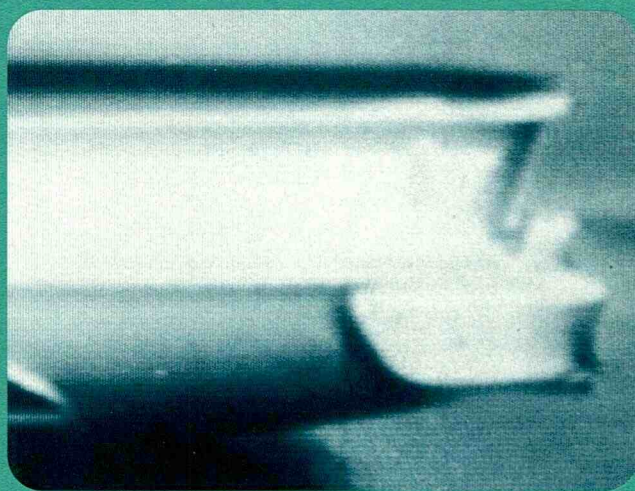


AUTOEROTICISM





Editor's Notes

Love is a gift we reserve for very special people and things, and it is the rare inanimate object that is capable of eliciting deep emotional response from large numbers of people. For Americans, the car has been one of those exceptional objects.

In this issue of *Design Quarterly*, our long-standing "affair" with the automobile and its relationship to the golden age of television are the subjects of Karal Ann Marling's evocation of the 1950s. Donald Bush then brings us up to the present with his analysis of the ways in which we are addressing the present crisis of confidence in Detroit's products. He also offers some predictions about what we can expect of our "homemade" automobiles in the future.

These two articles are both witty and compelling and, in a sense, they summarize the situation of the American car in the twentieth century. Given the history, we are inevitably led to ask: where and how do we drive on from here? Although we have been displaced by other nations as the world's premier maker of many vital industrial products, including the automobile, Americans have been slow to accept that fact. However, as we enter the 1990s, an awareness of and a determination to face new realities is emerging among designers and manufacturers of industrial materials and products and we are beginning to search

for innovative approaches to the current dilemma.

Some observers suggest that American cars should simply emulate European and Japanese models. But while we have come to admire the elegance, quality, and dependability of the best Japanese and European models, and to confirm our admiration with our pocketbooks, we also recognize that like ourselves, our foreign contemporaries have not come to grips with related transportation issues that have become increasingly significant in the last few years. The gridlocked highways, crawling with smog inducing exhaust systems, that crisscross Tokyo and surround Milan and Frankfurt are evidence of the unsolved transportation problems that threaten the environments of all large urban areas today. Along with physical inconvenience and discomfort, ethical issues emerge regarding the production of vehicles that endanger the well-being of our children and consume our natural resources at breakneck speed.

These health and resource concerns should and undoubtedly will become the overriding transportation issues in the coming decade. They demand responses as inventive and skillful as those exhibited by our forebears who gave us the horseless carriage—that amazing, enduring, lovable twentieth-century American icon.

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the Television Age

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DONALD J. BUSH Emotive Power



America's Love Affair with the Automobile in the Television Age

KARAL ANN MARLING

There's something wonderful, disquieting, and, in the end, embarrassing about America's cars of the 1950s: the lunkers, the dreamboats, the befinned, bechromed behemoths that lurked in the driveways of our brand new ranch houses in the suburbs (because they wouldn't fit in the garage!). They were the kinds of cars — those bloated GMs, Fords, and Chryslers — that Danny Thomas and Ozzie and Harriet drove; the kind that Jim taught Margaret how to drive, thus precipitating the only spat ever to mar the Quaaluded domesticity of *Father Knows Best*; the kind of car that Ward parked at the curb in front of 211 Pine Street, Mayfield, USA (a suburb of Utopia).¹

They were the kinds of cars that drove foreigners to unseemly outbursts of envy, so extravagant and wasteful, so baroque and, well, so American did they seem in their excesses of horsepower and gadgetry. There are those, for example, who claim that the Englishmen Maclean and Burgess were driven mad by Detroit, that they were propelled into the arms of Mother Russia by the sheer garishness of the two-tone family cruiser with 285 horses under the hood. As Europe lay in ruins, the Yanks (who owned three-fourths of all the cars in the world) indulged themselves in a veritable orgy of Naugahyde and power steering. Quite right, what? Any decent chap might

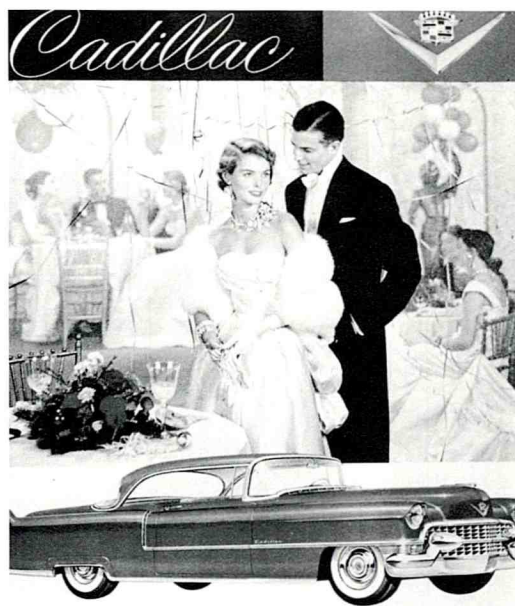
turn to espionage. "Whilst the Russians had been developing 'Sputnik,'" wrote a disgusted Reyner Banham before his epochal meeting with Los Angeles and heavy-duty glitz, "the Americans had been debauching themselves with tailfins."²

But there's a greedy innocence about the pleasure such autos brought to the postwar United States, an innocence wasted on the jaded Brits. Chuck Berry said it all in a clean, simple lyric that would shame a T.S. Eliot:

As I was motoring over the hill
I saw Maybelline in a Coupe de Ville.
Cadillac rollin' down the open road,
But nothin' outrun my V-8 Ford ...³

If the cars were complex beyond all telling, with their Dynaflo pushbutton transmissions, their power brakes, automatic windows, vacuum ashtrays, retractable roofs, and wraparound windshields, the feelings they aroused in their owners were straightforward: after the privations of the Great Depression, after the hardships and shortages of the war, victorious Americans deserved nothing but the best. Within a year of the surrender of Japan, twelve million GIs had been sent home, every last one of them in search of a girl, a car, a new house, and — although they didn't know it just then — a television set: the

The television images reproduced in this essay are from *Cars of the Fabulous Fifties* (1987), a videotape compilation of TV commercials from that expansive postwar decade.



Maybe 'This Will Be 'The Year!

American Dream. In 1945, 200,000 new houses had been built nationwide; in 1950, 1,154,000. In 1945, outside of a few labs, there were no television sets in private hands; in 1950 alone, 7,500,000 were sold. In 1945, 70,000 cars rolled off the assembly line; 6,665,000 in 1950.⁴ The good life rolled by on big, soft Goodyear tires: it was the car that fueled the new industrial prosperity, created the suburbs where new houses sprouted like dandelions after rain, and shaped the suburban lifestyle whose mores and manners were codified on the TV sitcoms of the 1950s.⁵ The car was the new Conestoga wagon on the frontier of consumerism, a powerful instrument of change, a chariot of fiery desire.

Never one to avoid looking squarely at the human emotions invested in the detritus of popular culture, Stephen King turned his attention to the big American car in *Christine*, a 1983 novel. King's hero, a nerdy tract-house teenager of the 1980s, quite literally falls in love with a car — specifically, a red and white 1958 Plymouth Fury (“The new shape of motion! The forward look! Suddenly, it’s 1960!” hooted that year’s TV ads.)⁶ The bonds of affection possible between man and machine had been noted earlier, of course. During the 1965 – 1966 season on NBC, the

haplessly Oedipal Jerry Van Dyke found himself the owner of a 1928 auto that harbored the ghost of his late mom, a feminized, gas-powered version of Mr. Ed.⁷

My Mother the Car was comedy (or so the network claimed) whereas *Christine* has sinister and, ultimately, tragic overtones. So many human feelings have been grounded in the crimson fastness of Christine that she becomes an animate being, a humanoid capable of growing a new bumper at will, or sprouting a shiny new grille. But she is also capable of rage and murder and, in a perversion of the symbiotic relationship between car and driver that inspired the designers of the 1950s, the emotions of the machine become those of Arnie, her ostensible owner. The possessor is seduced, beguiled, and possessed by the aptly named blood-red Plymouth Fury.

Christine is fiction but the facts of the car business in 1950s America more than justify the premise. In the 1920s, the auto industry had been faced with a crisis: by 1926, according to market research, everyone who could afford a car already had one and, in 1927, production and sales plummeted for the first time. The answer was not Fordism: the durable, dependable, unchanging Tin Lizzie.⁸ The solution was

In this 1955 print advertisement, a handsome couple, at the New Year’s party of their dreams, contemplated the purchase of the car of their dreams and with it the “joys of Cadillac ownership.”

Sloanism or the annual style change, named for Alfred P. Sloan, president of General Motors. The object of such superficial changes, Sloan said, was “to create demand for the new value and, so to speak, create a certain amount of dissatisfaction with past models as compared with the new one.”⁹

In practice, then, a business once ruled by engineering took on the trappings of the dressmaker’s salon; the notion of the obsolescence of a serviceable product was transferred from the clothing of the upper class to the single most important industrial product made in America. With the help of the copywriter, status and symbolism became compelling reasons for buying a brand new car, even though the old, black Model T out in the yard still ran like a top. The purchaser of an auto was no longer paying for a piece of machinery: “He, or she, was buying a new life.”¹⁰

Some old-fashioned ad men of the 1920s, according to the social critic Roland Marchand, balked at selling products on the basis of color and design. Was the old washing machine no good simply because it wasn’t “Karnak Green”? Was last year’s kitchen range beyond the pale because it lacked the fashionable applied tracery of the 1927 edition?¹¹ But ethical objections faded beside the demonstrable results achieved by Sloan. General Motors adopted the annual overhaul in 1927 and the Chevrolet promptly overtook the Ford for the first time. The advertising that moved the new models was evocative and suggestive: it catered to dreams. GM, for example, conjured up the two-car family: the man who could present the little woman with her own runabout clearly stood to gain a stature unattainable by those *déclassé* types with one all-purpose buggy. Even Henry Ford joined the parade with the Model A and a new publicity campaign full of Fords in which the driver might speed over class barriers. As the author E.B. White later noted in the pages of *The New Yorker*, “From reading the auto ads you would think that the primary function of the motor car in America was to carry its owner to a higher social stratum, and then into an exquisite delirium of high adventure.”¹²

A miasma of adventure, sexual and otherwise, hung over the salesroom of the late 1920s like a cloud of high-octane fumes. There were the opulent settings, the bon-ton hauteur, but there were also the legendary Jordan ads in which the roadster became a wild horse, the parkway the prairies of the untamed West, and the new woman in the driver’s seat a girl who was — ahem — just rarin’ to go.¹³ Romance, speed, freedom, high fantasy: they all came with the easy-payment coupon book.

