

Hertzian Tales

**Electronic Products, Aesthetic Experience,
and Critical Design**

Anthony Dunne

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In Philips's 1996 *Vision of the Future* project (Philips Corporate Design 1996), a more subtle awareness of the value of material culture has entered the mainstream of design thinking and may well soon enter the marketplace and everyday life. The project consists of over one hundred design proposals for products for five to ten years in the future. But this awareness is primarily expressed in this project by references to existing object typologies—for example, hi-tech medical kits in the form of medicine cabinets—rather than by radically new hybrids. The designers focus more on practical needs, the electronic qualities are not fully exploited, and the types of objects proposed are already familiar from student degree shows. But the designs do achieve a new visual language, sensual, warm, and friendly. They are well-mannered and socially competent. In these projects the electronic object has reached an optimal level of semiotic and functional performance.

The Electronic as Post-optimal Object

The most difficult challenges for designers of electronic objects now lie not in technical and semiotic functionality, where optimal levels of performance are already attainable, but in the realms of metaphysics, poetry, and aesthetics, where little research has been carried out:

This is what differentiates the 1980s from 1890, 1909, and even 1949—the ability of industrial design and manufacturers to deliver goods that cannot be bettered, however much money you possess. The rich find their exclusivity continuously under threat. . . .

Beyond a certain, relatively low price (low compared with other times in history) the rich cannot buy a better camera, home computer, tea kettle, television or video recorder than you or I. What they can do, and what sophisticated retailers do, is add unnecessary “stuff” to the object. You can have your camera gold plated. (Dormer 1990, 124)

The position of this book is that design research should explore a new role for the electronic object, one that facilitates more poetic modes of habitation: a form of social research to integrate aesthetic experience with everyday life through “conceptual products.”

In a world where practicality and functionality can be taken for granted, the aesthetics of the post-optimal object could provide new experiences of everyday life, new poetic dimensions.

(In)human Factors

Am I a man or a machine? There is no ambiguity in the traditional relationship between man and machine: the worker is always, in a way, a stranger to the machine he operates, and alienated by it. But at least he retains the precious status of alienated man. The new technologies, with their new machines, new images and interactive screens, do not alienate me. Rather, they form an integrated circuit with me.

—J. BAUDRILLARD, “XEROX AND INFINITY”

In design, the main aim of interactivity has become user-friendliness. Although this ideal is accepted in the workplace as improving productivity and efficiency, its main assumption, that the way to humanize technology is to close the gap between people and machines by designing “transparent” interfaces, is problematic, particularly as this view of interactivity has spread to less utilitarian areas of our lives. According to Virilio (1995): “Interactive user-friendliness’ . . . is just a metaphor for the subtle enslavement of the human being to ‘intelligent’ machines; a programmed symbiosis of man and computer in which assistance and the much trumpeted ‘dialogue between man and the machine’ scarcely conceal the premises: . . . the total, unavowed disqualification of the human in favor of the definitive instrumental conditioning of the individual” (135).

This enslavement is not, strictly speaking, to machines, nor to the people who build and own them, but to the conceptual models, values, and systems of thought the machines embody. User-friendliness helps naturalize electronic objects and the values they embody. For example, while electronic objects are being used, their use is constrained by the simple generalized model of a user

these objects are designed around: the more time we spend using them, the more time we spend as a caricature. We unwittingly adopt roles created by the human factors specialists of large corporations. For instance, camcorders have many built-in features that encourage generic usage; a warning light flashes whenever there is a risk of "spoiling" a picture, as if to remind the user that he or she is about to become creative and should immediately return to the norm.

By poeticizing the distance between people and electronic objects, sensitive skepticism might be encouraged, rather than unthinking assimilation of the values and conceptual models embedded in electronic objects. I am not arguing for a way of designing that is free from ideological content but, rather, for one that draws attention to the fact that design is always ideological. User-friendliness helps conceal this fact. The values and ideas about life embodied in designed objects are not natural, objective or fixed, but man-made, artificial, and mutable.

This chapter looks at "poeticizing" the distance between people and electronic objects through "estrangement" and "alienation," locating interactivity between transparency and opaqueness, the pet and the alien, prose and poetry. The first section looks at the origins of user-friendliness in human factors and how it manifests itself in design approaches; the second, on transparency, discusses the implications of closing the distance between people and machines; and the third, on (in)human factors, looks at alternatives based on estrangement.

