
PREFACE TO THE SECOND EDITION

Looking back over this book for a new edition, I am surprised to find how much it differs from the one I remember writing. The past two decades have witnessed much new scholarship—both theoretical and factual—in the areas of consumer culture and design history, and my own understanding of industrial design and its cultural role between the world wars has become more complex. Clearly I could not now write the same book. Even so, I believe it remains a useful study, especially if a reader keeps in mind a few caveats.

When I began the project twenty-five years ago, design history was only then emerging among British art school instructors inspired by Reyner Banham's journalistic celebration of American pop culture—motorcycles, Detroit tailfins, and shag-carpeted custom vans. Arthur Pulos, an industrial designer, was then gathering material from his colleagues for a comprehensive history of design in the United States, but his work was ten years away from publication. In 1975, shortly after I began research for this book, Donald Bush published *The Streamlined Decade*, a useful work but one whose art historical approach left plenty of room for an interdisciplinary American Studies treatment encompassing the histories of business and industry, art and architecture, technology, and general social and cultural history.

Even so, my approach exhibited a major blind spot for a historian of design. Only much later did I realize that during the writing of this book I had rarely touched, used, walked through, or otherwise physically interacted with any of the material objects and environments I was describing

and interpreting. Not a single reviewer or reader ever made this observation, which hit me one day as I contemplated a handsome, chrome-plated Big Ben alarm clock that had belonged to my grandmother. Henry Dreyfuss, the designer of the clock, once described his informal market research. Watching shoppers, he found that they hefted competing alarm clocks and tended to purchase the heaviest. As the story goes, Dreyfuss had a plug of iron inserted in the base of each Big Ben clock. The extra weight not only attracted purchasers but also gave the clock a solidity that kept it from being knocked off a bedside table. The story is a nice one, showing a thoughtful designer manipulating consumers while providing them with a more functional product. The only problem is that the story is not true. The Big Ben clock has no iron plug. Thirty seconds with a screwdriver revealed this after I had allowed my curiosity to go to work on the actual artifact.

My familiarity with the objects I wrote about in this book came from black-and-white photographs. But they were no ordinary snapshots. Carefully posed and dramatically lit, these professional images existed to publicize new products in newspapers, magazines, trade journals, and advertisements. Without dimension or human context, gleaming with burnished highlights, these images of clocks, toasters, and washing machines exemplified cool gray abstraction, a calming ideal amidst the many uncertainties of the Depression. Whatever their impact on those who first viewed them, they retained considerable expressive power forty years later, yielding a sometimes unreal portrait of

the era that produced and consumed them. Even so, this book does not lack validity as an entry point to the culture of Depression America; nor does it misrepresent industrial design's contributions to that culture. To some extent, the novelty of my approach to design history came from the very fact that I lacked the object-oriented connoisseurship of a museum curator or art historian. Instead I used earlier training as a literary scholar to analyze the forgotten writings of designers, advertising agents, product engineers, and business executives. In the verbal phrasing of memos and magazine articles—in effect only a secondary accompaniment to their real work—I discovered the cultural metaphors and utopian agenda of industrial design during the nineteen-thirties.

As it happens, most of the objects illustrated in the book were known only through black-and-white photos at the time I was writing. Few collectors specialized in mass-produced artifacts of the nineteen-thirties, and no art museum would have stooped to do so. Raymond Loewy's famous teardrop pencil sharpener, which turns out to have been a unique prototype, came to light only during preparations for the Brooklyn Museum's exhibition on "The Machine Age in America, 1918-1941," which opened in 1986. That show and its catalogue, written by Richard Guy Wilson, Dianne Pilgrim, and Dickran Tashjian, restored a sense of color to streamlined design and inspired collectors, both public and private. A spate of exhibitions and catalogues revisited the era, such as "Designing Modernity" in 1995, curated and edited by Wendy Kaplan from the 70,000 examples of decorative arts, furniture, prints, posters, sculpture, books, travel and world's fair memorabilia, and printed ephemera in the extraordinary collection of Mitchell Wolfson Jr. at Miami Beach.

All historical research is shaped by what we already know. Sometimes, as when my Big Ben clock triggered a minor revelation, the kaleidoscope shifts to form a new interpretive pattern. After becoming aware that I had relied on images instead of artifacts, I tried to remedy the situation when I started a new

book on the history of plastics. I ransacked flea markets and junk stores for examples of different polymers. I surrounded myself with these objects so I could touch, tap, bend, smell, and sometimes even purposely break them as I wrote. The point was to try to get at the experiential essence of these materials. But a disconcerting thing happened. I found that I wrote with greatest assurance about plastics from my childhood—about the magical golden depths of a translucent yellow screwdriver handle or the cool tangy odor of a Formica school desktop on a hot spring afternoon. The most convincing observations came from memories filtered through nostalgic haze. So much for a convincing claim to neutral objectivity, or for recapturing the original meanings of other new plastics for the people who first encountered them.

There are a number of areas in which knowledge of scholarship nearly contemporary to mine would have stimulated greater precision on my part. I was writing just as theory was beginning to move to the forefront of cultural studies, and I would have eagerly devoured Pierre Bourdieu's *Distinction* (1979) on intersections of class and taste. There is much of value on the symbiotic relationship of producers and consumers in such works as Mary Douglas and Baron Isherwood's *The World of Goods* (1979) and Grant McCracken's *Culture and Consumption* (1988). Although I continue to maintain that the United States experienced the first fully embodied consumer culture during the nineteen-twenties, more recent studies, such as Neil McKendrick, John Brewer, and J. H. Plumb's *The Birth of a Consumer Society* (1982), have rightly argued for the importance of consumption in the eighteenth century and earlier. My assertion that industrial design made people comfortable with technological change by domesticating modernity would have benefited from a reading of Marshall Berman's *All That Is Solid Melts into Air* (1982), which explores modernity as disruption, and Roland Marchand's *Advertising the American Dream* (1985), a study of the ideology and iconography of advertising between the world wars.