And the car was always a “she,” even after the old Tin Lizzie gave way to her more glamorous competitors. As William Faulkner once observed (and George Babbitt proved), “The American really loves nothing but his automobile.”¹⁴ In the 1940s industrial psychologist Ernest Dichter decided that the typical American male looked upon the convertible as his mistress and the saloon model as his wife. But serious motivational research among the Big Three was put on hold for the duration during World War II, as auto plants churned out steel helmets and aircraft engines and the styling departments, like GM’s pioneering Art and Color Section, turned their attention to camouflage.¹⁵

Nonetheless, it cannot be said that the buying frenzy of the late 1940s had much to do with compensatory fantasy. Everybody needed basic transportation and everybody bought a car that looked not unlike the streamlined prototypes once displayed at the New York World’s Fair of 1939. Forerunners of the Las Vegas-style “Motoramas” of the 1950s, the World’s Fair auto shows of the 1930s had spotlighted “dream cars,” models that offered more or less realistic glimpses of future improvements — all in the spirit of making the customer anticipate trading in the model he was still paying for. The streamlined dream car was, by today’s standards, a dignified exercise in modernist design principles, à la Frank Lloyd Wright. Speed was discreetly expressed by thin bands of horizontal fluting applied in triadic clusters. Air was invited to flow smoothly over fluid surfaces that eddied and bulged like the *derriere* of a Vargas pinup painted on

the nose of a streamlined B-24 bomber.¹⁶ If form could not be said to follow vehicular function with any real accuracy, the former did help to define the latter: the car, said bodies styled by Raymond Loewy, Buckminster Fuller, and the rest, was a machine for zooming along toward a crisp, efficient, and thoroughly modern tomorrow.

Many of the theoretical considerations that went into the design of automobiles also determined the shapes of trains, submarines, airplanes.¹⁷ Thus it happened that Harley Earl, head of the Styling Section at General Motors, a former Hollywood customizer to the stars (he did the bodywork on one-of-a-kind jobs for Fatty Arbuckle and Tom Mix), made friends with an Air Force designer who was testing new fighter planes at Selfridge Field, near Detroit. Shortly before the end of the war, Earl and his styling team (Bill Mitchell, Frank Hershey, Art Ross) were allowed — from a distance of thirty feet, under tight security — to examine the twin-tailed Lockheed P-38 Lightning pursuit plane, with its paired Allison engines, fuselages, and tail fins. According to Earl, who recalled the event in a first-person article for *The Saturday Evening Post* in 1954, automotive history was made that day. “That viewing,” he wrote, “after the war ended, blossomed out in the Cadillac fishtail

fenders which subsequently spread through our cars and over much of the industry as well.”¹⁸

Although aviation imagery had appeared on cars before — the 1940 Ford and the Studebaker had propellerlike gizmos in front, revived in the grillwork of the 1950s — the pleasing little winglet or hump mounted on the rear fender of the 1948 Cadillac revolutionized the auto business. A housing for the stoplights, it was the first, embryonic tail fin, and it was applied to a body that had been roughed out before Pearl Harbor, under the old dispensation of rational, form-follows-function thinking. But subsequent Harley Earl models took their cue directly from the fin. The car became an armature on which to mount a whole panoply of expressive shapes. In time, the car transcended its prosaic function altogether and became a piece of figurative sculpture, a powerful work of art.

By 1959, the Cadillac tail fin had acquired a life of its own: it towered three and one-half feet above the pavement. And as the back end rose, the front end strained forward: in 1953, Cadillac bumpers were finished off with new, factory-fresh “gorp” in the form of “bombs” or “Dagmars” (named for the late-night TV bombshell of the moment) — protruding breasts that were utterly devoid of utility and



impossible to repair after the most minor of collisions.¹⁹ Chrysler, which had shamefacedly entered the tail-fin derby later than the other automakers, tried to justify the more excessive of its three-dimensional embellishments as being “based on aerodynamic principles [that] make a real contribution to the remarkable stability” of the 1959 models.²⁰ The competition made no such apologies for art. Lacking any pretense of functional justification, their added hunks of rubber and chrome existed simply to communicate. They were metaphors, analogs. And sold by analogy, the car of the 1950s — a chorus girl coming, a fighter plane going — was a semiotic anagram of considerable interest.

As the design historian Thomas Hine and others have suggested, the doctrine of luxury for all, the postwar American Dream, helped to load down the car with an average of forty-four pounds of surplus chrome for the mid-line Detroit product of the late 1950s. Whereas Harley Earl’s finny 1948 Cadillac was considered a bit much for the average Joe, by 1955 all of its most gratuitous features were also available on the humble Chevy. The 1957 Cadillac Eldorado Brougham, at \$13,074 uninflated bucks, was a mobile seraglio hitched to a dashboard with a built-in tissue box, a vanity case, a lipstick that harmonized

with the paint job, and a set of four gold-finished drinking cups.²¹ Along with the usual power accessories, deep-pile upholstery, padded interiors, coil springs, and bargelike proportions, the car offered the trappings of kingly ease to a culture that also gave the world the mink-handled beer can opener, the gold-plated charge-a-plate, whiskey-flavored toothpaste, radar-equipped fishing rods, and hair colors with such names as Golden Apricot Delight and Champagne Beige. The glittery opulence of a Morris Lapidus hotel in Miami was the closest thing going to the spate of two- and three-toned beauties that George Romney of American Motors dismissed as “Dinosaurs in the Driveway” and the rest of America bought almost before the latest models had been unshrouded with appropriate fanfare every September.²²

According to Harley Earl, fins and Dagnars caught on because they gave customers “an extra receipt for their money in the form of a visible prestige marking for an expensive car.”²³ In other words, the fin bespoke luxury, too-muchness, no-expense-spared largesse. Or, as the late philosopher Thorstein Veblen might have put it, the fin was the ultimate emblem of conspicuous consumption. “The cars of the 50s were like nothing that ever came off the assembly line, before or since,” remarks one sympathetic

The evolution of the Cadillac tail fin, 1948 – 1959.

Detroit-watcher. “They were the stuff of dreams. And the dream was possible for everyone” — even Chuck Berry.²⁴

The content of that classless American Dream is not something that was discussed a great deal at the time — a time when Jim and Margaret Anderson occupied twin beds and wore visible foundation garments beneath their nightwear. Nor has the subject proved compelling to cultural commentators in the thirty years since the disastrous Edsel did in the big car for good. In fact, the combination of sex (the bumpers and radiators: one Chrysler exec said he wanted the front of the dowdy Dodge to project the image of “Marilyn Monroe as a housewife”)²⁵ and aggressive, militaristic violence (those fins) hints at certain repellent aspects of the American psyche that neither the women’s movement nor recent outpourings of national repentance for Vietnam have done much to alter. Sex and violence for all, served up in a flashy chrome package: the Ward Cleavers and Jim Andersons of the 1950s led secret lives, infinitely richer and more disturbing than anything Walter Mitty might have imagined. And their cars, the ones with the rocket launchers and the 44-D cups, were first and foremost family cars: the nuclear family of the Eisenhower years, it would seem, came by that title honestly.

If Harley Earl, Virgil Exner of Chrysler, and George Walker of Ford (“The Cellini of Chrome”) could not name the national neurosis to which auto styling catered, they understood the outward symptoms manifest in booming sales figures. In 1927, the industry had first turned to the designer when profits fell. During the first week of August 1953, economists determined that the postwar sellers’ market for cars had finally bottomed out. And once again, the Big Three called upon the stylists to bail out Detroit with a campaign of “dynamic obsolescence:” fins spawned finlets, Dagmars multiplied, and the auto-buying frenzy of the 1950s commenced, as if on signal. In 1955, new car sales totaled \$65 billion, or twenty percent of the Gross National Product.²⁶ While the figures showed that the public was moved largely (and expensively) by aesthetic and imagistic considerations, and General Motors became the first corporation to earn a billion dollars in a single year by catering to such tastes, traditional tastemakers and intellectuals refused to believe the evidence. “What the motivation researchers failed to tell their clients,” wrote semanticist S.I. Hayakawa, “is that only the psychotic and the gravely neurotic act out their ... fantasies. The trouble with selling symbolic gratification via such expensive items as [automobiles] ... is the competition



offered by much cheaper forms [thereof], such as *Playboy ...*, *Astounding Science Fiction ...*, and television.”²⁷

But for a decade or so — the flourishing of the two-and-a-half ton salmon pink steel space rocket with sexual appendages — Hayakawa and his fellow scoffers were wrong. Americans were willing, indeed eager, to spend huge amounts of money on objects that were symbols of their desires, reflections of themselves, expressions of their fantasies; on artifacts that succeeded or failed on the basis of appearance; on wheeled sculpture; on what can only be described as works of popular art in which the nation freely invested a fifth of the GNP. There is, in fact, in much of the story of Detroit in the 1950s an element of aesthetic self-consciousness, a tacit challenge to the self-righteous rigidity of modernist dogma, and what can only be described as the first stirrings of a postmodern sensibility.