User-friendliness

Manuel DeLanda (1991) situates the origins of the man-machine interface within a military context:

It is at the level of the interface that many of the political questions regarding Artificial Intelligence are posed. For instance, one and the same program may be used to take human beings out of the decision-making loop, or on the contrary, [be] interfaced with them so as to create a synergistic whole. It is the design of the interface which will decide whether the machinic phylum will cross between man and machines, whether humans and computers will enter into a symbiotic relationship, or whether humans will be replaced by machines. Although the centralizing tendencies of the military seem to point to a future when computers will replace humans, the question is by no means settled." (176)

DeLanda writes that research into interactivity between people and computers began with the military's desire to visualize data held in computers, and that

interactivity went much further than it intended, giving people total control over their machines. Although scientists such as Doug Engelbert, Alan Kay, J. C. R. Licklider, and Murray Turoff managed to gain control of the evolution of computers from the military, developing a vision of interactivity as a partnership between people and machines acted out on the computer screen, they were unable to introduce them into everyday life. It was hackers like Steve Wozniak and Steve Jobs who eventually managed to translate these ideas into a machine that could compete in the marketplace against large corporations like IBM and establish a new model of interactivity.

While interactivity made huge leaps forward before its entry into everyday life through the marketplace, once the computer became a successful mass-produced object, innovation in interactivity shifted from hardware to software, and evolved around screens, keyboards, and mouse-like input devices.

The Human Factors Approach

These days most work on the development of interfaces is by engineers and scientists working for large corporations and universities, and comprising the human factors community. Although mainly concerned with computers, other electronic objects are becoming subject to this approach, particularly as designers have, so far, been unable to develop convincing alternatives.

In a review of *Things That Make Us Smart* by cognitive psychologist Don Norman, Rick Robinson (1994) offers remarks about Norman's view of design that are applicable to the human factors community in general. Robinson argues that Norman's approach results in products that will not confuse or disappoint (which is clearly not enough). His main criticism is that it "misses the essential connection between the power of objects to affect the way in which the world is seen and the mechanism through which that happens. Paradoxically, user-centredness is not just figuring out how people map things, it absolutely requires recognising that the artefacts people interact with have enormous impact on how we think. Affordances, to use Norman's term, are individually, socially, and culturally dynamic. But the artefacts do not merely occupy a slot in that process, they fundamentally shape the dynamic itself" (Robinson 1994, 78).

Design/Aesthetic Manifestations

In the human factors world, objects, it seems, must be understood rather than interpreted. This raises the question: are conventional notions of user-friendliness compatible with aesthetic experience? Perhaps with aesthetics, a different path

must be taken: an aesthetic approach might subsume and subvert the idea of user-friendliness and provide an alternative model of interactivity.

The reduction of the relationship between people and technology to a level of cognitive clarity by the human factors community contrasts with the approach taken by Ettore Sottsass in the late 1950s for the design of the ELEA 9003 computer for Olivetti (figure 2.1):

It was immediately obvious in the first years in which I worked on the ELEA that in the design of certain gigantic instruments, as electronic machines were then, or in the design of groups of machines which have a logical and operational relationship between each other, one ends up immediately designing the working environment; that is, one ends up conditioning the man who is working, not only his direct physical relationship with the instrument, but also his very much larger and more penetrating relationship with the whole act of work and the complex mechanisms of physical culture and psychic actions and reactions with the environment in which he works, the conditionings, the liberty, the destruction, exhaustion and death. (Sottsass, qtd. in Sparke 1982, 63)

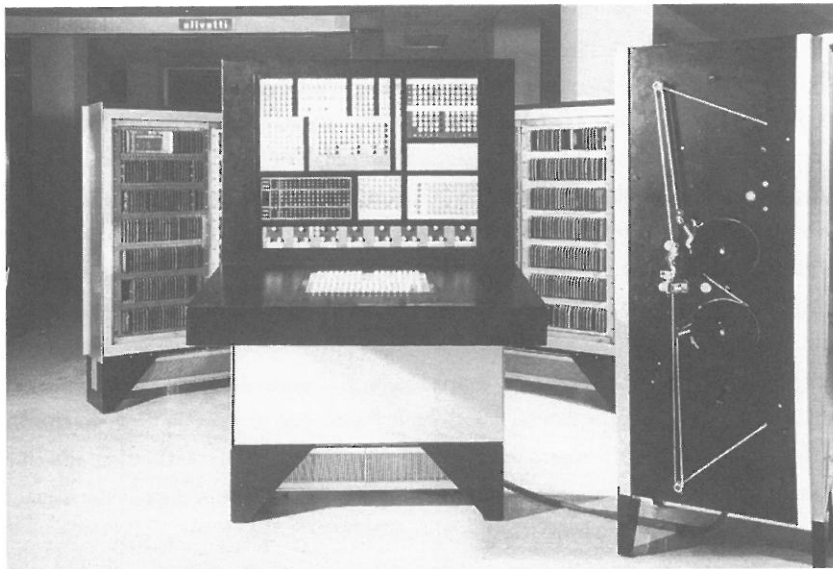


Figure 2.1 The approach taken by Ettore Sottsass for the design of the ELEA 9003 computer for Olivetti (1959) is very different from the “user-friendly” approach taken by the human factors community, which reduces the relationship between people and technology to a level of cognitive clarity.

