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The Great Gizmo

'The purpose of technology is to make the dream a fact. . . . The end is to make the Earth a garden, Paradise; to make the mountain speak.'—Arthur Drexler

The man who changed the face of America had a gizmo, a gadget, a gimmick—in his hand, in his back pocket, across the saddle, on his hip, in the trailer, round his neck, on his head, deep in a hardened silo. From the Franklin Stove, and the Stetson Hat, through the Evinrude outboard to the walkie-talkie, the spray can and the cordless shaver, the most typical American way of improving the human situation has been by means of crafty and usually compact little packages, either papered with patent numbers, or bearing their inventor's name to a grateful posterity. Other nations, such as Japan, may now be setting a crushingly competitive pace in portable gadgetry, but their prime market is still the U.S. and other Americanized cultures, while America herself is so prone to clasp other cultures' key gadgets to her acquisitive bosom that their original inventors and discoverers are forgotten—'Big Kahuna' mysticism aside, even the

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Australians seem to have forgotten that they were the first White Anglo-Saxon Protestants to steal the surfboard from the Polynesians, so thoroughly has surfing been Americanized. So ingrained is the belief in a device like a surfboard as the proper way to make sense of an unorganized situation like a wave, that when Homo Americanus finally sets foot on the moon it will be just as well the gravity is only one sixth of earth's for he is likely to be so hung about with packages, kits, black boxes and waldos that he would have a job to stand under any heavier 'g.'

**LANDSCAPE WITH
FIGURES WITH
GADGETS**

True sons of Archimedes, the Americans have gone one better than the old granddaddy of mechanics. To move the earth he required a lever long enough and somewhere to rest it—a gizmo and an infrastructure—but the great American gizmo can get by without any infrastructure. Had it needed one, it would never have won the West or opened up the transcontinental trails. The quintessential gadgetry of the pioneering frontiersman had to be carried across trackless country, set down in a wild place, and left to transform that hostile environment without skilled attention. Its function was to bring instant order or human comfort into a situation which had previously been an undifferentiated mess, and for this reason it is so deeply involved with the American mythology of the wilderness that its philosophy will bear looking into both for its American consequences, and for the consequences of its introduction into other landscapes, other scenes.

Underneath lies that basic confusion about the American landscape—is it a wilderness or a paradise?—that has bedevilled American thought from Walden Pond to the barbecue pit in the backyard, a confusion on which Leo Marx's recent book *The Machine in the Garden* is so illuminating on every aspect except industrial design. Marx observes that the early settlers brought with them from Europe 'the pastoral ideal of a rural nation exhibiting a happy balance of art and nature,' and continues 'In this sentimental guise the pastoral ideal remained of service long after the machine's appearance in the landscape. It enabled the nation to continue defining its purpose as the pursuit of rural happiness while devoting itself to productivity, wealth and power. It remained for our serious writers to discover the meaning inherent in the contradiction.'

Now, from a less bookish standpoint, it might appear that the contradiction between industry and garden is only a local disturbance—local in time as well as space—in a more widespread process of employing machinery to make the pastoral garden-ideal available to the whole nation. Local in time, because one of the surest ways to convert the American wilderness into the American paradise is to let agronomy or industry pass across it and then vanish—as witness the second growth woodlands of Connecticut that have supplanted a vanished agriculture and produced perhaps the most paradisaical suburban landscape in the world (or, again, I know areas in the Middle West where the mere mowing and brush-cutting of an abandoned farm will produce a landscape that could have come from the brush of Claude Lorraine). Local in space

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because the ground permanently occupied or permanently blighted by U.S. industry is still infinitesimal compared with the vast acreage opened up to human settlement by industry's products.