Obviously much has been published in the past two decades on industrial design and streamlining, though *Twentieth Century Limited* remains an introduction no one has sought to replace and presents an interpretation no one has questioned. Adrian Forty's *Objects of Desire* (1985) brought more of a neo-Marxist bite to the analysis of industrial design in general, while Terry Smith's *Making the Modern* (1993) integrated mass production, modern art, and streamlining into an interpretation revolving around the Ford Motor Company. Penny Sparke explored the complex issues of gender and design in *As Long As It's Pink* (1995). Recent monographs and exhibition catalogues have been devoted to Henry Dreyfuss, Norman Bel Geddes, Raymond Loewy, and Russel Wright, among others, and the periodicals *Design Issues* and *Journal of Design History* have addressed a fascinating array of topics. Some of the most significant recent works have been general surveys such as Jonathan Woodham's *Twentieth Century Design* (1997) and Gregory Votolato's *American Design in the Twentieth Century* (1998). Others more limited in scope but ambitious in intent are Regina Lee Blaszczyk's *Imagining Consumers* (2000), which engagingly reconstructs attempts by manufacturers of glassware and ceramics to discover and shape consumer demand, and *The Bathroom, the Kitchen and the Aesthetics of Waste: A Process of Elimination* (1992), by Ellen Lupton and J. Abbott Miller, which explores metaphorical aspects of streamlining that I unfortunately chose only to hint at two decades ago.

Let me end with a few more caveats. Some readers today will object to my use of such gendered words as *adman*, *businessman*, and *draftsman*. For the past several years I have routinely used "salesagent" in place of "salesman." However, it is debatable whether the cause of equality is better served by gender-neutral language or by historically accurate terminology that points out the degree to which inequality was intrinsic to the everyday expression of the mid-twentieth century. More central to the book is the

degree to which, as a young author self-educated in the history of design, I represented some issues as unique that had actually animated debates as early as the eighteen-forties. Promoting aesthetically valid products as a vehicle of social reform and touting novelty of design as a means of boosting sales—the "positive" and "negative" poles of much design discourse—were hardly new ideas. Both had engaged designers, manufacturers, and promoters in Great Britain and the United States throughout the nineteenth century—perhaps most noticeably at the Crystal Palace exhibition in London in 1851 and at the Centennial Exposition at Philadelphia in 1876. Even the phrase "industrial design," which I originally traced back to 1919, actually appeared at least as early as 1877, if only in an art educator's lament that it was "but little cultivated in this country."

On the whole, these are sins of omission, as is this book's most glaring oversight. The conclusion of *Twentieth Century Limited* suggests a dismal future for industrial designers. After the exhilarating decade of the nineteen-thirties in which they founded a new profession, added glamour to industry, and created a streamlined world of gleaming promise, they found themselves relegated in the postwar period to obscure support positions in which they sketched superficial model changes, engineered artificial obsolescence, and coordinated dull, featureless architecture for corporate franchise outlets. Little did I know, in 1979, that design would soon become once again a central focus of American culture. The book you are about to read traces the creation of forms and styles to express the energy and hopes (and, yes, the superficialities and hypocrisies) of a self-styled machine age. Now, of course, designers are engaged in the equally challenging process of giving shape to the hardware, software, and webware of the information age. From that perspective, the history of an earlier moment of intense design consciousness takes on renewed significance.



A Consumer Society and Its Discontents

Speed is largely a matter of mental stimulus.

—S. L. (“Roxy”) Rothafel

Much recent social history assumes the operation of a technological imperative. According to this view, social change follows technological innovation. To Siegfried Giedion, the assembly line seemed “a symbol of the period between the two world wars.” Other historians have credited the automobile with stimulating prosperity in the twenties and, as its market reached saturation, with triggering the Depression of the thirties. The auto’s economic role was no doubt crucial, but the ready availability of many other new manufactured products helped to transform the nation into a consumer society in the twenties. Although traditional virtues of thrift and hard work did not immediately disappear, more and more people were engaged primarily in “*buying* a living.”²

The Flood of Goods

A number of factors contributed to the rise of a consumer economy in the twenties. The end of mass immigration in 1921 stimulated the introduction of machines to replace scarce unskilled labor. The electrification of industry made manufacturing more efficient. New techniques of factory management eliminated wasted effort by confining each worker to a single repeated task. Greater efficiency also resulted from the war, which had required standardization of parts and processes throughout entire industries, had led to modernization and new construction, and had given manufacturers experience in shifting rapidly from one line of products to another. Industrial production doubled between 1919 and 1929, while purchasing power rose by nearly a fifth. Americans who were working shorter hours for higher wages demanded a greater range of goods.:

By far the greatest demand was for the freedom of movement provided by an automobile. In 1910 there was one car for every 184 persons; by 1930 one for every five. The automobile’s phenomenal success stim-

ulated production of other consumer goods. Its example revealed the economy of high-volume production. In addition, cost-reducing innovations sought by automakers benefited other industries. One significant automotive spin-off—the inexpensive sheet metal provided by the continuous rolling mill—transformed the home appliance industry in fortunate conjunction with lower electric rates. Other automotive developments, such as synthetic finishes, provided new appearances for old products. Lighter in weight and brighter in color, many consumer goods shared the attractions of the automobile."