Consider, for example, the GM Motorama. An offshoot of the old World’s Fair car exhibits and the annual luncheons Sloan held for friends at New York’s Waldorf-Astoria during National Auto Show



week, Earl held the first Motorama in the hotel ballroom there in 1949.²⁸ Entitled “Transportation Unlimited,” the event set off the most evocative of the “dream cars” with a thirty-five-minute musical extravaganza. Dancers pranced; singers warbled; an MC extolled the virtues of the GM line. Showgirls pointed at the new Cadillac fin. Mounted on turntables, the autos pirouetted beneath colored spotlights. Until 1961, the Motorama (there were eight of them) served as GM’s most effective marketing tool and the scourge of the competition: as Autorama, it traveled from New York to the hinterlands, always greeted by enormous crowds and breathless excitement. In 1949, a Buick Le Sabre XF-8 with sensors that raised the convertible roof in case of rain and the world’s first wraparound windshield was the big attraction. In 1954, Motorama introduced Earl’s never-to-be-built Firebird, a literal translation of a new fighter jet. But performance and plausibility were not the issues that kept the crowds coming.

The Motorama was a show, an exhibition, a flashier version of a New York opening on Madison Avenue, the first of the multi-media happenings.²⁹ As



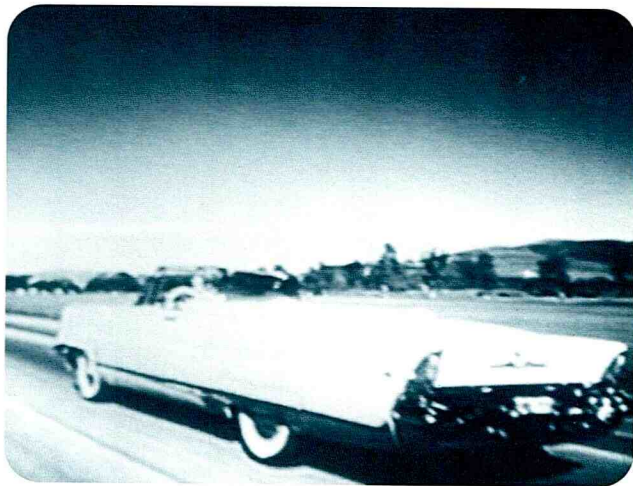
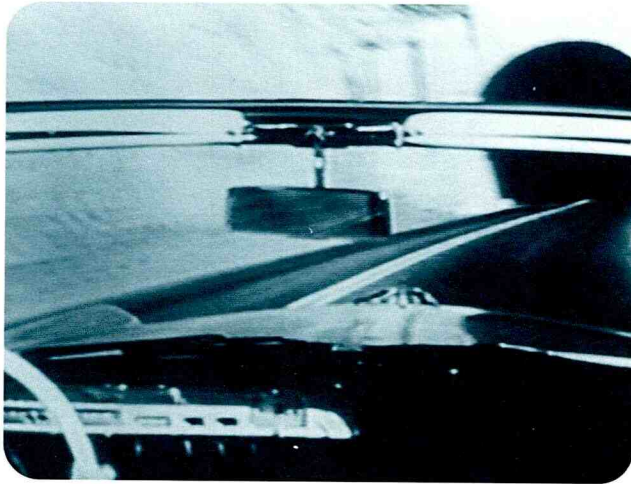
for the cars, people came to look at them in a museumlike environment, not to drive them or to see them being driven (many of the non-production models didn't have motors). They were displayed on revolving pedestals which moved not to suggest the open road but to facilitate a minute inspection of a three-dimensional form from every angle. If the critics Clement Greenberg and Harold Rosenberg had their Jackson Pollocks to look at — frozen action, paintings rich in dark, personal meaning — the rest of America (the two million who attended every GM show, at any rate) had Motorama, the art of Neal Cassady and Jack Kerouac — cars that never moved, chromium statuary larded with primal emblems of war and lust. A parody on the pretensions of American high culture, Motorama answered extravagant claims for art with outright extravagance, claims for hidden meaning with overt nods to jets and Jane Russell.

The notion of the car as work of art was reinforced in other subtle ways. In television ads — and the automakers were that new medium's biggest clients — integrated into variety shows (remember Dinah Shore? "Drive your Chev-ro-lay, through the USA! America's the greatest land of all!") it was often practical to present an on-stage Motorama in miniature, with gesticulating models and revolving pedes-



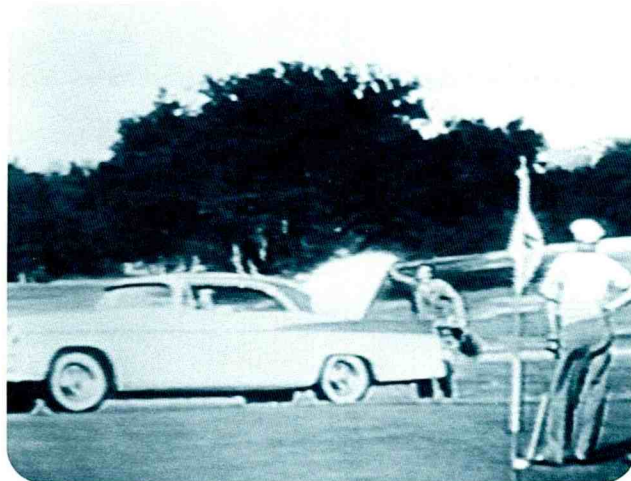
tals: Julia Mead, Lincoln's elegant, upwardly-mobile spokeswoman of the period, used this format in spots on the Ed Sullivan show, for instance, and Pat Boone's Chevy commercials also opened with a studio shot.³⁰ Bevis Hillier, reviewing the common decorative motifs of the 1950s, notes the use of a picture frame to transfer the importance and prestige attached to a work of art to whatever turned up within its perimeters.³¹ The Motorama shot — the car as sculpture on exhibit — served much the same function, I think, on television. An establishing shot, it was usually followed by film footage displaying the car in motion, almost as an afterthought, a guilty admission that the work of art was also a means of taking Junior to the orthodontist.

It is noteworthy too that the footage of cars rolling down the new Hollywood freeway or a suburban cul-de-sac succeeds in making motion virtually motionless. Cars never bob or weave; they never start or stop with visible effort. Only the changing landscape convinces the viewer that Julia and her mink stole are actually coursing toward the Beverly Hills Hotel. In part, this technique appeals to a strong



customer preference for the heavy, “mushy” car that denies any kinship with the surface beneath it; in part, the gliding motion refers to aerodynamics — the car seems to be a plane, liberated from earthly potholes and sharp corners; but the motionless motion demonstrated was also the aesthetic ideal embraced by the stylists who created the American car.

There were several kinds of TV car commercials: the Motorama, the mini-drama (of which more later), the pseudo-documentary, the ersatz “lecture” by an expert (often Truman Bradley, the man who passed out checks for *The Millionaire* and hosted *Science Fiction Theatre*). What all these types have in common is an obsession with design, and specifically with a set of artistic principles that it is presumed the audience understands and appreciates. One of Truman Bradley’s outings — a long ad for the 1956 Chrysler line — contains a sequence in which the driver stops at a suburban golf course and a supermarket. In both venues, ordinary citizens burst into spontaneous tributes to Chrysler styling. It has “the forward look of motion — even when it’s stopped”



exclaim the duffers, while the bag boy notices that the shape of the rear end derives from that of a jet plane.

But even more to the point is the illustrated lecture by Professor Tom Foldes, “artist, author, educator,” which sold the 1955 Ford. Foldes shows precisely how draftsmanship — design — can make a static form move: speed lines (the old technique of streamlining) are additive and superficial, he insists, whereas good contemporary design bends the form as a whole toward the image the stylist wishes to create. “The expression of motion through design is the goal of all modern automotive styling,” he says: this means visor headlights surging forward, a raked-back tail assembly, and a highlight running from bumper to bumper in a smooth, unbroken arc. “When the design of a car expresses its function forcefully and imaginatively, we derive more pleasure from owning and driving it,” Professor Foldes concludes.

The Ford commercial is a stunning piece of television for several reasons. Its length seems excessive by today’s standards: network time was cheaper in 1955 and the audience still had a



reasonable attention span. Even given the willingness to stay on the couch, however, Foldes's chalk-talk is a remarkably sophisticated slice of Art Appreciation 101, with its distinction between superficial embellishment and form, and its assumption that genuine aesthetic pleasure is accessible to everyone and available in the form of mass-market, manufactured goods. Detroit knew that it was selling sculpture but what is more important, Detroit knew that we knew it too and hired experts, like Professor Foldes, to distinguish good art from bad.

This kind of pop-culture artiness infuriated sophisticates. While the Abstract Expressionists, by and large, ignored the whole vulgar spectacle (and bought foreign cars), pioneers of industrial art, like Raymond Loewy, fulminated against the so-called stylists and their "forward looks." In 1955, Loewy (recently fired by Studebaker, where he had been head designer since 1938), blasted the industry in an address to the Society of Automotive Engineers; that speech, printed in the *Atlantic Monthly*, details the case against Detroit, whose latest models Loewy called "jukeboxes on wheels" — aesthetic aberrations that masked the workings of the machine beneath layers of tawdry "flash."³² Much of what Loewy had to say made ethical sense: the weight of increased ornament

and big, smooth autobodies had led to over-horsed engines, rising costs, ruined roadways, and huge fuel bills (although the critic failed to ask why Americans loved their big cars despite these drawbacks). But Loewy's real objection to the 1955 model was its shape. "Is it responsible," he asked, "to camouflage one of America's most remarkable machines as a piece of gaudy merchandise? Form, which should be the clean-cut expression of mechanical excellence has become sensuous and organic."³³

In that one phrase — "sensuous and organic" — Loewy reveals himself as the puritan, morally superior to the herd; the monklike disciple of a modern movement which had tried, albeit without much success, to convince people to live in pure white cubes and commune with pure geometry. Although corporate America occasionally succumbed to modernist austerity in the interests of economy and an efficient image, Americans resisted the incursions of modernism into their private lives, the place where their hopes, desires, and fantasies grew lush, convoluted, profoundly sensuous. They liked the new, efficient, rectangular dinnerware best when it was enlivened with boomerangs of turquoise and gold; the squared-off ranch house on a slab when it was warmed up with Early American accessories (remember the



eagle emblazoned on Ozzie and Harriet's impeccably geometric fireplace); a car when it came with a built-in vanity, a matching lipstick, Dagmars, and fins. They liked complexity, lots of stuff, scale, everything but the kitchen sink: in an odd way, their taste was closer to Jackson Pollock's than to Raymond Loewy's. And the car was its most public expression.