Portable technology closes Leo Marx's contradiction as surely as do the meanings discovered by serious writers: industrial productivity was perhaps the only means of converting the disorderly wilderness into an humane garden. For, if there is rural happiness in America that is in any way comparable with the European pastoral dream—whether noble, as in Palladio's villas, or ridiculous, as in Marie-Antoinette's spoof dairy-maiding—it depends on technology rather than serfdom or chattel-slavery as it did in the Old World. Yes, agreed—the American pastorate probably did start in slave-owning Virginia (through Monticello was full of mechanical ingenuities) but the dream's proliferation beyond the Appalachians, beyond the Mississippi, beyond the Rockies, increasingly depended at every stage upon the products of industry and the local application of mechanisms. For the first time, a civilization with a flourishing industry encountered a landscape that was entirely virgin or, at worst, inhabited by scattered tribes of noble (or preferably, dead) savages.

In Europe and the Orient, industry has had to worm its ways into the interstices of an already crowded pattern of social strata and landownership: over most of the U.S. there was neither society nor landownership until mechanization came puffing in on railroads that were often the first and only geographical fixes the Plains afforded. In Europe, the pastoral ideal is the heir of the medieval *hortus clusus* or walled garden—from the landscape parks of the eighteenth century to the nudist colonies of the twentieth, the pastoral dream has meant withdrawal behind protective barriers to keep out the pressure of the *hoi polloi*. In America the pastoral ideal is available to the *hoi polloi* as well, and if he wants wilderness the average man rarely has to drive for more than an hour to find unimproved ground—remember, pockets of undisturbed prairie ecology survive even in Gary, Indiana. The pastoral ideal in the U.S.A. is an extraverted vision, and while Manhattan-based Jeremiahs moan over the disappearance of the wilderness, Europeans (who really *know* about intensive occupation of land) goggle unbelievably still at the empty acres beyond the filling stations and hamburger stands along the freeway.

**THE
TECHNOLOGIST
ON THE BACK
PORCH**

Rural happiness in the U.S. was never to be the privilege of the few, but was to be the common property of every member of every family, thanks to domestic mechanization. The good life offered by early visionaries of the railroad-age such as Catherine Beecher, is of enjoyable industry for the entire family, the cultivation of the mind as well as cotton and vegetables; and it already depends, in 1869, on a notable level of mechanical sophistication. As James Marston Fitch pointed out in his key study of the redoubtable Beecher in *Architecture and the Aesthetics of Plenty*, the house she describes in 'The American Woman's Home,' is firmly visualized as a true machine for living in, and

already boasts such characteristic gadgetry as a pair of Franklin stoves on the main floor and a hot-air stove in the basement, while the domestic economy practised therein with such devoted industry depends, by implication (as Fitch indicates), on equipment such as the Mason jar.

If Catherine Beecher is indeed one of the Founding Dames of the suburban way of life, then the spread of that way of life from coast to coast depended not only on back-porch technologies (to which I shall return in a moment) such as fruit-preserving, but also on one other major factor which is astonishingly missing from most generalized histories of U.S. culture—mail-order shopping. Whatever Messrs. Colt and Winchester (two more characteristic gizmo-names) may have done to subdue the West, it was Messrs. Sears and Roebuck who made it first habitable and then civilized. Yet their crucial contribution rates no more than the most passing reference, unsupported by discussion or index-reference in Max Lerner's giant coast-to-coast national-economy-sized bromide, *America as a Civilization*. The Sears catalogue is one of the great and basic documents of U.S. civilization, and deserves the closest critical study wherever the state of the Union is discussed.

One thing the student will observe is that the catalogue rarely fails to quote, along with the price and so forth, the shipping-weight of all mechanical kit. This point has its significance in the history of American technology: where distances were great and transport difficult, costs of freightage could overwhelm the economic value of a low-grade product. Whatever was shipped had to have a high selling price, or social value, relative to its bulk and weight, otherwise it was not worth the trouble. Thus, mill-cut timber was only the base material for the balloon-frame house that sheltered the West—what made it possible to give up building log-cabins was, above all else, the incredibly cheap wire nails that began to come in around the mid-century, and were shipped everywhere in bulk by barrel and bag. Here was a product whose social utility rested upon its cheapness and reliability and vastly outweighed its shipping charges. Furthermore, it was a fixing-device that required general native cunning rather than specific craft skill to employ, and so it came readily to the hand of the householder employing back-porch technologies comparable to those his wife was employing in the kitchen. For this is another key characteristic of the gizmos that changed the face of America: they do not require high skill at the point of application, they leave craftsmanship behind at the factory. Ideally, you peel off the packaging, fix four bolts and press the Go button.