The acceptance of buying **on** credit, another automotive innovation, **also** fueled prosperity. Traditionally only a few products, such as pianos and sewing machines, were **sold on** title. After General Motors set **up** its own finance corporation in 1919, however, the installment plan quickly became routine for all major purchases. Noting that credit buying had become "the new gospel," Robert Lynd suggested that the desire for immediate gratification was eroding the Protestant ethic of hard work, thrift, and acceptance of hardship." The present seemed **capable** of gratifying every desire, but Americans did not **lose** sight of the future. The daily increasing flow of new products engendered belief that the good life would continually grow better.

Everyone did not equally share the new **goods**. But, as Lynd remarked, consumers expected soon to imitate those with higher incomes.⁷ Technological innovation and mass production brought former **luxury** items to people at **lower income levels**. Annual production of washing machines, for **example**, doubled between 1919 and 1929, **and** by 1931 two-thirds of the families in a typical city like Pittsburgh had one. The refrigerator, **on** the other hand, remained a luxury item. Not introduced until about 1916, its **annual** production rose from **5,000** in 1921 to 890,000 in 1929,⁸ but in 1931 **only** 13 percent of Pittsburgh's **homes** had

one. But the future promised that refrigerators, like washers, would become generally available. In the meantime consumers could enjoy a range of **less** expensive appliances—sandwich grills, toasters, coffee pots, waffle irons, and clothing irons.

Americans desired more products that could **be** used or consumed quickly and easily. Canned goods, commercial bakery products, factory-rolled cigarettes, safety **razors**, and fountain pens all rose in sales during the twenties. They did not save much time, but they created a feeling of increased tempo. Piano sales fell sharply as people opted for public entertainments that informed them of the latest styles and products. Annual production of clothing increased by a third during the decade, indicating rapid turnover in styles. New materials like rayon found acceptance as women sought a sleek modern look to match their automobiles.

The consumption orientation spread rapidly through the United States for various reasons. The nation's population became urban-centered in the twenties, and rural areas were **less** isolated than before. The automobile fostered the interpenetration of **rural** and urban space, **as** city dwellers escaped to the country for Sunday drives, and farm families made shopping trips to the nearest city—whose goods made those of the general store **or** mail-order catalogue seem tawdry. To fight competition from urban shops, Montgomery Ward and Sears Roebuck opened retail outlets offering fashionable **goods** not found in their catalogues.⁹ Rural visitors returned from the city to homes partially transformed by **modern** products representing the essence of urban living.

Just as important **as** greater ease of transportation in stimulating consumption was the simultaneous introduction of new ways of broadcasting information, consumption models, values, and styles. By the end of the decade Americans were flocking to twenty thousand movie theaters. Ten million homes

enjoyed radios. The vast popularity of radio made people dependent on the same sources for their opinions, while the speed of communication placed a premium on novelty for its own sake. With consolidation of national networks in New York, also the headquarters of most magazine publishers, Americans both urban and rural yielded, as a government report concluded, to “mass impression” by “an all pervasive system of communication from which it is difficult to escape”¹⁰—a system that lubricated the wheels of industry by persuading people to buy.

The volume of advertising rose **tremendously** during the twenties. National periodicals ran about \$25 million worth of ads in 1915. Eight years later the annual volume was up to \$100 million, and in 1929 it surpassed \$150 million.” A change in the nature of advertising was also important in boosting consumption. Before 1920 most ads simply announced availability of a given product with certain characteristics. After 1920 the industry’s approach shifted to persuasion by appeal to irrational desires. Psychology, usually diluted, transformed the adman’s world view. Albert T. Poffenberger, a lecturer on advertising psychology at the Columbia School of Business, advised basing ads on “the mechanism of human behavior” in “its lowest terms.” An ad’s “appeal” should stimulate a “reflex response” by awakening a “desire” — such as **sex**, success, domination, or conformity — that could be relieved through buying a given product.” A leading advertising executive, Earnest **Elmo** Calkins, defended his profession against its frequent critics. Since advertising creates “a rapid interchange of commodities and money.” he argued, it “brings within easy access and at easy prices the vast number of articles . . . which make life less difficult, smoother, more restful, more efficient, and more worth while.” In many cases, he observed, it “creates a demand for things that were beyond even the imagination of those who would be most benefited by them.”¹¹

As the major conduit of a consumption mystique derived from a faith in limitless technological progress, advertising naturally emphasized modernity, novelty, and change for its own sake. From modern art advertising executives sought ideas that would lend their illustrations a veneer of the avant-garde, no matter how drab the actual products. During the teens, autos often appeared in impressionist settings. The twenties witnessed cubist illustrations, used most often in selling clothing, cosmetics, and jewelry. By popularizing startling forms of expression from the esoteric domain of high culture, advertising itself, as a visual medium, reinforced a common perception of rapid change. Along with the automobile, labor-saving appliances, radio, movies, and new consumption-oriented styles of dressing and living, advertising both expressed and stimulated mass realization that “the tempo of life is speeded.”¹²