Detroit (or its hirelings in the ad game) appreciated the humor of the "loaded" model: the two- or three-tone bus, a home on wheels, with extra exterior detailing, and every interior amenity — everything *but* the kitchen sink. That sink is the visual punchline of a drawn-out commercial for the 1955 Dodge station wagon tolerable only because it takes the form of a sitcom, an episode of Danny Thomas's *Make Room for Daddy*. The family finds itself in the woods for the day, although Daddy would prefer to be back in town showing off the new car to the neighbors. Mother resists the urge to smoke on camera. Rusty and Terry pick wildflowers and discourse on the new styling features of the Dodge. Finally, Daddy decides to pick the requisite flowers to end the excursion and winds up with an armful of poison sumac. But he has the last laugh, as he opens the back of the Dodge and out pops a big, double sink.

Even when the Danny Thomas show is not

the point of reference, the car is still shown in a familial context, closely related to the conventions of the sitcom. A 1954 commercial entitled "Family Argument" pits the typical American dad — bluff, stubborn, smarter (one hopes) than he seems; a Stu Erwin type and a veteran of earlier campaigns for wall-to-wall carpeting and a fur stole — against the wiles of his nearest and dearest. Junior is adamant, Sis seductive, and even Martha — solid old Martha — is convinced that the time has come to put "Jezebel" out to pasture. So they all go, en masse, to pick out a new automobile that becomes part of the family unit, a statement about its status and its collective self-image. And it is tacitly assumed here that everybody will drive the car, a factor which may contribute to the babble of symbolism loaded on its rapidly swelling chassis.

The Thunderbird and the Maverick achieved later success at smaller scale as *personal* vehicles (like the British or Italian sports car) whereas throughout the 1950s, the standard American car was a family car. Rarely, in fact, do obvious heads of households drive cars in commercials, and when they do, Dad shares time with Mom. Putting a woman behind the wheel — her standard motoring outfit, which consists of a hat with a veil, gloves, and crisp print



frock, was exactly what June Cleaver wore to PTA meetings — justified the purchase of power steering and power brakes. “I drive just as well as my husband in our new Olds,” chirps the perky housewife in a make-believe interview with “Roving Reporter” Bob Lamont. “You certainly look lovely after a whole day of driving around town,” he coos; the perennial hat, generally worn in a convertible model, was there to show that a new car dispensed with every hazard, every inconvenience, including the errant breezes.

Teenagers, whose schemes for extracting the keys to the Plymouth Fury from Dad’s pocket formed a staple of sitcom humor, rarely appeared in advertising because they neither bought new cars nor (except for old Sis) guided the family’s buying preferences. But given half a chance, a California teenager would chop and stretch an old prewar Ford until it looked like a new Valiant with a hangover; a souped-up version of adult tastes for gold, plush, and sparkles, the aesthetic of the rebel ran to chrome, furry dice, leather, and candy-coated paint jobs.³⁴

But what, in the end, does the family car have to tell us about America in the Eisenhower years? That it was a more communal, a less privatized, a less pluralistic time? That emotions and aspirations were closer to the surface? That women, thanks to Maiden-

form, looked a lot like the cars they tooled around suburbia in, as did the rockets being tested by Chuck Yeager and the macho, *Right Stuff* crew? That male and female, sexuality and violence, domesticity and high adventure, entertainment and economics, waste and technological efficiency came together in blatant, unprecedented, unparalleled, and highly original configurations? That the average American has probably never taken a greater interest in how things look, and why, and how they make him — or her — feel?

Well, that’s all true. But the most interesting thing about those old Fords, Chevies, and Chryslers is the hold they still have on the American imagination thirty years later. They beckon us to a long, smooth ride to foreverland in luxury fit for the gods themselves. Bruce Springsteen says it best:

Eldorado fins, whitewalls and skirts
Rides just like a little bit of heaven here on
earth,
Well buddy when I die throw my body in the
back
And drive me to the junkyard in my Cadillac.³⁵

And now that I think of it, that’s probably where Elvis is. The first thing he bought with his new-found wealth in 1956 — the year Tupelo gave him a welcome-home parade — was a candy pink Fleetwood

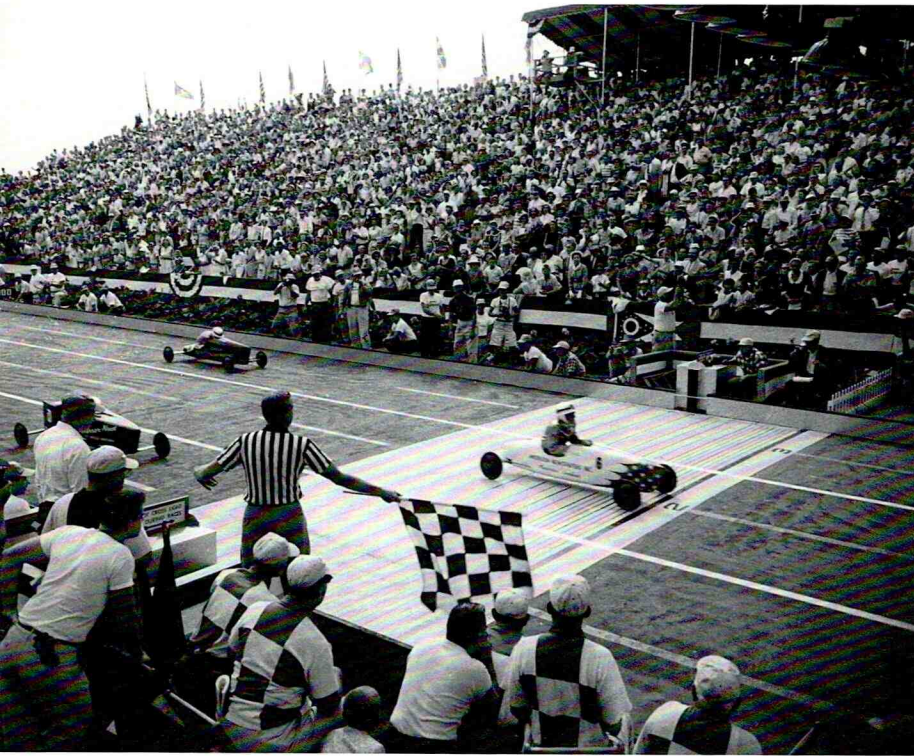
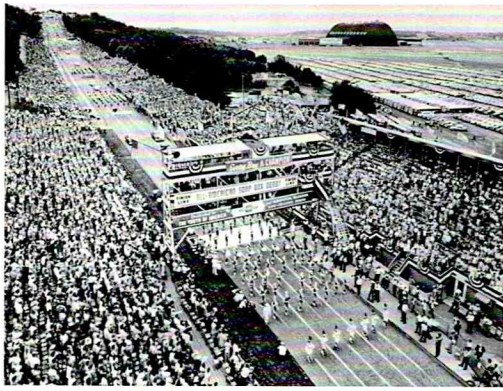
sedan for his mom. Gladys Presley didn't drive. So the car sat in the driveway outside Graceland, a two-ton love trinket, a symbol of love, money, and home, a statue, a monument to the tragedy of dreams come true. It sits there still.³⁶

- 1 For family drama of the period, see Rick Mitz, *The Great TV Sitcom Book* (New York: Perigee Books, 1988).
- 2 Quoted by Bevis Hillier, *The Style of the Century, 1900 – 1980* (New York: E.P. Dutton, 1983), 147.
- 3 The number 5 hit in the Top Fifty for 1955, Chuck Berry's song was recorded on the Chess label [Arc, BMI]. See H. Kandy Rohde, ed., *The Gold of Rock and Roll, 1955 – 1967* (New York: Arbor House, 1970), 30 – 35.
- 4 Arthur J. Pulos, *American Design Ethic* (Cambridge, MA: The MIT Press, 1983), 422 – 423.
- 5 John R. Stilgoe, *Borderland: Origins of the American Suburb, 1820 – 1939* (New Haven, CT: Yale University Press, 1988), 301, and Clifford Edward Clark, Jr., *The American Family Home, 1800 – 1960* (Chapel Hill, NC: University of North Carolina Press, 1986), 217 – 236.
- 6 Stephen King, *Christine* (New York: Viking Press, 1983).
- 7 See Kevin Allman, *TV Turkeys* (New York: Perigee Books, 1987), 68 – 75.
- 8 Roland Marchand, *Advertising the American Dream* (Berkeley, CA: University of California Press, 1985), 156 – 157. See also Jeffrey L. Meikle, *Twentieth Century Limited* (Philadelphia: Temple University Press, 1979), 12 – 13, 106.
- 9 Quoted in Julian Pettifer and Nigel Turner, *Automania* (Boston: Little, Brown and Co., 1984), 131.
- 10 Jane and Michael Stern, *Auto Ads* (New York: Random House, 1978), 84.
- 11 Marchand, *Advertising the American Dream*, 159.
- 12 Quoted by Paul Rambali, *Car Culture* (New York: Delilah Books, 1984), 40.
- 13 Paul A. Carter, *Another Part of the Twenties* (New York: Columbia University Press, 1977), 134.
- 14 Quoted by Cynthia Golomb Dettelbach, *In the Driver's Seat: The Automobile in American Literature and Popular Culture* (Westport, CT: Greenwood Press, 1976), 97.
- 15 Rambali, *Car Culture*, 40.