This is what makes Ole Evinrude's invention of the outboard motor so triumphantly American an event. To fit an inboard motor to an existing boat requires craft skills and mathematical aptitudes of a sort normally found only in places with a long tradition of boat-craft, as in the maritime cities of Europe or New England, where boatyards, shipwrights and the encrusted wisdom of ancient mariners were freely available. But every portage made by the pioneers took them one more river away from any such raft-infrastructure, their boats would normally be the first and only on their particular stretch of

water (as are a high proportion of U.S. boats to this day). Their back-porch technologies were unlikely to include either the tackle or the skill to bore a shaft-hole through a keel or transom, fit tube and shaft, make it watertight, calculate (let alone fabricate) the pitch and diameter of propeller, and so forth. But you can order a stock outboard from the catalogue with the right propeller for its own power and your size of boat, fix it with two clamps, add fuel and pull the started. So ideal, and so American is this solution, that other one-shot aids to the back-porch technologist have proliferated—to cite only one, the adapters that make it possible for any hot-rod-crazy to fit any engine to almost any gearbox and transmission. Warshavsky's current catalogue has three pages of them.

**ABSTRACT AND
CONSEQUENCES
OF THE GIZMO**

At this point we have seen enough of the basic proposition, to formulate some generalized rules for the American gizmo, and examine its consequences in design and other fields. Like this: a characteristic class of U.S. products—perhaps the most characteristic—is a small self-contained unit of high performance in relation to its size and cost, whose function is to transform some undifferentiated set of circumstances to a condition nearer human desires. The minimum of skill is required in its installation and use, and it is independent of any physical or social infrastructure beyond that by which it may be ordered from catalogue and delivered to its prospective user.

As a class of servants to human needs, these clip-on devices, these portable gadgets, have coloured American thought and action far more deeply—I suspect—than is commonly understood. The U.S. tourist hung about with expensive cameras, most of them automated to within an inch of their lives, is a common figure of fun from Jerez to Macao, from Trondheim to Trincomalee, but he is, perhaps, a more tragic figure than a comical one, for it is difficult not to suspect that presented with scenes from cultures that he does not understand he hopes to gizmo them into comprehensible form by pointing the little black box and pressing the trigger. It may not reduce the world to a pastoral, but it will make standardized Kodachrome sense on a screen in the living-room, and it's a lot simpler than learning the language. And if you *must* learn the language, sitting down at a language-lab will give you a gizmo'd knowledge of the tongue far quicker than walking the streets of Amsterdam trying to strike up conversations in Dutch with passers-by (who always turn out to be Chinese-speaking Indonesians, anyhow).

Because practically every new, incomprehensible or hostile situation encountered by the growing American Nation was conquered, in practice, by handy gizmos of one sort or another, the grown Nation has tended to assume that all hostile situations will be solved with gadgets. If a U.S. ally is in trouble, Uncle Sam rolls up the sleeves of his Arsenal-of-Democracy sweatshirt and starts packing arms in crates for shipment long before he thinks of sending soldiers or diplomats—and be it noted that it was a half-breed American, Winston Churchill, who responded in terms that were pure

gizmo-culture; 'Give us the tools and we'll finish the job!' Current U.S. foreign policy, Rand Corporation/Strangelove style, revolves disproportionately (it might be argued) around king-sized gadgets whose ballistic complexity and sheer tonnage should not blind us to the fact that they are still kissin'-cousins to Colt and Winchester, and that the abstract concept of weaponry is simply Sears' catalogue re-written in blood and radiation-sickness. And, now that internal subversion has joined the ranks of 'thinkable' topics in Vietnam and Santo Domingo (not to mention Harlem and Georgia) don't the departments of State and interior wish there existed some opinion-forming gizmo (guts by IBM and RCA, box-work by Eliot Noyes, graphics by Paul Rand) that could be parachuted down, untouched by human hand, to spread sweetness and light and democracy and free-enterprise for fifty miles around ground-zero. It would beat ugly Americans any day.