Self-help manuals ministered to those trapped in older modes of action. Advertising executive Robert R. Updegraff included *The New American Tempo* (1929) in his “Little Library of Self-Starters.” On its yellow cover marched staccato rows of blue checkmarks, one after the other, resembling stylized wings or abstractions of upward business curves. Updegraff aimed his pep talk at businessmen who watched “the sales curve of this or that item or department **slowly** —or perhaps abruptly —flattening out” as a result of “business competition” or “public indifference.” According to Updegraff, these luckless entrepreneurs suffered failure amidst prosperity because they had ignored America’s “*complete change in tempo*”—including such developments as buses, tabloids, air mail, refrigeration, pale ginger ale, traffic lights, public discussion of “personal hygiene,” four-wheel brakes, skyscrapers, cooperative apartments, vending machines, wirephotos, oil heaters, and “the celerity with which the nation accepted halitosis, and four out of five of us embraced the fear of pyorrhea.”¹⁵

Faced with “the speed factor,” businessmen could either wait for their products to become obsolete or else emulate “a new crop of business geniuses” who had “caught the new tempo, jumped in at the right time to capitalize [on] the swing to color, the acceptance of radio, the short skirt, the craze for speed, the lure of the lurid in literature. the breaking down of prejudice against Sunday amusements, the public’s discovery that it could have its 1940 luxuries today on the installment plan.”“On the eve of the Depression. Updegraff’s upbeat tone implied that he expected the future to bring ever wilder improvisations on the rhythms of the twenties. His underlying doubt, however, was revealed by his concern for businessmen who had failed in the competition for the consumer’s dollar. Manufacturers began to realize the precarious balance of production and consumption. Sophisticated advertising alone no longer brought results. During the decade’s final years, coached by their advertising agencies, some manufacturers began to restyle their products, making them more distinctive, modern, and competitive not only with similar goods but also with the vast assemblage of consumer products. Updegraff advised businessmen to revise their products “to fit new needs or ideas.”” This new sales tactic **soon** brought a profession into being — industrial design.

The Most Expensive Art Lesson in History

One of the first to point out the importance of beauty of design in selling products — in this case automobiles — was advertising man Earnest Elmo Calkins.¹⁸ An engaging figure who championed in voluminous writings the highest business ethics and aspirations, he was born in **1868**, grew up in Galesburg, Illinois, and attended Knox College. After working as a typesetter and trade editor, Calkins gravitated to advertising, opening an agency in New York with Ralph Holden in

1901. Calkins recognized that he could make advertising more effective by improving its illustrations—usually the crude line drawings of untrained hacks—and *so* emphasized development of an effective art department.

As early as 1905 he suggested in his *Modern Advertising* the revolutionary idea that advertising should provide more than “the printed announcement of the merits of an article or an institution,” It should also act as a “subtle, indefinable, but powerful force,” creating “a demand for a given article in the minds of a great many people or arous[ing] the demand that is already there in latent form.”¹⁹ Later describing how Calkins and Holden instituted this change, he emphasized the role of art. First, skilled illustrators revealed the beauty of a product. More important, careful choice of style of illustration provided “atmosphere.” Adaptation of the latest modes of the fine arts “afforded the opportunity of expressing the inexpressible, of suggesting not **so** much a motor car as speed, not **so** much a gown as style, not **so** much a compact as beauty.”” Repeatedly, Calkins argued that not only did truly artistic illustrations sell products, but by acting as “a humble picture gallery for millions who never see the inside of an art museum,” advertising elevated the taste of the masses, made ugly products unacceptable, and produced demand for well-designed items.” In addition to satisfying manufacturers by boosting sales, advertising agencies also shared responsibility for refining the material environment in which Americans lived and worked.

A Calkins and Holden campaign conducted for Pierce-Arrow around 1915 marked one of the earliest attempts to make beauty of design—rather than mechanical function—the significant factor in selling automobiles.²² According to Calkins, the makers of the Pierce-Arrow? a luxury car, had already recognized that “people would demand finish, beauty and luxury” as soon as automobiles became reasonably similar in efficiency and performance. After hiring

artists to design the Pierce-Arrow's various bodies. the company turned to Calkins and Holden for an advertising campaign. The agency created a "class atmosphere... conveyed... not so much by what was actually said, as by what it implied, and especially by the use of illustrations of superior quality reflecting the fashionable world in which the Pierce-Arrow Car lived, moved and had its being." One of the ads *was* framed by a dignified classical border engraved by Walter Dorwin Teague, a free-lance illustrator who had once worked in Calkins's art department and later became a leading industrial designer. Within the frame was a vaguely impressionistic oil painting. In its background stood a chauffeured Great Arrow against a backdrop of gauzy spring greenery. In front stood two well-dressed young women, one restraining a Doberman pinscher on a short leash. They appeared ready for a short spin through idyllic lanes. The accompanying copy stated that the Pierce-Arrow had reached "the ultimate degree of motor car efficiency," and its "new type of body" marked the end of "the last traditions of horse-drawn vehicles." By its studied artistry, Calkins pointed out, the advertisement portrayed an "atmosphere of luxury, comfort and smartness." Making the same point verbally in the confines of a single page would have seemed vulgar by comparison.

A three-page promotional folder prepared by Calkins and Holden could afford to be more explicit. Its double-edged title, "Leaders of Fashion," both referred to the Pierce-Arrow line and flattered potential customers. According to its copy, the Pierce-Arrow was not only "a successful machine" but also "a successful work of art, in the same way that a Sargent or a Saint Gaudens is a successful work of art." It exemplified "beauty clothing utility." Just as nature had covered the functional but ugly human skeleton with a body whose "graceful lines" suggest "strength, poise, endurance. speed, rest," so had the Pierce-Arrow company covered with an aesthetically perfect body the "engine, trans-

mission, clutch — all the necessary, ugly but efficient machines that make the car what it is." The copywriter concluded by repeating that the Pierce-Arrow's body was "created out of its use and environment, created by artists."