- 16 See Ian Logan and Henry Nield, *Classy Chassy* (New York: A&W Visual Library, 1977).
- 17 See, e.g., Donald J. Bush, *The Streamlined Decade* (New York: George Braziller, 1975).
- 18 Harley Earl (with Arthur W. Baum), "I Dream Automobiles," *The Saturday Evening Post*, 227 (7 August 1954), 82.
- 19 These terms were used by designers themselves; see Thomas Hine, *Populuxe* (New York: Alfred A. Knopf, 1986), 94.
- 20 Ad quoted in Pettifer and Turner, *Automania*, 137.
- 21 See Hillier, *The Style of the Century*, 147.
- 22 James J. Flink, *The Car Culture* (Cambridge, MA: The MIT Press, 1975), 194.
- 23 Earl, "I Dream Automobiles," 82.
- 24 John De Waard, quoted in Pettifer and Turner, *Automania*, 133.
- 25 Hine, *Populuxe*, 101.
- 26 *Ibid.*, 84 – 85.
- 27 Quoted in Flink, *Car Culture*, 194, and Pettifer and Turner, *Automania*, 140.
- 28 Alfred P. Sloan, *My Years with General Motors* (Garden City, NY: Doubleday, 1963), esp. Ch. 15, and Gerald Silk et al., *Automobile and Culture* (New York: Harry N. Abrams, 1984), 237 – 239.
- 29 A Motorama-like unveiling of a new model is the centerpiece of the 1988 film, *Tucker: A Man and His Dream*, directed by Francis Ford Coppola.
- 30 TV commercials of the period have been collected and preserved in several video versions. See, e.g., *Cars of the Fabulous Fifties* (Union, New Jersey: Video Treasures, 1987).
- 31 Hillier, *The Style of the Century*, 118.
- 32 Raymond Loewy, "Jukebox on Wheels," *Atlantic Monthly*, 195 (April 1955), 36, 38.
- 33 *Ibid.*, 37.
- 34 See, e.g., Tom Wolfe, *The Kandy-Kolored Tangerine-Flake Streamline Baby* (New York: Farrar, Straus and Giroux, 1965).
- 35 Quoted by King, *Christine*, 87.
- 36 See entry for "Pink Cadillac" in Fred L. Worth and Steve D. Tamerius, *Elvis: His Life from A to Z* (Chicago: Contemporary Books, 1988), 154.

This meditation on the tail fin began as a lecture presented in Walker Art Center's *American Icons* series on 1 November 1988. I am grateful to Margaret O'Neill-Ligon, Project Director of the series, for her help and support.

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A parade opened the All-American Soap Box Derby near the Goodyear dirigible hangar in Akron, Ohio. Here boys aged eleven to fifteen raced their homemade wooden cars in the event sponsored by Chevrolet, the media, and civic and fraternal groups. Each entry had already won regional events on a similar 975.4 foot slope.

Gravity alone drew the winner across the finish line in the Soap Box Derby. Begun in 1934, the contest gave boys the direct experience of aerodynamics in wooden cars of their own making. The national winner was given a college scholarship and a trip to Europe. Each of the estimated 60,000 participants in any given year had made his first contact with a Chevrolet dealership.



Hundreds of entries in the Fisher Body Craftsman's Guild model car competition awaited judging in the late 1960s. Open to boys from twelve to twenty, the contest

provided an outlet for creativity, which, like sports and scouting, channeled teenagers' energies and drives into socially acceptable activities.

Emotive Power

DONALD J. BUSH

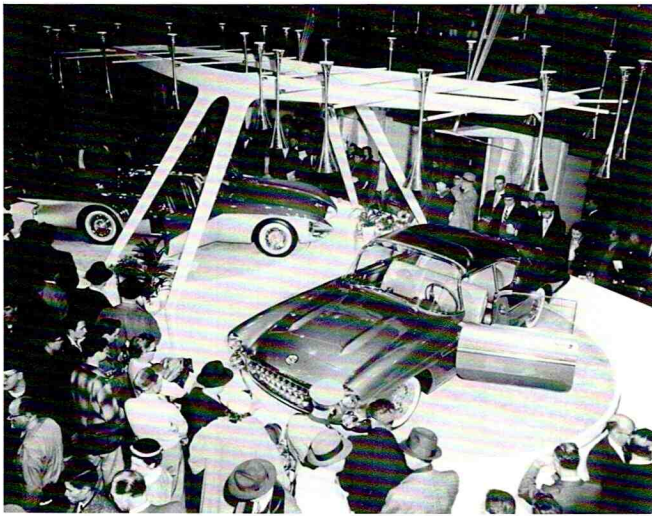
If one were to choose a unique symbol for America's economic vigor from the twenty-five years following World War II, the automobile would more than qualify. Beautiful, comfortable, and affordable, it bore witness to the abundance of our natural resources, our technological ingenuity, our manufacturing prowess, and our commitment to a democratic design ethic. It achieved the goals of Jeremy Bentham's eudaemonics of 1789, wherein the purpose of science and technology is to bring "the greatest happiness to the greatest number." Eudaemonics was for Bentham the way to assess the activities of governments, industrialists, and even individuals. Judged by the fruits of its labors, the American automobile industry of the 1950s would have passed Bentham's test with flying colors, for was there a greater joy than owning and driving a new car? Here, Bentham might say, was an ideal marriage of thought and action, aesthetics and engineering.

From another perspective, however, one might conclude that the American driver was blissfully ignorant. By the late 1920s the automobile industry understood that its success required fostering a certain dissatisfaction among buyers through annual styling and mechanical changes. It was planned obsolescence. A Detroit adage held that "A thing of beauty is a joy for a year," or until the new, improved models appeared on the showroom floor. Trading in a "like-new" car on the latest model became important to the nation's economic recovery during the Depression years of the 1930s. Manipulating the buyer's emotions (a.k.a. consumer engineering) was deemed socially useful, for it created jobs and kept money circulating. As Charlie Wilson, one-time head of the largest automobile company, once put it, "What's good for General Motors is good for the

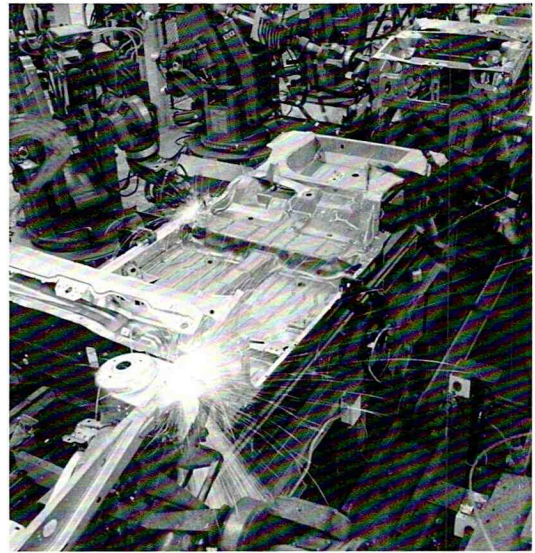
country." Detroit's formula was no secret: we were served up major body changes every three years and trim changes every year. Harley Earl, GM's first czar of styling, justified annual changes as "dynamic obsolescence," a democratic process that provided low mileage trade-ins to buyers of modest means.

In the postwar era, manufacturers recognized that the next generation of buyers could be wooed from an early age and schooled to identify with a particular make. Chevrolet sponsored the Soap Box Derby for boys, providing wheels, encouragement, and suggestions. Kids and their dads built engineless wooden cars which were steered downhill in local competitions. Winners might go on to the national competition in Akron, win prizes, and appear in the newsreels. As teens, their interest might be rekindled by General Motors's Fisher Body contest. A scale model of an original dream car might win an engineering scholarship and perhaps a career in automobile design for a lucky boy. In early manhood, his interest in cars now more visceral, he might cheer for an auto racing team sponsored by one of the "Big-Three" manufacturers and wear the company's logo on his jacket and cap.

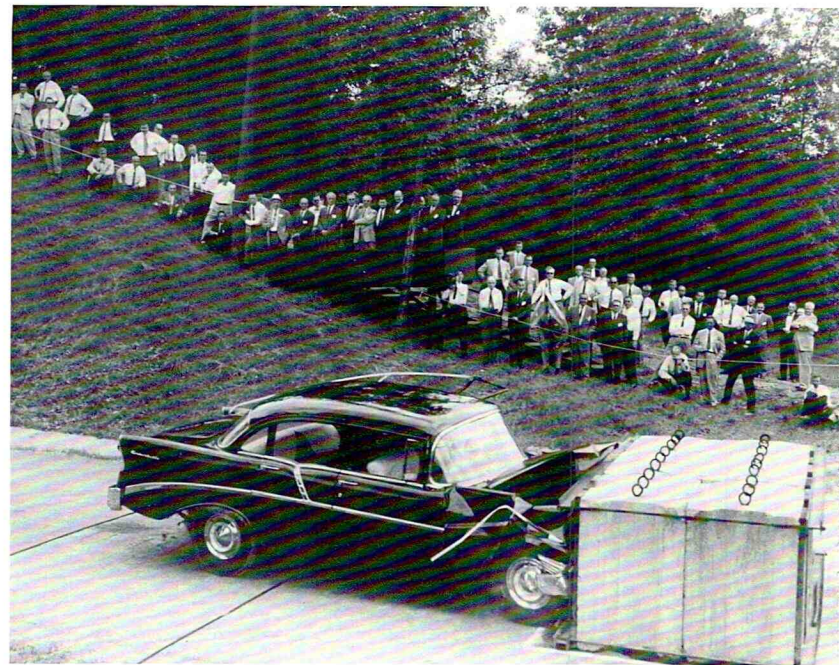
Added to that was Motorama, the Ziegfeld Follies of automotive huckstering, a class act featuring the newest production cars and a few spectacular idea cars (now called concept cars). Presented in the form of working prototypes, scale models, and drawings, these were intended to excite the public and identify the corporation as progressive and creative. Often they were displayed on turntables and accompanied by very attractive young ladies in bikinis; a young fellow with a Brownie Hawkeye flash camera was free to squeeze through the crowds and capture both the dream car and



Two dream cars at the 1956 Motorama: the Buick Centurion (rear) and the Chevrolet Impala. In some cases only styling touches or names—like “Impala”—trickled down from the concept car to the production models. The futuristic lighting structure over the cars is as typical of the 1950s as are the cars.



Robots weld gas tank, seat, and service brackets to the underside of a floor pan at Chrysler Motors’s Belvidere Assembly Plant. Each Chrysler New Yorker, New Yorker Landau and Dodge Dynasty leaving the plant will have received more than 2,800 automated spot welds. Since 1984 Chrysler has invested some 2.3 billion dollars converting its United States and Canadian plants to high-tech operations.



The government did not investigate automobile safety until the 1950s. A Congressional committee, shown here on a 1956 junket, witnessed the intentional crash of a Chevrolet.

a dream girl in the same shot. The symmetry of these two desires was not lost on Detroit.

By the 1970s that same man may have become disenchanted with American cars, which now seemed expensive to buy and operate, subject to recall, shoddy in some cases and possibly life-threatening in others. It was no longer received wisdom that the American car was built to last a hundred thousand miles: now it was the Volkswagen Bug, a sort of Teutonic Model T, which seemed endlessly repairable. Moreover, it challenged the very idea of annual styling changes.