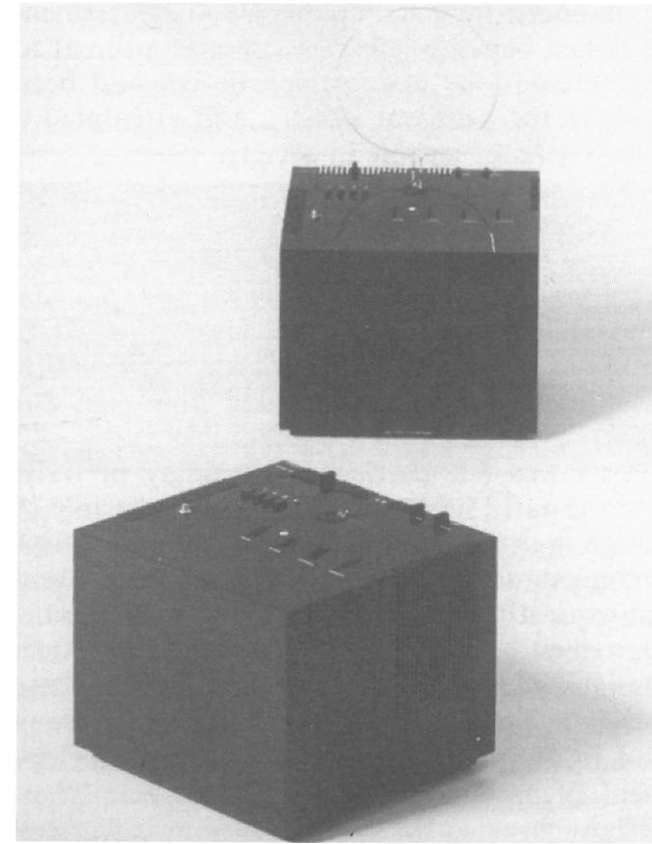


Figure 2.2 Marco Zanuso and Richard Sapper’s television for Brion Vega was a sophisticated expression of a new role for the skin of an object, with very different characteristics in both its states. Switching it on or off transformed it from familiar to mysterious object.

Although Sottsass’s design for a computer clearly derives from a poetic model of people, few designers have developed such powerful aesthetic responses to electronic objects. An exception was Marco Zanuso, whose television for Brion Vega (figure 2.2) was designed with Richard Sapper in 1969 during the high point of the Italian Radical Design movement, and was at the cutting edge of design thinking, a new expression of an everyday electronic product. It took the notion of the black box to the limit, revealing the magic of technology by dissimulating its functional nature. The whole object became a screen, working equally well aesthetically, on or off. Its minimal black form receded when the television image was shown, and it became a pure object when it was switched

off. It was concerned with not so much form or even material, but rather the problem of an object with different characteristics in both of its states. It represented a sophisticated expression of a new role for the skin of an object.

Despite this, and because the mechanical design of electronic objects gives few clues to their operation, the problem they posed to most designers soon reduced to one of packaging. But for more experimental designers, the image of the black box became the starting point for exploring new languages of representation rather than interactivity.

Representation

During the early 1980s, in the Department of Industrial Design at the Royal College of Art (RCA) many innovative projects were produced (figure 2.3) that exploited the new freedom offered by the fluid qualities of electronic technologies, although most were still concerned more with representation and interpretation than function or interactivity. As a group these works are impressively diverse, original, and fresh. They imply no clear manifesto or philosophy, but rather reflect the individual personalities and interests of the designers. They explore how different languages of form map onto electronic technologies by reinterpreting existing products. Many of the presentation models were simplified, intended to communicate ideas about form and representation rather than manufacture and practicality. The most relevant work from this era, by Weil, is discussed later in this chapter.