Given Calkins's pioneering role in the use of fine artwork in advertising illustration, it follows that he would be among the first to think of designing an automobile to sell primarily by aesthetic appeal. Actually, the Great Arrow pictured in Calkins's advertisement did not differ much in appearance from one manufactured ten years before. But his agency created an impression that the car's body had been radically redesigned with beauty in mind. Implicit in the campaign was an operating philosophy later brought into the open by such industrial designers as Teague. "Leaders of Fashion" stated that the Great Arrow's body, like the streamlined housings of the thirties, covered a clutter of mechanical parts that made sense only to a mechanic. Despite the assertion that the body was "created out of its use and environment," it did not strictly honor the injunction "form follows function." The body did not express the obvious function of the Great Arrow as a transportation machine. But it did, nevertheless, express an *image* of the auto's function — an image presumed attractive to potential upper-class customers. In the thirties designers sought to represent an image of speed in their automobiles. In 1915, however, the image of the Pierce-Arrow was "class." The Pierce-Arrow's function was to provide its owner with prestige, to put one by association in a select group of people who could appreciate Sargent or Saint-Gaudens. In a general sense the function of the Pierce-Arrow was to get itself sold, and in that sense form did follow function. Later, industrial designers and their critics quibbled over whether such objects as a pencil sharpener that looked like the housing of an airplane motor exemplified functional design, but their problem concerned semantics. In 1915 the important

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point was that a leading advertising agency wanted the automobile sold like clothing—on the basis of style. Its design should exude the “atmosphere” of its advertising. In short, the automobile should become an advertisement for itself.

William B. Stout, a body engineer for Scripps-Booth, echoed these thoughts. Nothing then distinguished Stout from other designers, but he eventually won recognition for the Union Pacific’s first streamliner and for a rear-engine auto shaped to counteract crosswinds.” Stating baldly as early as 1916 that “art is the science of eye-appeal,” Stout argued that “if one builds into a commercial product an appeal to the eye, he establishes the first point of salesmanship, which is impression.” The public no longer perceived an automobile only as a transportation machine but also as a reflection of its owner’s taste and personality. Manufacturers would have to incorporate style in their designs. Stout predicted that “the car of the future” would use “art lines to suggest the action of its mechanism.” Aesthetic principles as rigorous as those of mechanical engineering would yield designs whose “appeal” derived from images of “speed, power, comfort, luxury, safety and economy.” According to Stout, “the automobile for to-morrow” would be “the artist’s opportunity.”²⁴

Despite Stout’s optimism it took ten years for a significant number of artists to enter the automobile industry. In 1927 the editor of *Automotive Industries* noted that only recently had designers trained in art rather than engineering begun to enter body design.²⁵ As long as the boxy Model T remained king of the road, concern for appearance remained limited to **luxury cars** like Pierce-Arrow. Gradually, other manufacturers, particularly **General Motors**, turned to style in order to compete with Ford. Few **people** realized that the automobile industry was in trouble. Owing partially to the low cost of the Model T, the auto market was approaching saturation. The year of peak increase in

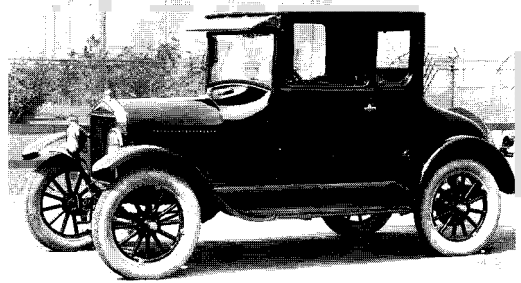
total number of cars registered had passed. In 1923, 24 percent more cars were registered than in 1922. By 1926 the annual increase had dropped to 10 percent. Registrations in 1927 exceeded the previous year’s by only 5 percent, while production actually fell—for the first time—by a fifth. More revealing, replacement purchases began to surpass first purchases.” Used-car lots overflowed with Model **Ts**, competing in price with new ones, while replacement customers often chose a higher-priced competitor for features not included on the Model T—longer wheelbase, standard transmission with hand shifting, six-cylinder engine, and a less functional, more stylish appearance.

Galvanized by the success of the stylish but inexpensive 1923 Chevrolet, General Motors’ president, Alfred P. Sloan, Jr., began experimenting with styling throughout the firm’s line. Du Pont’s synthetic lacquers, introduced in 1924, made color choice important to the customer and focused attention on body design. H. Ledyard Towle, a GM **color** consultant, boasted that he could “make a stubby car look longer **and** lower” through studied use of color,²⁷ but inevitably someone realized that body design itself could produce the effect more convincingly. Early in 1926 Sloan hired Harley J. Earl away from a Los Angeles custom-body shop. After arriving in Detroit as a consultant to the Cadillac division, Earl created the 1927 **La Salle** “with a new concept in mind: that of unifying the various parts of the car from the standpoint of appearance, of rounding **off** sharp corners, and of lowering the silhouette.” The result, “a production automobile that was as beautiful as the custom cars of the period,” won Earl an appointment as director of a new Art and Color Section with ten designers and forty other employees.²⁸ No **longer** assigned to a single division, Earl **and** his associates contributed ideas for the complete General Motors line.