The prices of American cars seemed to rise as the quality fell. The myth of old world craftsmanship resurfaced and our wandering eyes turned to well engineered, handsome European imports: to sprightly Rabbits, to no-nonsense Volvos, and to brilliant Euro-sleek Porsches and Mercedes. On West Coast docks, long-shoremen unloaded eye-catching Toyotas, Hondas, and Datsuns, each as devoted to pleasing as Madame Butterfly.

At first Japanese cars sold on the basis of their low purchase price and high gas mileage. Much of what Detroit offered as optional was standard on these imports, giving the customer more for the same amount of money. According to *Consumer Reports*, Japanese cars had fewer repairs than the average American car. You didn't see tow trucks dragging them back to dealerships (unless they'd been hit by an American car). They offered value, reliability, and quality — all at a reasonable price. The myth of competition, which had explained the abundance and quality of American goods, had to be modified. This was "unfair" competition, and automakers demanded import quotas. The Japanese voluntarily reduced their exports, making their cars scarcer in the United States. Dealers slapped on premiums, raising the prices, but still we bought them, proving that price was not our only consideration.

The Japanese were so much more *industrious* than we. Using *our* technology they had ways of developing a product and beating us to the marketplace. They seized upon production methods that we approached timidly: by 1982 Japanese industry had installed an estimated seven to thirteen thousand robots compared with three thousand or so in America. As new myths developed to explain Japanese successes, we began seriously to question our own myths.

Imports became very attractive to a public that had been stung on ill-conceived Aspens and Volares, and possibly dangerous Corvairs and Pintos. Recalls became a way of life for car owners: in 1978, Ford recalled more cars than it made. Angry over the cars' mechanical flaws, owners of the diesel-powered

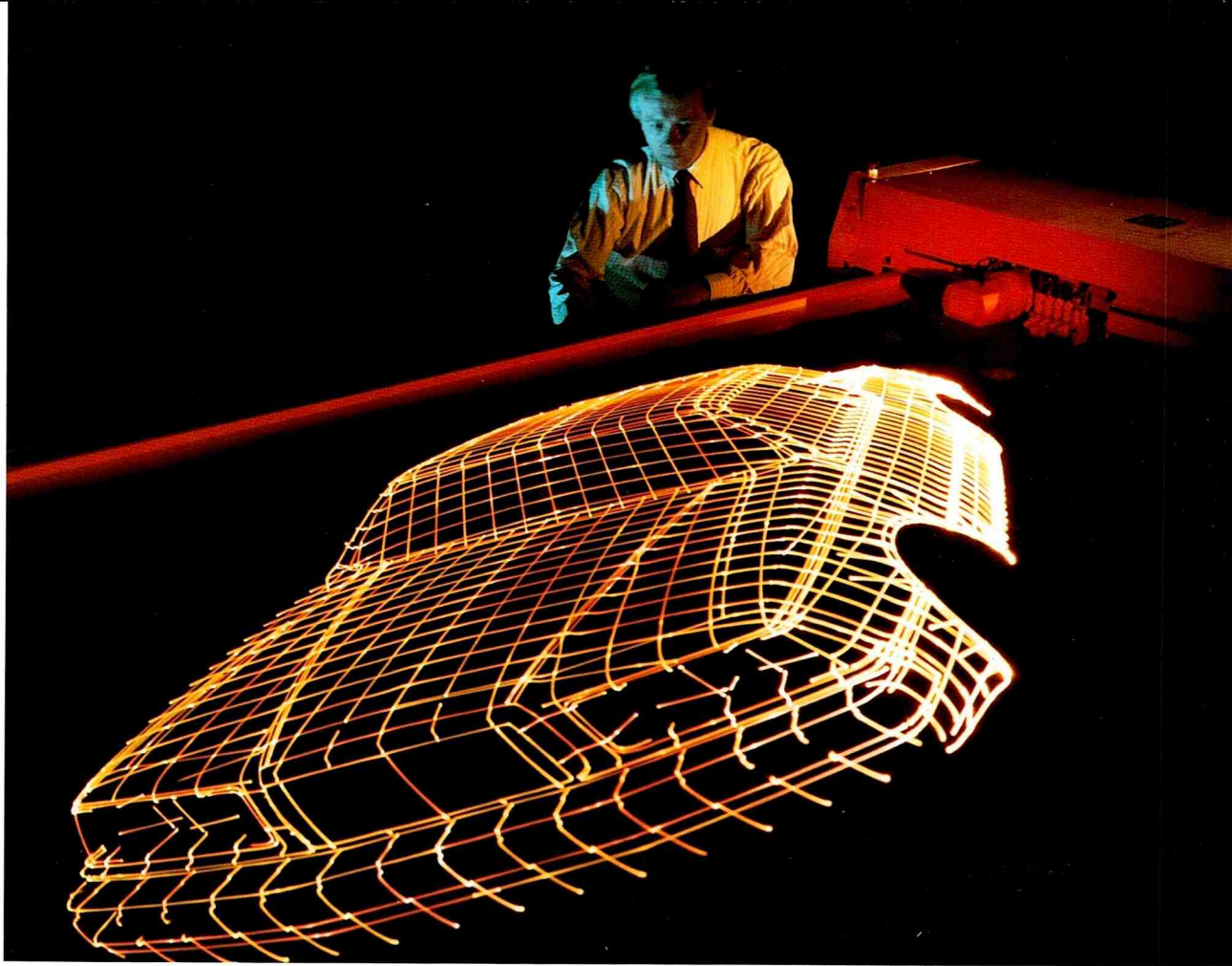
Oldsmobile Toronado banded together to bring a class-action suit against General Motors. A number of Buick buyers felt betrayed when they found Chevrolet engines under their hoods. Cadillac Cimarron owners were dismayed to discover they were driving little more than gussied-up Chevy Cavaliers: the top of the line had met the bottom because it made sense to tool up as little as possible and to share interchangeable parts between the five divisions at General Motors.

In the 1950s and 1960s, the American driver had experienced Nirvana: cheap gas (around 20 cents a gallon in the mid-50s), huge, spacious cars — one in every five a station wagon — and broad stretches of highway. We had sprawled out to suburbia and bought *second* cars. But the bubble burst in 1973 when OPEC surprised the world with shocking crude oil price increases. Foreign cars, small, light, and fuel efficient from the start, had already responded to the new, harsh economic realities: they were a ready-made solution. The United States government, vowing to make America energy independent, responded to the Arab cartel with an Energy Policy and Conservation Act. The Corporate Average Fuel Economy (CAFE) standards of 1975 mandated higher overall miles-per-gallon averages for each manufacturer's complete fleet, from compacts to limousines. Even though the changes were to be gradual, CAFE forced the immediate redesign of automobiles planned for two and three years hence. Streamlining, largely a symbolic device in an era of cheap gasoline, became genuinely important when prices exceeded a dollar a gallon. Detroit had for years made serious studies of techniques to lower a vehicle's coefficient of drag; now the latest advances in aerodynamics would be given a higher priority.

Engines and their placement were reconsidered and the bodies were "downsized," i.e., made both smaller and lighter. Aluminum began to replace steel and iron, but at greater expense. Plastics replaced heavier materials in rigid interior panels and soft, flexible exterior body panels, and in a host of interior details.

General Motors's first downsized models appeared within two years of the CAFE edict, but just as the car builders were responding, events further aggravated the oil situation: in 1979, the Ayatollah Khomeini embargoed Iranian oil bound for the United States, which accounted for some ten percent of our consumption. Worse still, OPEC raised prices again that year.

Long lines formed at service stations, but Americans were not trained to wait in queues. Tempers flared and here and there noses were bloodied and eyes blackened. Shortages were more than annoying: they



Using a CAD (computer assisted design) scanner, a Ford designer is able to project and rotate an image of a car's topology on a two-dimensional surface.

The Ford Taurus, introduced in December 1985 as a 1986 model, builds upon the acceptance of the new aerodynamic styling that had made the 1983 Ford Thunderbird a startling departure from the angular and faceted, slab-sided cars of the early 1980s. Named Car of the Year by *Motor Trend* in 1986, the Taurus was second in domestic sales to the Ford Escort in 1987 with 354,971 units, and led

domestic sales in its own market segment in 1987 and 1988. The Taurus "found its constituency among the conservative middle and upper-middle income class, who found its cutting edge look just progressive enough, and just European enough."



Having bequeathed its name to a production car, this hand built Ford Probe IV concept car saw service in Ford's wind tunnels, adding to our knowledge of aerodynamics. Note the absolutely flush windows and skirted wheel wells.

disrupted the social and commercial patterns of the nation. Mobility is, for Americans, the Fifth Freedom, a God-given right. We resented the Arabs and blamed both the federal government and the automakers for their lack of vision and planning. Many suspected the shortages were artificial, created to serve American oil magnates. Finally we were subject to "stagflation," incredible interest rates, and the recession of 1982. President Jimmy Carter called our collective mood a "general malaise," and turned the keys to the White House over to a man who could at least act optimistic.

In addition to requiring greater fuel efficiency in new cars, the government imposed a national speed limit of 55 mph, a speed at which many cars were in fact less fuel efficient. Although statistics showed that the lower speed limit saved lives, many drivers ignored it, or protested it in letters on the Op-Ed page. It was almost enough to make a person register as a Libertarian.

Uncle Sam intruded further, intent on forcing car manufacturers to build safer, more durable cars. Lap and shoulder belts, beefed-up doors to better protect against side collisions, and bumpers that would withstand a 2.5 mph jolt with no discernible damage to the car were specified, along with a requirement that new car bumpers be from sixteen to twenty inches from the ground: all these were mandated for the mid-70s. The controversial air bag was postponed until 1990. The good news was that government tests showed that most American cars were more crash-worthy than Japanese imports.

Given the restrictions meant to improve safety, save energy, and protect the environment, American designers were hard pressed to package all this in the downsized car, using standardized body panels, and yet somehow give each car its own look or "theme." Downsizing, they maintained, made it difficult to create distinctive lines in an extremely short body, and still accommodate an average family. All American cars came to resemble one another as they fell into line with the new constraints. Some styling studios resorted to nostalgic touches like neoclassical vertical radiators, hood ornaments, and hunched-up bustle trunks with fake straps to summon up the look of better days gone by.