It might work, at that—remember how the transistor radios that have replaced Field-Marschals' batons in every *poilu's* knapsack helped De Gaulle rally wavering troops in the last agonies of the Algerian crisis. But there are many situations that can't be resolved by gadgetry, however inspired, and the general reliance of the U.S. on gizmo solutions (helicopters in Vietnam, recoil-less rifles in Dominica) appears to Old World observers to have landed America in more messes than it has cleared up. This is not to say that Old World methods such as back-stage arm-twisting or political blackmail would have done any better. It is just that gadgetry is unfamiliar to Old World diplomats and is an easy target for blame.

Unfortunately, gadgetry is also unfamiliar to many of those entrusted with the formation of higher opinion and the direction of academic study in the U.S., and loses thereby the kind of intellectual support and scrutiny it deserves if it is to produce its promised benefits in the changed circumstances of today. I have already cited one failure of Max Lerner; let me cite another and then leave him be. In positively the worst chapter of *America as a Civilization*, that on architecture and design, he claims that the U.S. has failed to produce a great domestic architecture, because

Great architecture is based on belief. Americans have not yet developed a way of domestic life sharply enough differentiated so that a system of belief can be built on it, and in turn give rise to a distinctive architecture. But they do believe in their system of technology. To put it differently, Americans have had greater success with the arts of consumption and comfortable living than with the problem of their life purposes. Wherever they have built structures connected with production . . . there has been a sureness about them absent from the recent fumbblings with domestic architecture.

There, if ever, was a man with his finger on the Go button but didn't know it. Even at the time he was writing (1956–57) the under-window air-conditioner and the under-sink waste-disposer had differentiated U.S. domestic architecture from all preceding domestic architectures and introduced new freedoms in design that the pioneer Modern architects never enjoyed, while the consequences have more to say about the life-

purposes of most Americans than all the University humanities programmes joined end-to-end. Americans believe in technology and that is where to look for the greatness of their domestic architecture—as every envious housewife of Europe, Asia and South America could tell you. In the process, the structure of the U.S. house becomes little more than an undifferentiated shell within which the gizmos can do their work, and its external form acquires a slightly improvised quality, an indecisive shape. But this is not necessarily to be brushed off as fumbling—it may be necessary experimentation or temporizing until a definitive shape (or some convincing solution of a non-formal kind) emerges to fix the style of the gizmo-residence—experiments like Harry Weese's row-houses in Old Town, Chicago, where the air-conditioners have been built into cupboard-backs that are the least permanent, most easily altered, parts of the structure.

Instances of failures to comprehend the extent and potential of gadget culture are all too easy to multiply, but my concern here is more with the results of this lack of intellectual grip. One outstanding example is the failure to question the present dwindling independence of the gizmo, its increasing reliance upon an infrastructure it could once do without. While the walkie-talkie has cut men free of networks and wiring, the outboard motor persistently grows in sophistication and dependence—it has acquired a dash-mounted control panel and control lines, a steering harness and wheel, external fuel tank and pipe-runs and, occasionally, external electrics as well. As it becomes more integrated with the boat structure at large, it doubtless acquires something of that mystical 'unity' that Old World pundits and New World academics believe to be the essence of 'a good design,' but as it passes out of the capabilities of the back-porch technologist and into the hands of the skilled shipwright, its social usefulness is severely qualified. Again, while Dr. Land's Polaroid camera is finally extricating photography from the Victorian impedimenta that has lumbered it since the time of Daguerre, Detroit is producing increasingly limp-wristed automobiles that find it harder and harder to function away from the smooth concrete of the freeway. I don't wish to sound like William Buckley calling for a return to the hairy virtues of the frontier at a time when increasing affluence and improved social techniques make more expensive and interdependent solutions possible, but there are one or two counts on which these present developments might be held up for closer examination.