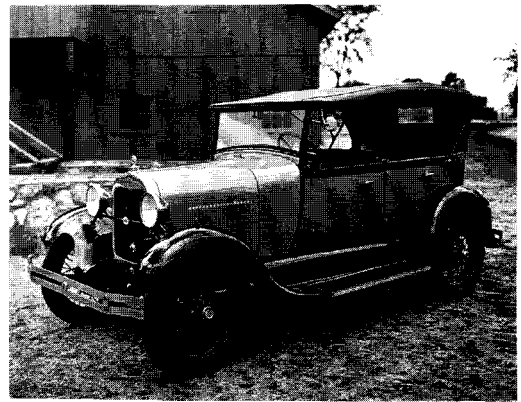
Although GM’s production engineers and sales managers resisted Art and Color, Sloan kept his baby alive until it had proved itself.

In a letter of July 8, 1926, to Buick's general manager. Sloan argued that design for appearance would have "a tremendous influence on [GM's] future prosperity." "Are we," he asked, "as advanced from the standpoint of beauty of design, harmony of lines, attractiveness of color schemes and general contour of the whole piece of apparatus as we are in the soundness of workmanship and the other elements of a more mechanical nature?"²⁹ Repeating these themes in letters written in September 1927 to the Fisher brothers, who directed GM's body division and would be involved in retooling, Sloan boosted styling as the way to make their autos "different from competition" and "different from each other and different from year to year."³⁰ These letters marked the beginning of a policy of annual model changes based on elements of visual design. Planned obsolescence, orchestrated by style changes rather than technological innovations, became a mainstay of the entire automobile industry as the facts of life in a saturated market reached executive board rooms.

Sloan's innovations did not provide the most dramatic example of the imperatives of restyling. While he was formulating GM's new marketing principles, Henry Ford wrestled with his new Model A, intended to replace the car he had thought would last forever. By 1924 low-priced competitors had made noticeable inroads on Model T sales. Ford had once supposedly said, "They can have any color they want so long as it's black,"³¹ but after GM introduced colors in 1924, so did Ford the next year. Even that gesture did not endear the Model T to American women, who were driving more and insisting on fashionable cars. Finally submitting to the insistence of his son Edsel, Ford halted production of the Model T on May 26, 1927; by then, fifteen million had come off the assembly line. After months of work and an \$18 million retooling effort, Ford produced the first Model A on October 21, and the American public hysterically greeted its public display in December.³²



2. Ford Model T coupe, 1926. Ford Archives/Henry Ford Museum, Dearborn, Michigan.



3. Ford Model A phaeton, 1928. Courtesy of Automobile Quarterly Magazine.

With the new model Ford met his challenges technically, while maintaining an edge in pricing. More important, perhaps, its lower road clearance and longer wheelbase combined with a choice of seven body styles and eight colors to bring it in line with fashionable competitors. But a comparison of the Model A with the later Model T reveals that design changes were not radical (see figures 2 and 3). Door panel moldings disappeared. Shiny bumpers — two flat parallel strips of chromic-plated steel — appeared. The top edge of the radiator frame curved down on each side to a point at the center instead of cutting straight across. Finally, although the joint line between the body and the hood

flared forward as it cut down to the mud panel, the rounding effect on the hood emphasized its separation from the body — when other automakers already stressed horizontal continuity of line. Even Edsel Ford admitted there was “nothing radical about the new car.””” But the Model A *was* radical because Henry Ford made it. A crusty self-made inventor who had aimed at functional efficiency and economy in his machines, Ford had to give up an earlier comment that he would not “give five cents for all the art the world has produced.” Instead, he parroted a public relations man by stating that “the new Ford has exceptional beauty of line and color because beauty of line and color has come to be considered, and I think rightly, a necessity in a motor car today.”³⁴

Shortly after the Model A's introduction, a meeting of the Society of Automotive Engineers entertained remarks from the sales promotion director of Cheney Brothers, a textile firm. Revealing “the secret of fashion and art appeal in the automobile,” he warned them that automakers could satisfy demands generated by changing patterns of living only by careful analysis of style trends in all industries. Customers now assumed that all makes of cars had reached a common level of mechanical efficiency. They were shopping for models that expressed their own moods and aspirations by providing “individuality.” Auto manufacturers could no longer expect to initiate trends. They could only follow them.³⁵ They would have to keep in mind Henry Ford if they wanted to succeed.

A few years into the Depression more than a hundred manufacturers, businessmen, and advertising men answered a questionnaire concerning the relevance of art to business. Two-thirds singled out the replacement of the Model T by the Model A in 1927 as an example of a manufacturer forced to resort to “beauty” to keep up with the modern tempo demanded by consumers.³⁶ Henry Ford, whose introduction of the assembly line shaped the prosperity of the twenties,

had been dragged into a world he could no longer understand. His experience, described by one observer as “the most expensive art lesson in history,”” served notice on other manufacturers that they could ignore demands for novelty only at their peril. The example of the Model A was significant not because the design was innovative but because it was not. The sight of an industrial giant forced to fight to keep up with more alert competitors proved instructive to lesser but equally bedeviled businessmen.

The Cash Value of Art in Industry

Even before the Depression, in the recession of 1927, businessmen had realized, as one phrased it, that “we can produce more than our people can use.”” But few were as rational as Sloan in turning to product redesign. It is often argued that GM's annual model changes revealed cold-blooded manipulation of the public. Actually, styling resulted from a symbiotic relationship between business and consumers. Rather than manipulating the public, many manufacturers were trying to catch up with demands for novelty. One study of art in industry concluded that businessmen and designers “are not trying to force new standards on the consumer but are engaged in a rather frantic effort to ascertain what the consumer wants.” The public was “setting the pace.”³⁹ If the business sector later grew proficient in manipulating style trends, consumers in part brought the curse of planned obsolescence down on themselves.