Product Semantics

During the 1980s “product semantics” began to influence thinking about electronic products. Semantics and semiotics were originally used by linguists to understand the structure of language and how it conveys meaning, and later by film theorists (often combined with psychoanalysis—e.g, Laura Mulvey) to analyze how codes and conventions work. In design they were used to analyze the way form could be used to express implicit meanings: the flow of air in a fan heater, for instance (figure 2.4).

Cranbrook Academy’s industrial design course developed this approach, led by Michael and Katherine McCoy. From the mid-1980s on, its students fed the international design press a steady stream of conceptual designs for electronic products. In 1987 one of them, Lisa Krohn (with Tucker Viemeister), won a competition to promote and exploit the versatile properties of plastics with her design for an answerphone (figure 2.5). The versatility of plastics in this instance

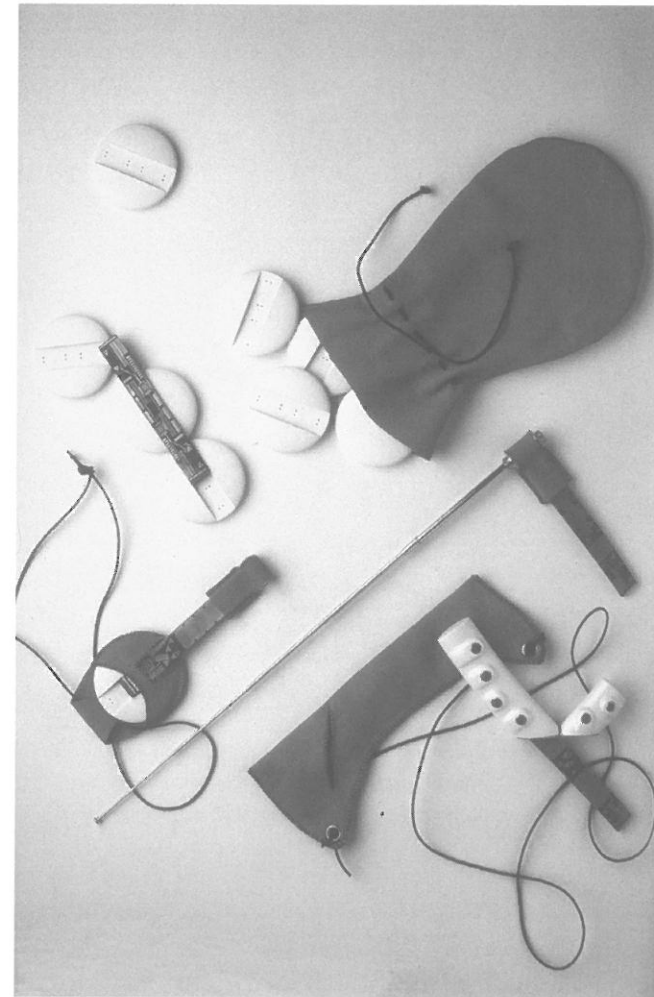


Figure 2.3 Matthew Archer’s miniature computer is one of many projects produced in the Industrial Design department at the Royal College of Art during the 1980s that exploited the new freedom offered to design by the fluid qualities of electronic technology.