WILDERNESS IN SEARCH OF GIZMOS

One such count is foreign aid: many of the development countries, especially in Africa, are in a condition sufficiently analogous to that of the West in the early Sears Roebuck epoch, for American experience to have directly useful relevance. Instead, such countries find themselves being bullied into sinking aid funds in massive infrastructure of a kind the U.S. got along without for several generations, whereas small sophisticated devices that can work without much capital investment under them might produce better immediate results and leave the ground free for even more sophisticated developments in these countries later on. Many Africans are disappointed and suspicious

about this U.S. attitude which they regard as the extension of Anglo-French colonialism by other means. In particular they suspect that the aim is to create road surfaces on which the current Detroit product will look less ridiculous than it does on the dirt roads over which Soviet and East German vehicles can bump along regardless, and the other thing they suspect is that the money is being directed into heavy investment in order to keep it out of consumer goods industries that might compete directly with the U.S. One African I know rolled it all up neatly into a big ball of dung by saying 'If the money was ours to spend without Washington's "advice" we would build a factory to manufacture the Japanese Toyota, which retains all the virtues which the Jeep has lost.'

The Jeep makers could doubtless rebut this statement till they were blue in the face, but the fact remains that the Jeep image has lost its ruggedness, has ceased to hold the reputation of a pioneer (and not only in Africa, to judge from the number of Toyotas one seems to see in the mountain states of the U.S.). And there are also some hesitations, among those who administer or influence aid, that make them unwilling to introduce the independent U.S. gizmo in undeveloped lands; chiefly, a certain squeamishness about introducing familiar brand-names into territories where they might be regarded as dollar imperialism. There is, for instance, a distinct visual and cultural shock in suddenly coming on a Coca Cola dispenser in Latin America or the Arab States: it is apt to look like a visitor from Mars even in the more rural or desert parts of the USA. It has an almost surreal independence of its rough surroundings as it sits snug in its stylists' chrome and enamel, compact, self-contained—an alien. To many sensitive souls it is an offense that they would rather not see perpetrated; and it also implies a criticism of its surroundings.

For whatever unpleasant capitalist habits of mind it may exemplify, it always, in such surroundings, guarantees a higher level of hygiene and technique than the native culture affords. Coke is not a product that can be dispensed through a system of hollow reeds and dried gourds supported in a structure made of adobe blocks, any more than there was ever a wood-burning outboard motor. It imports into surroundings that are—for worse or better—less highly-developed, a standard of technical performance that the existing culture of those surroundings could no more support unaided than could the Arkansas territory when it was first purchased. Unfortunately, much of what has just been said is equally true of Coke machines that stand in some of America's older cities, and this brings up another point about the present crisis of the gizmo that is worth discussing here.

**THE CITY AS
PRE-GIZMOS
ARCHAEOLOGY**

North America's cities of pre-industrial foundation—Montreal, Boston, New York, Philadelphia through to New Orleans—could be regarded as the archaeological remains of a culture that ought to have died when the gizmos came in. They represent the kind of enormously massive infrastructural deposits that are left behind by handicraft civilizations, for (in the absence of rapid communications and compact artificial power-

sources) the only way to get anything even half-way clever done was to pile men up in vast unhygienic heaps (and anyone who has seen the recently published sootfall statistics for East side Manhattan will know that they are still unhygienic today). On such man-warrens were built the only concepts of civilization that we know, but this does not mean that alternative structures of civilization are not possible, and on this basis the culture of the gizmo, with its accompanying catalogue and distribution network, will bear looking into.

