had actually been manufactured and marketed. But none of us had ever seen the actual object. A collector finally found one in 1986, and it turned out to be a hand-made prototype, not a mass-produced commercial product at all. It was unique, one of a kind, nearly an art object. Even today, exhibitions and books devoted to streamlined products still tend to

portray them as aesthetic objects, smoothly contoured, gleaming with highlights, fetishised by colour photography.

Historical research is shaped by what we already know. Sometimes, as in my experience with the Big Ben clock, interpretive assumptions do shift. After becoming aware of my narrow reliance on images and words to the exclusion of objects, I decided to expand my horizon when I began a new research project on the history of plastics in the U.S. One goal of the project, which yielded the book *American Plastic* in 1995, was to discover how new materials with qualities that had never before existed were presented to the general public as acceptable for consumer goods. How did ordinary people experience extraordinary new materials? I knew I would have to focus directly on real things, on material objects, in addition to photos, documents and published texts. Seeking examples of a dozen varieties of plastics and polymers, many with quite different qualities, I searched in junk stores and flea markets for objects that were moulded, extruded, or laminated with Bakelite, polyethylene, polystyrene, polypropylene, PVC, nylon and so on. I surrounded myself with these objects. I kept them on my desk as I wrote, so I could touch, tap, bend and smell them. Sometimes I scratched or broke them. On occasion I tried to burn them.

The purpose was to experience the essence of these materials. This new approach gave me more direct knowledge of plastics than I had ever gained for the streamlined products I wrote about earlier. But something unexpected happened. I discovered I wrote with greatest insight about specific plastic objects I had encountered in my childhood. I recalled, at about the age of eight or nine, marvelling over the magical golden depths of a translucent yellow screwdriver handle of cellulose acetate, wondering how its steel tang was embedded in such a lustrous material. And I recalled placing my face down on the top of a plastic laminate school desktop, feeling its refreshing cool surface as I inhaled its pleasant chemical odour. My most convincing observations came from such nostalgic memories. No matter how many material examples I collected, it proved impossible to recapture the original meanings of new plastics for people who had first encountered them. Even so, my insights into physical objects

were deeper, my writing was more assured, because I had learned to recognise different plastic materials through sight, touch, sound and smell, not through two-dimensional black-and-white photos or journalistic rhetoric.

It may seem obvious that to understand design in the setting of a museum, we must involve ourselves with objects. However, the limitless virtual realm of the Internet has exposed us to rich full-colour two-dimensional images whose Photoshop perfection often makes them more compelling than objects they represent. Even so, design museum policies must focus on collecting and preserving actual objects. That can often be difficult to do. Even the largest, most impressive manufactured goods are discarded when they become obsolete. I've worked with the teams organising several museum exhibitions that sought to display well-known designed objects, and curators had a hard time searching through dealers, on-line auction sites and local junk stores for a single remaining example of products that were once commonplace. So a design collecting policy should include obtaining examples of designed goods when they are new and commonly available, before they become famous but hard to find.

But no museum has limitless storage space. How can a design museum develop collecting criteria and prioritise goods to be collected? One way is to focus on a single type of product, whether furniture, housewares or video games, collecting a range of goods from different companies that can be compared to emphasise the variety of design approaches and solutions. Another is to focus on typical products designed and manufactured in a single city or region, or products from a single company, such as Sony, Apple or even Kohler, a well-known U.S. manufacturer of plumbing fixtures whose factory I recently toured. Often a timeline of all the products of a single company will enable a museum to tell the story of an entire industry. Kohler, for example, has been in business for 130 years. Although Apple is a much younger company, a survey of its products would reveal a thirty-year material history of personal computing and communication. And if Apple seems too oriented toward high aesthetic design standards, then one

might pick a company like Dell or Hewlett-Packard, whose products would reveal more about the everyday experience of personal computing in the U.S.

Despite the obvious requirement of focusing on the products themselves, there is an ironic risk involved. To emphasise only material artefacts may lead to a common art history fallacy of celebrating design for its aesthetic quality, placing designed objects on pedestals, abstracted from the real world. To contextualise objects historically and culturally, we must associate them with two other kinds of artefacts: those pertaining to design and manufacture, and those pertaining to consumption and use. Let's focus first on materials that reveal the design process. How and why did a particular product assume its shape and functions? Design used to be a messy business before computers entered the studio. Every design project generated sketches, drawings, renderings and models (whether of clay or foam). Such artefacts were often destroyed when their usefulness ended. Much depended on the personality of a design firm's principal. Norman Bel Geddes, for example, never discarded a single scrap of paper. On the other hand, when I approached the office manager of Raymond Loewy's New York office, she told me they had saved everything. Unfortunately, 'everything' turned out to be two file drawers with photos and PR releases for each project. There was nothing from the actual design process.

Obtaining and preserving such process materials is even more difficult in the digital age. Somehow the ephemeral steps of the design process, especially those revealing crucial decision points during the development of a specific design, must be preserved. I can imagine a museum exhibit that presents visitors with a designed object they can see and perhaps even sit on or operate. On a touch screen they would access digital visualisations and isometric projections, revolving the object to view it at different scales and from different angles, perhaps even exploding its parts. A visitor would shift back and forth from computer visualisations to the actual object, learning something of the designer's perceptual consciousness. The digital files needed

for this exhibit would be obtained through cooperation with a design firm, which means that such exhibits are more likely with current and future products, not with those designed and marketed in the past.

Another crucial pathway into the design process is through the memories of designers. The design historian Vicki Matranga has compiled a major archive of video interviews with American designers active in the last half of the twentieth century. The recent documentary film *Objectified* presents in-depth interviews of contemporary designers. Such autobiographical and biographical records are essential for understanding changes in the profession over time in such areas as education, composition of design teams, relationships with clients and a design firm's trajectory. If a historian can interview all the team members for a single project, insight can be gained into a firm's patterns of collaboration. There is also collateral value to recording such interviews. In the process of becoming acquainted with an interview subject, a historian may also gain access to original files in that designer's possession. Such process files, whether physical or digital, should be acquired and preserved by design museums whenever possible.

Although acquiring materials documenting the design process may be difficult, it is relatively straightforward when contrasted with the difficulty of acquiring evidence about the relationship of a product to people who purchase and use it in their daily lives. Design historians and museum curators should be attentive to the reception of designed objects. How did consumers react to them? What messages did products convey? What social and ideological positions did they communicate to users or enable users to express? Were these concepts purposely embedded in objects by their designers or added later by consumers? Reception studies are notoriously inexact, and historians may inadvertently project personal desires or political positions onto the past. It is impossible to know what Americans during the 1930s Depression actually thought about a streamlined radio or automobile. It is nearly as difficult to know the reactions of the first users of the original Macintosh computer introduced by Apple in 1984, even

though we can interview users who are still alive. Their memories are notoriously inexact, changed by subsequent events. Even so, we can still gain a sense of how designers, manufacturers and merchandisers tried to appeal to consumers. Most product launches are surrounded by PR releases, videos, advertising, brochures, trade journal articles, blog entries, tweets and online reviews. Such artefacts should also be collected and preserved, and eventually woven into the history of a product's design and marketing. Verbal and visual rhetoric can reveal much about intentions of designers and manufacturers, about how they envision a product entering into the lives of users. The strategy of examining promotional materials surrounding newly designed products marked my own early involvement with design history. But as I have tried to emphasise in this brief treatment, a well-rounded investigation by historians and museum curators must begin with the object itself and the process of its designing.