Businessmen rarely agreed on how to introduce beauty into their products, but most recognized the factors that made the public demand it. According to one analysis, art education, sophisticated advertising, and increases in the standard of living and in leisure time had produced “a revolt against the cultural poverty which has marked American life.””” Another observer stated that Americans were renouncing a traditional “art in-

feriority complex” as American civilization matured. Since most people were no longer working only for basic necessities, they now turned to cultural concerns. More to the point, the American woman had become “the great national purchasing agent.” Directly involved in selecting 98 percent of all consumer goods, she applied considerations of beauty previously reserved for clothing and accessories. “The principle of the “ensemble” — of harmonizing different articles of dress — began to spread from fashion to more conservative industries as women sought to coordinate elements of their homes. Answering demand, for example, the Ruberoid Company offered roofing materials in a hundred designs and colors, and other businesses provided towels and soaps to match the new colored bathroom fixtures.⁴²

For a while color seemed to answer the demand for beauty. Once it was introduced by the auto industry, other manufacturers sought to stimulate sales in the same way. A change in finishes did not require expensive retooling. In addition, by offering a single product in various colors, a manufacturer created a whole line of products and gave consumers opportunity to exercise choice without resorting to products of competitors. Around 1926 the market was flooded with colorful products — purple bathroom fixtures, red cookware, yellow and blue gasolines, bright plastic handles on appliances, and enameled furniture. “The Anglo-Saxon is released from chromatic inhibitions,” proclaimed a headline in *Fortune*, while the more mundane *Plastics and Molded Products* asserted merely that “color sells!”⁴³

Not all businessmen found a pot of gold at the end of the rainbow. Addressing an American Management Association convention, a Smith and Corona executive boasted that typewriters with color finishes made up three-fourths of sales only three years after their introduction in 1926.⁴⁴ But he did not reveal color’s impact on sales as a whole.

It was true that “style, art and color” had “played a very important role in the merchandising of Corona typewriters,” but competitors also turned to bright finishes. Once consumers embraced new synthetic finishes and plastics, color’s role was purely negative. Without color a company would go under. With it one would survive with the rest of the pack. As promising as the color boom seemed at first, it merely complicated matters by making color a necessity and further fueling the public’s demand for novelty.

American businessmen had difficulty responding to short-term fads. The opening of Tutankhamun’s tomb in 1922 sparked a clamor for jewelry and clothing with Egyptian motifs. By the time a fashion designer sent to Egypt by Cheney Brothers had returned, the fad was over.⁴⁵ American manufacturers felt victimized by a merchandising system that worked well with unchanging staples but proved inadequate for coping with the tempo of the twenties. In general, manufacturers had no direct outlet to the public. They relied on merchants who carried multiple lines of the same kinds of goods and shifted from one supplier to another as the market demanded. When buying habits began to change early in the decade, larger firms invested in national advertising to stimulate habitual demand for their brands. Often such advertising merely boosted demand for a general type of merchandise without tying it to a specific brand. Merchants, especially large department stores, were in direct contact with consumers, knew what was selling, and could find somewhere a manufacturer to supply a given color or style in immediate response to demand. Manufacturers, on the other hand, had no way of predicting popular response to their current designs. Victimized by a time-lag of anywhere from several months to a year, depending on the industry, they relied on vague guesses. At times they were bitter on the subject.⁴⁶

Department stores made matters worse by actively inciting consumers to desire novel-

ty. Since manufacturers took the risks, merchants could only benefit by increasing the turnover of goods in their stores. Led by New York trend-setters, the nation's department stores attempted to make styles change more frequently. Adam Gimbel, the polo-playing director of Saks Fifth Avenue, returned home in **1925** from the Exposition Internationale des Arts Décoratifs et Industriels Modernes in Paris and immediately introduced its "new modernistic *décor*" in his store's show windows and interiors.⁴⁸ Lord and Taylor and Franklin Simon followed suit. Early in 1927 Macy's provided fashion-hunters with an Art-in-Trade Exposition, a "modernistic" extravaganza of foreign and domestic furnishings that attracted thousands of visitors and won praise from Robert W. de Forest, president of the Metropolitan Museum of Art's board of trustees. Department stores, he asserted, possess "a potential leadership of the utmost importance in guiding and moulding public taste and in improving the standards of design."⁴⁹ J. H. Fairclough, Jr., of Boston's Jordan Marsh furthered the argument by claiming that "department stores are the museums of today" because they "reflect good taste and act as a great educating force in the community."⁴⁹ Looking back in 1933, a member of Herbert Hoover's Research Committee on Social Trends concluded that "the aesthetic influence of the department store" had led consumers to a concern for taste in their purchases.⁵⁰ Clever publicity contributed to the mystique of the department store, but manufacturers definitely felt threatened by an institution that was popularizing "jazzy" foreign imports and thus overturning once solid public preferences. Manufacturer and merchandiser did not see eye to eye in the matter of styling.