And it is being looked into, at this very moment, by every egg-head who claims a 'discriminating attitude toward the mass media.' In, say, Chicago, he consults the catalogue (radio programmes in the *Daily News*) presses the Go button of his gizmo (AM/FM transistor portable) and connects himself to the distribution net (WFMT your fine art program) for the 'Well-Tempered Clavier.' The distributive civilization of gizmo culture is here already—and if that does not sound a very original observation thirty years after Frank Lloyd Wright's injunction to 'Watch the little gas station' let me rephrase his accompanying deduction that cities are outmoded in a different key. If the nation is to continue defining its purpose as the pursuit of rural happiness, and if its population is to continue expanding at the present rate, then it may soon become necessary to re-suburbanize existing urban sites and to reduce them to quasi-rural population densities. You have only to go up to the Cloisters or Fort Tryon and look around you, to realize that Manhattan Island would be the most paradisaical of American Gardens if only they would get New York off it. So I exaggerate? But not very much; there are many semi-urban areas—the centre of Denver, Colorado, for instance—that could still be rearranged to both their immediate and future advantage provided they do not get buried any deeper than at present, in old-fashioned urban infrastructure. The future, at a modest guess, is going to require a much more flexible distribution of American citizens on the ground, and this is going to be much easier to effect if they can pick up their culture and ride than if they are pinned to the ground by vast masses of Lincoln Centre style masonry.

The traditional American wooden house has always sat lightly on its terrain—a smart hurricane or runaway Mack truck will remove it neatly, leaving just 12 posts and 2 pipes sticking out of the lawn. This potentiality seems to trouble architects to the bottoms of their monumental souls, but it has always fascinated U.S. technologists, from Bucky Fuller's Dymaxion houses to the Clark Cortez campers that suddenly seem to be the queens of the American road. Indeed, a self-propelled residential gizmo seems to be a kind of ultimate in the present state of U.S. culture. The Clark's running gear is a hot-rodder compilation of proprietary catalogue components, and once tanked up and its larder stocked it is independent of all infrastructures for considerable periods of time—it need not deposit sewage or waste every time it comes to an overnight halt, so that when it moves off again the next morning, and the grass that was pressed down by its wheels has recovered its normal habit, that piece of the face of America remains as unchanged as if four persons and a package of sophisticated

technology had never been there. A piece of the American wilderness had been, briefly, a piece of the American Paradise-garden, and could then return to wild.

**NAME IT, THEN
WE'LL KNOW
WHAT IT IS**

No doubt this vision of a gas-powered pastorate, a great nation pursuing rural happiness down the highway, is oversimplified, but observe that it has at its heart a discrete and factual object. The Cortez exists already and can be bought ex-catalogue and increasing numbers of Americans will buy them because the most fundamental American response to dreams is to purchase a piece of equipment to make them come true. And dreams aside, the facts about the Cortez are that its residential performance is considerably superior to that of the handsome Jane Jacobs-type brownstone in which I am writing these words, and its mobility is far superior to that of even the most sophisticated trailers because it is just one single compact unit running on only four wheels. For design people at the Aspen Conference this year to respond to the Clark Cortez only with complaints about its colour-scheme or 'It's an ugly brute,' seems a pitifully inadequate response to what may be one of the most portentous events in the history of the North American continent.

Maybe portentous, or maybe not—but in the absence of a general theory of the gizmo by which to evaluate it, we do not know. The number of breaks in the wall of academic ignorance mentioned earlier has been small indeed, even in the twenty years or so since Sigfried Giedion first tickled the topic in *Mechanization Takes Command*. The subject still lacks a radical theorist who will range freely over departmental barriers and disciplinary interfaces and come back with a comprehensive historical account of the rise of portable gadgetry, and deduce from it some informed projections of the good or evil future it affords.

Perhaps his first task might be to think of a better name for his topic than 'Gizmology,' but it may be difficult. The original impetus to write this article came from the impact of a single very precise and concrete image—a man carrying a portable welding plant across the Utah salt-flats with one hand—and the impact of this image was extremely specific. Not 'This man is carrying a portable gadget of typically U.S. format,' but 'This man is carrying a welding plant.' The whole gizmo bit revolves around such unique and discrete objects, named after the specific functions they serve, and this indeed is the prime utility of the whole approach: whatever you want to do, the precise gadget is in the catalogue. But because the whole bit is made up of these genuinely independent parts, each as private and aloof as the Coke dispenser in the Casbah, it remains extremely difficult to generalize about them, even to find them a generic name which will, after they have been a hundred years in the field, acknowledge their nationwide importance on the changed face of America.



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