In the 1970s and into the 1980s, the relationship of the American car buyer and the object of his — and increasingly her — affection deteriorated. In 1982 imports captured 27.9 percent of the market, and sales of domestic cars fell below six million for the first time in twenty years. Sales lost to imported cars were essentially jobs and gold reserves shipped overseas in a massive imbalance of trade. The Midwestern

cornucopia that produced steel and cars seemed on the verge of becoming a rust belt of antiquated, undercapitalized factories. Detroit edged to the abyss and looked in, shocked at what it found. Ford had suffered losses from 1980 through 1982 that totaled some \$3.26 billion, had seen the value of its stock plummet, and then the company discovered that Americans didn't have a grudge against it: they were indifferent to it. Lee Iacocca begged the government for loan assurances of \$1.2 billion to keep Chrysler, the world's tenth largest manufacturer, from going under. General Motors, better equipped to weather the storm by virtue of its size and financial strength, promised a new car — the Saturn — from a new, sixth division (scheduled to debut in the Fall of 1990). A 1984 poll by *Ward's Auto World* found that American auto dealers rated no American car in the top ten on the basis of quality.

Until Ford consulted the public on the Taurus, the automobile design process was not participatory. Launched in 1979, the Taurus project disregarded conventional procedures in its quest for a world-class car with the customer as its focal point. It solicited opinions from Ford's assembly-line workers, its parts suppliers, Ford's ad agency, the dealerships, and, most importantly, the driving public. The latter was first shown mock-ups, later allowed to drive prototypes, and still later asked to evaluate recommended changes. Ford had abandoned the pulpit for the confessional: it would listen instead of prescribing.

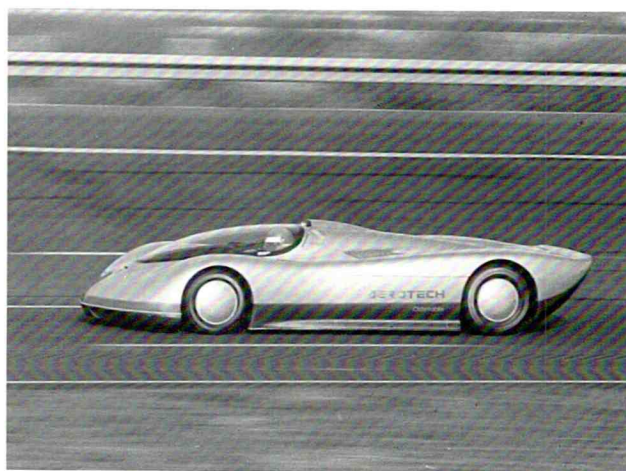
General Motors acknowledged the need to track the buyers' interests more closely when it opened its Advanced Concepts Center at Newbury Park near Los Angeles in 1983. It was a recognition that new automotive trends emanate from Southern California and need to be closely monitored. With its proximity to aircraft and electronic industries, the Center was to be "an ideal listening post for emerging technologies." This automotive "think tank" was also intended to facilitate a closer relationship between GM and design and engineering schools in the West.

Although preceded by the major Japanese automakers, whose West Coast studios already were well established, the mission of the ACC was to be broader and more comprehensive. According to Howard Kehrl, vice-chairman of GM, the goal of the Center would be "to demonstrate the feasibility of advanced product and process concepts for General Motors." That would require a creative environment that comes from "a willingness to try new and unusual organizational structures." The Center would not be controlled from Detroit, nor would it be fettered by the usual rules or hangups. Its smaller scale operation, GM expected, would lead to



One result of the coordinated effort at General Motors's Advanced Concepts Center on the West Coast is the Chevrolet Concept Camaro IROC, a 2+2 sports car conceived and fabricated in just six months at ACC by a fifty-person team. Its pronounced use of glass will offer the greatest happiness to the greatest number of California sun worshippers, circa 1998. This "California Camaro" suggests the future direction of the heavily modified Camaro-based "muscle cars" featured in the International Race of Champions.

Some experimental cars serve as test beds for new power plants, exotic fuels, and aerodynamic forms. For example, the grandchild of the many-finned Pontiac Firebird III of 1958, the Oldsmobile Aerotech, has a lightweight carbon fiber body enclosing GM's Quad 4 engine. With veteran driver A.J. Foyt at the wheel, the Aerotech set a record speed of 267.399 mph for the "flying mile" in 1987. Such speeds are attributable in part to a design that allows the vehicle to brush within a half-inch of the ground, negating the losses of "ground effects."



a synergistic approach to future product development. In creating the Taurus, Ford had seen the need for nothing less than a change in its corporate structure and, moreover, its corporate culture. Now it was GM's turn.

In projecting the ideal "car of tomorrow," some of the dream cars of the 1950s and 1960s challenged the basic form of the automobile, as did Ford's two-wheeled Gyron, its floating Volante hovercraft, and the projected atom-powered Ford Nucleon. None of these will ever come to be; they made good copy and kept the company name before the public. That's not to say that designers have treated the task lightly. Imagining the car of tomorrow requires first a survey of the state of the art in the technologies involved in the making of vehicles, roadbeds, and highway systems. (GM's Motorama at the 1939 New York World's Fair prophesied not only a streamlined car, but highway systems that would automatically control traffic speed and movement from one lane to another. None of its predictions was realized.) Tomorrow's design ought to be centered on a conception of the driver of tomorrow, his sociology and his physical and psychological wants and needs.

Concept cars often showcase new power plants, new suspension systems, and other mechanical innovations, but these do not touch us emotionally. It is at the interface of man and machine where the imagination forms one's self-myth. Design bridges the gap, bringing technology to the psyche in a language of visual signs. The aerodynamic envelope evokes vicarious feelings of power and status. It urges us to develop mental scenarios in which we star, larger than life and frankly a lot more exciting. The dream car is cousin to the Hollywood adventure film wherein we become James Bond, Batman, or Luke Skywalker. Mentally seated before the instrument panel with its exotic computer graphic displays and indulged by a host of unseen robotic servants, we begin to sense the control and opportunity the gadgetry affords. This is the stuff of Mittyesque daydreams with their erotic fantasy settings and myths of manly adventure. It isn't just speed and safety, it's sex drive and self-image.

One recent concept car, the 1995 Buick Questor, incorporates currently available technology along with features now seen as reasonably feasible by that date. So smooth is its low-drag exterior envelope that there are no outside mirrors or door handles. A laser key aimed at the door opens it, retracts the seat and steering gear, and raises the body to facilitate entry. The door shuts and locks automatically. The laser key activates all accessories, starts the engine, and starts up an on-board computer that diagnoses all the vehicle systems before departure. A rear-looking televi-

sion camera and monitor replaces outboard mirrors. A CD player provides concert hall quality entertainment. Inserting map and navigation cassettes puts displays onto a monitor to assist in finding the best route. A cellular phone (hardly a breathtaking option) keeps the driver in touch with his or her office, and with Tom, that low-keyed reservations clerk at Motel 6. A printer in the console provides hard copy of the mileage, fuel consumption, servicing needs, and other data, should the employer or the IRS require it. All that is missing is a FAX machine.

It is clear that electronic control, communication, and entertainment systems will account for an increasing percentage of the cost of the car, and will raise the sticker price. Repairing such a car will require more advanced skills and equipment. The "peppertree" mechanic and the do-it-yourself tinkerer will fall idle for lack of complex test equipment. Finally, advanced high-tech systems may well overwhelm and discourage some drivers.

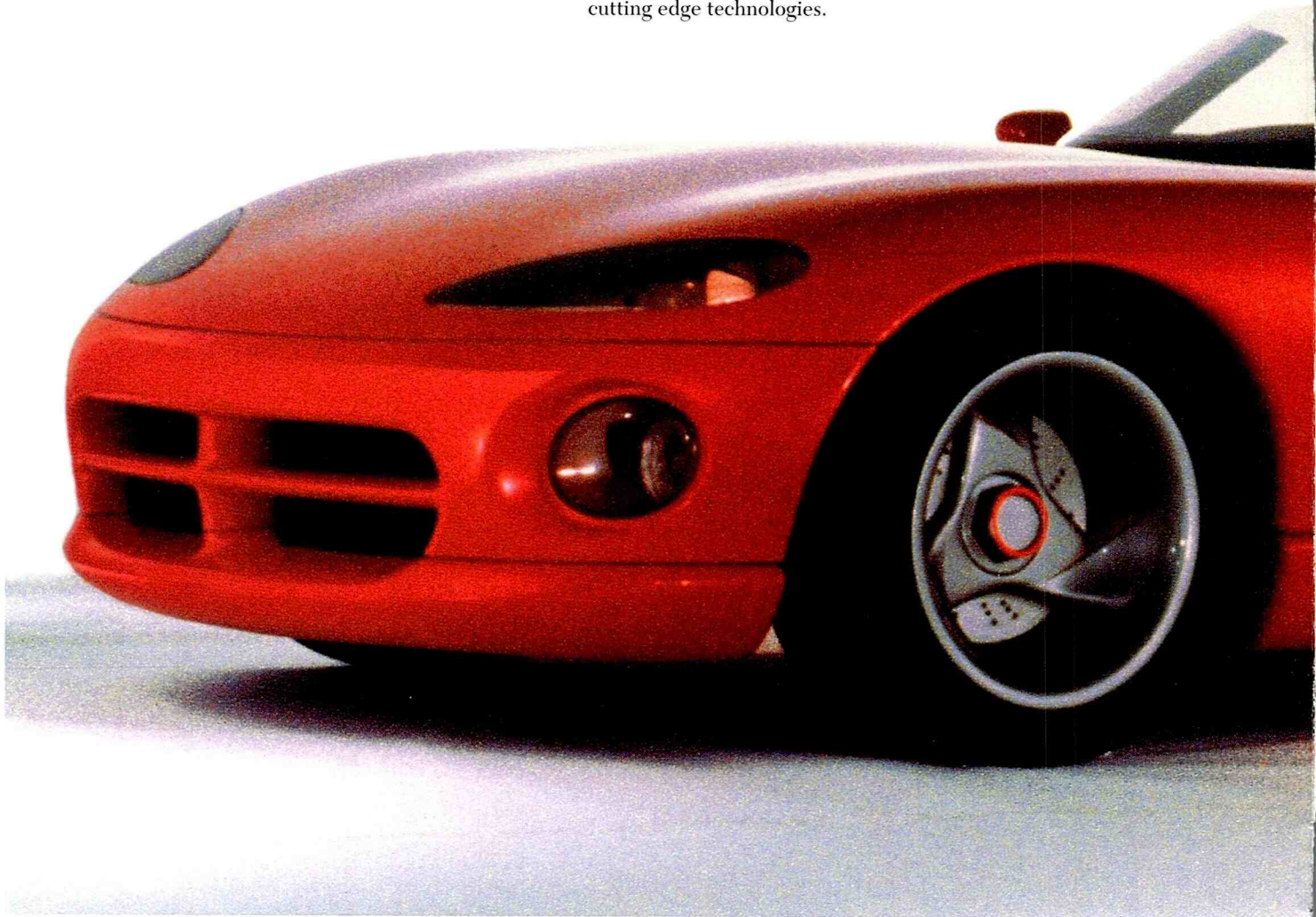
As Donald A. Norman notes in his recent book, *The Psychology of Everyday Things*, "We are surrounded by objects of desire, not objects of use." Appearance is important to the marketing of a product, but the product may not send the right signals to the user, and may, in fact, confuse rather than clarify its function. Electronic controls are a pertinent example. Telephones, pocket calculators, and computers all use numerical keypads, but their numbers are arranged differently. A home entertainment center may require one remote control for the TV, another for the VCR, and a third for the stereo system, but again, each is differently arranged. Digital displays are not necessarily superior to analog devices, such as conventional oil pressure gauges, temperature indicators, and voltmeters.