Advertising men tended to side with retailers. William L. Day discussed the "new quandary" of "vogue and volume" in the J. Walter Thompson Agency's house organ. He began by praising manufacturers for providing Americans with **mass** luxuries recently

undreamed of, for channeling unskilled labor into vast productive enterprises, and for unifying the nation by standardizing living habits. But despite these benefits of mass production, the industrial system yielded poor results "because of blind devotion to engineering efficiency, disregard of beauty, neglect of the human whims of the public, **and** disregard of those vogues which, like the impulse to migrate in primitive peoples, sweep the public away from the too efficient, too mechanical ideal set for them by mass-production." In striving for "volume," manufacturers had ignored "**vogue**," defined by Day as "an appeal to an ideal of beauty — or what passes for beauty — which happens to be current." Advertising, which for years had supported mass production, no longer could "shoulder the burden of its ignorance of style." To solve their problems, manufacturers would have to consult closely with retailers "in determining the character of the product."⁵¹ American industry could **no** longer sustain an economy based solely on standardized mass production but would have to budget the cost of continual retooling for stylistic obsolescence.

Gradually, manufacturers realized that guesswork would not enable them to meet the public's demand for changes in style. **To** put product redesign **on** a more rational basis, they began borrowing techniques from their uncertain friends, the department stores. Retail executives routinely monitored changing buying habits by keeping records of sales and conducting market surveys to determine what consumers wanted. Manufacturers too began gathering statistics and interviewing consumers in order to forecast style trends. Some hoped to reach "beyond mere forecasting of style and fashion trends to the point of planned, thorough control of this aspect of modern business." Style was too crucial to "be allowed to drift with the wind." Instead, it "must be understood, steered and controlled."⁵² A few executives developed supposedly scientific formulas for meeting if not controlling trends. Henry Creange's

widely used “three-phase system” specified a third of a company’s annual output as novelties, a third as successful designs from the previous year, and a third as staples recognized throughout an industry.”⁵⁵ Despite interest in statistics and formulas, however, another department store innovation had more impact on manufacturers. To gain an intuitive reading of the public mind, retail executives had created the position of “stylist.”

A department store stylist of the twenties engaged in little actual design work.” The position entailed monitoring style trends in all consumer industries and bringing a department store’s offerings in line with those trends. According to Irwin D. Wolf of Pittsburgh’s Kaufmann stores, the stylist’s job was “to look at our merchandise through the eyes of our better educated, cultivated clientele.” Sources of information included interviews with shoppers, fashionable magazines, and museum exhibits (in addition to sales statistics). After determining design trends that were expected to sell, the stylist provided the store’s wholesale buyers guidelines for purchasing and its salesclerks suggestions for presenting new items to the public.”⁵⁶ John E. Alcott of Jordan Marsh, who defined his occupation as “the interpretation of a mode of living,” advised fellow stylists to study all conceivable forces impinging on consumers in order to derive a sense of the public’s general mood. Wolf thought stylists should exert pressure on manufacturers through the agency of buyers, but Alcott suggested exerting direct pressure on a supplier’s own designers.⁵⁶ If a manufacturer wanted to ensure sales of his product, he could simply order his designers to cooperate with a department store stylist, who would in turn direct wholesale buyers to purchase from the firm.

Before the appearance of department store stylists, most products were designed by engineering or art departments maintained by manufacturers. Temporary consultants were unknown. Hut manufacturers

began to see advantages in seeking outside help. Since the public demanded novelty, product design demanded an originality not always found in employees who had spent fifteen years learning the traditions of an industry. And because department store stylists were experts on style trends in general, manufacturers began turning to them for direct application of the current mode. Charles Cannon, for example, hired Virginia Hamill, a stylist who had worked for Macy’s, to apply “the new gospel of line and color” to his company’s towels.⁵⁷

Stimulated by the success stories of manufacturers like Cannon, in the final years of the decade others began to consult outsiders for help in refurbishing old products or creating new ones. In 1929 more than five hundred businessmen applied to the New York Art Center for “artists who could stylize their products.”⁵⁸ Prompted by increased competition in a saturated market, shocked by the example of Henry Ford, and both led and pushed by advertising agents and retailers, American businessmen seemed ready to put their faith in “the cash value of art in industry.”⁵⁹ A few complained about putting their profits at the mercy of long-haired dreamers. Others proclaimed styling a panacea. None knew what to expect.

Equally at sea were the commercial artists who answered the call of business by becoming industrial designers. What began as designing a camera or a fountain pen in spare time often mushroomed into a new career. Only one prophet saw what lay ahead for this new breed of commercial artist. Writing in the *Atlantic* of August 1927, adman Earnest Elmo Calkins predicted that giant corporations like United States Steel and the Pennsylvania Railroad would soon “have art directors whose work will be to style the products of these concerns in the aesthetic spirit of the age,” so as to express “the beauty that already exists in the industrial world around us.” Although he recognized that “the desire to sell” motivated businessmen to turn to artists, he hoped that business would foster

an aesthetic renewal of the American environment. Released from the whimsical support of museums and private collectors, artists would again have true patrons as they had in medieval Europe. Business, the most powerful force in modern civilization, would stimulate production of art as inspiring as medieval cathedrals — and more meaningful to modern men and women. According to Calkins, Americans were “on the threshold of creating a new world on top of our modern industrial efficiency, a world in which it is possible through the much criticized machines to replace the beauty that the machines originally displaced.”⁶⁰

Whether industrial designers could succeed at such a massive reformation of the environment would depend not only on the dictates of business but also on their own training and aspirations. Most of them began by professing ideals similar to those of Calkins but became tangled in compromises as they tried to reconcile art with business and beauty with profits. Their solutions to this dilemma had a crucial impact on the American scene, and in more complex ways than Calkins foresaw.