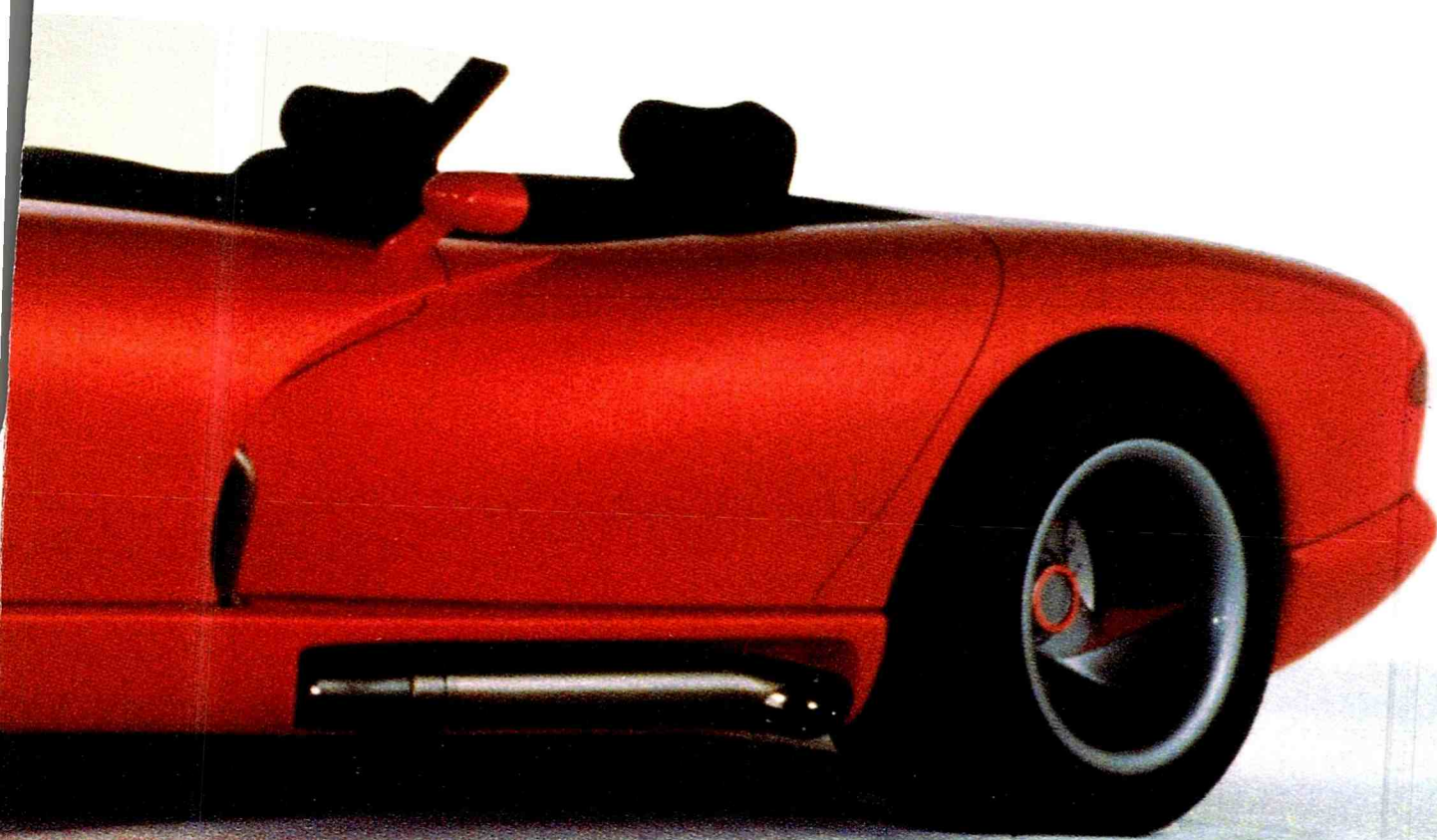
As the systems in a car become more numerous and complex, informing drivers of their condition requires more instrumentation. Imagine leasing a rental car at an airport in the future and sliding behind the wheel only to be confronted by a bewildering array of graphics, dials, lights, and switches better suited to the skills of a 747 pilot. Between you and your destination is a high-speed superhighway. Your survival and the safety of other drivers depend now upon the rapidity with which you can adapt to the unfamiliar information environment around you.

An applied semiotics offers hope of facilitating a closer symbiosis between users and products. The application of a "science of signs" to design is relatively new and draws less upon its roots in linguistics and literary criticism and more upon the discoveries



The Sunraycer is an experimental solar-powered car being developed for GM by AeroVironment Inc. of Monrovia, California, with technical support from GM's Advanced Concepts Center, its Delco and Hughes electronics staffs, and a number of other corporate divisions. Essentially a thin plastic shell covered with solar cells and mounted on a tubular aluminum frame, the single-seat Sunraycer is not seen as a product in gestation, but as a means of stimulating and coordinating cutting edge technologies.





A large block V-10 engine offers this Dodge Viper RT/10 concept car "power aplenty" in an exterior body described by Dodge as a rakish "muscle car." Meant to be equally at home in a driveway or on a race track, the Viper rolls on 17-inch wheels, its open cockpit protected by a full-width sports bar supporting the head restraints.

With the eighteen- to twenty-five-year old as its primary buying target, the nifty little Plymouth Speedster concept car brings to mind Andy Hardy's open roadster of the 1930s and street rods of the 1950s. Its two plastic bucket seats are covered in what Chrysler describes as "wet suit" material. It can be hosed out for cleaning.





The simplicity of a control panel of 1926 (left) with that of the 1995 Buick Questor (right) contrasts the simplicity and limitations of the former with the complexity and opportunity suggested by the latter. Clearly, the Questor lives in a brave, albeit risky, new world.

The 1995 Buick Questor is the latest of a series of Buick dream cars launched by Harley Earl in 1938. Buick designers seem to have included every communication, navigation, and entertainment system available in its aerodynamically efficient form.



psychologists are making about human perception and cognition. This product semantics aims to decipher and humanize what the industrial designer Michael McCoy has called today's "inscrutable technology." In vehicle design, it often takes the form of surface graphics utilizing one or more of the three most elemental sign types: the index, the symbol, or the icon. The latter is perhaps the most used in automotive control panels. A lighted oil can, battery, or open car door suggests a problem with the car part it resembles. Similar images of gas pumps, raised hoods, and trunk lids identify latch handles. Semiotic devices and perception studies are not new to automotive designers but are being newly emphasized, given the present marketing conditions. The use of a set of universally understood graphic icons, for example, is essential to any world-class car.

Dreaming up concept cars is a cathartic for automotive designers, freeing them from the pressures and realities of the production design studios. We should not think of visionary design as a method of prediction, however, but rather as a means of suggesting alternatives from which the public may choose. But in the old, controlled scheme of things, buyers could only choose from what interested the designers and automotive executives. The success of Ford's Taurus is due in part to the input of customers. Although many foreign cars continue to offer a certain glamour and status, the Taurus project did demonstrate that Americans will respond when offered a well-designed, well-engineered domestic product. As in other areas of American life, from food and wines to fashion and furniture, our tastes have become more sophisticated, more discriminating. We are more willing to listen and learn, and more likely to research a product before buying.

That is not to say some among us won't whoop and holler at those mud-bog contests between Monster Trucks (the automotive equivalent of professional wrestling) or that young drivers won't want lollipop colors and pop graphics on their Camaros. We are all subject to a cacophony of fads, fashions, styles, and revivals, all pressed upon us at maximum volume and with great urgency by aggressive, multi-sensory media. Our choices are not entirely rational, anymore than cars are merely machines. Motive power has emotive power. Television advertising appeals to our sense of adventure and our desire for control: it gives us the thrill of zooming down a winding trail through the Black Forest at phenomenal speeds. Detective movies include the obligatory car chase sequence that puts us at the edge of our seats, white-knuckled and short of breath. Witness Gene Hackman as "Popeye" in *The French Connection*, weaving a slalom through the girders under a city elevated train at breakneck speeds. Where reality

moves us, fantasy lifts and transports us: do we not lust for a black Batmobile, with its webbed tail fins, grimacing grille, and throaty roar?

Events of the past two decades forced a sort of renaissance in American automotive design, albeit at great cost. Contemporary American autos have begun to offer us what we looked for elsewhere: improved quality, greater value, and more sophisticated symbols. As we move into the 1990s, we can expect new cars to be larger, thanks to lighter synthetic materials, and to have "slippery" exteriors. Advances in aerodynamics will make possible a greater variety of forms and, in turn, distinctive differences and varied metaphors. The interiors of tomorrow's car will become information environments that will keep us in touch with the outside world in more than a passive way. We will communicate with home and office while directing a series of interactive electronic systems.

As to the post-postmodern car: place your order by that long-awaited videophone.

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