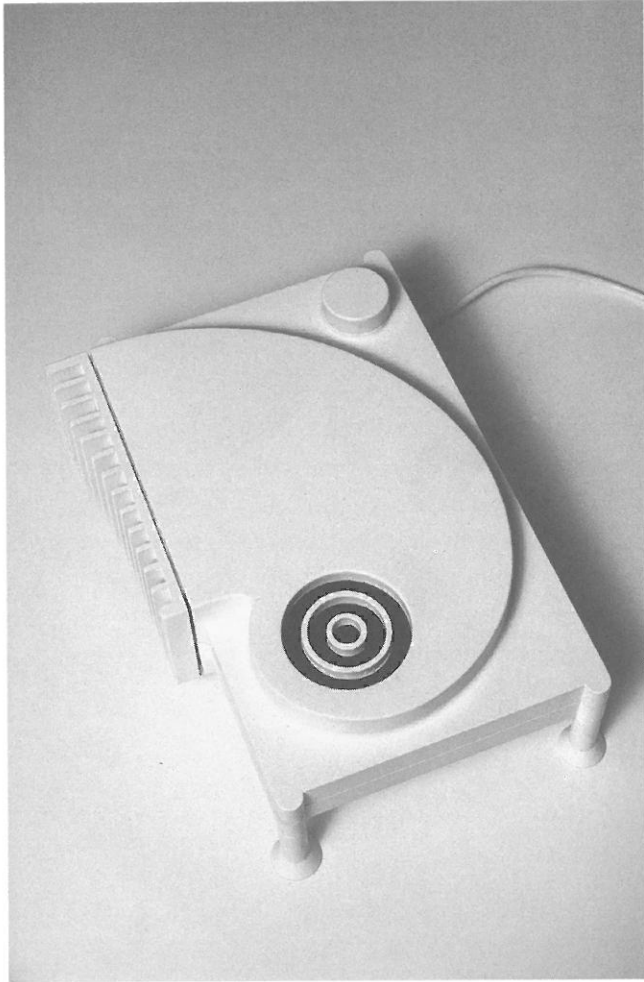


Figure 2.4 Semiotics and semantics were used by 1980s designers as a framework for analyzing the way industrial designers could use form to express implicit meanings: for instance, the flow of air in this fan heater (1981) by Winfried Scheuer.

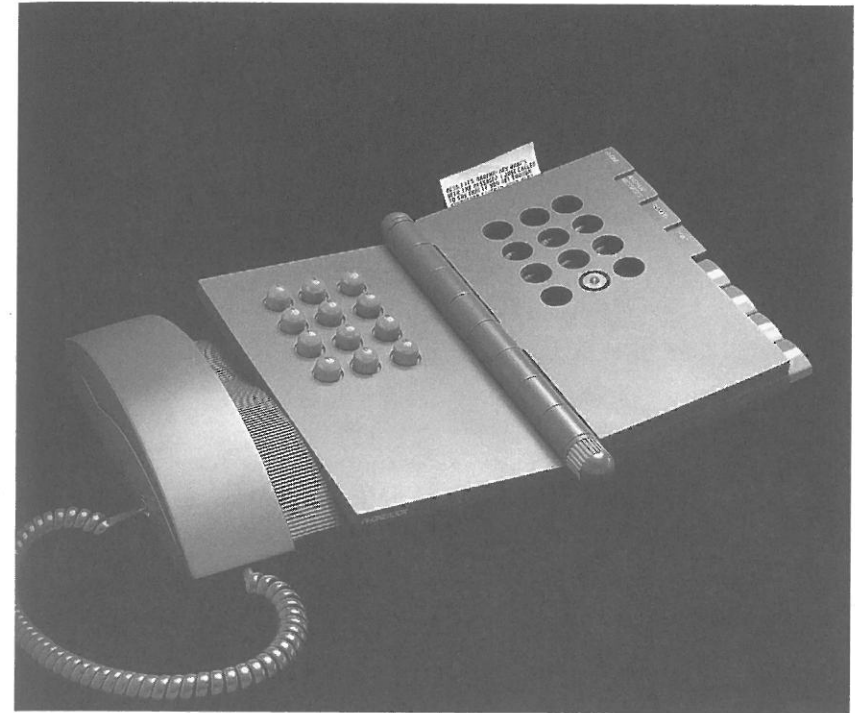


Figure 2.5 Lisa Krohn's design (with Tucker Viemeister) for an answerphone (1987) shows how a literal use of analogy results in metaphors with a single meaning. Products become depictive of what they do, limiting the viewer's interpretation of the electronic object to the designer's.

is in the area of linguistic expression: "A combination of telephone and answering machine which transcribes and thermally prints any messages, its modern streamlined appearance uses a book format with the pages serving as switches for the different functions" (Form Finlandia, 1987, n.p.). Such literal use of analogy results in metaphors with a single meaning. Products depict what they do, limiting the viewer's interpretation of the electronic object to the designer's, and, although sometimes the link made between groups of objects is ingenious, the power of these borrowed images to sustain interest is weak—they are the material equivalent of one-liners. Once the viewer grasps the connection, there is little else to engage with.¹

The new forms are just as vigorously tied to their signifieds as the old ones, albeit signifieds extrinsic to the object, based in a cultural frame of reference. To use preexisting patterns of knowledge to define a new technology's possibilities

for conveying meaning is not far removed from the Victorian use of Corinthian columns to support beam engines; design holds back the potential of electronics to provide new aesthetic meanings: "Official culture still strives to force the new media to do what the old media did. But the horseless carriage did not do the work of the horse; it abolished the horse and did what the horse could never do" (McLuhan 1970, 133).

Transparency

Because the mimetic approach has greatly affected mainstream thinking about electronic objects, most designs for interfaces with electronic products draw on familiar images and clichés rather than stretching design language. Nothing is what it appears, but simply an allusion to something we are already familiar with. Designers using existing codes and conventions to make new products more familiar often unconsciously reproduce aspects of the ideology encoded in their borrowed motifs. The easy communication and transparency striven for by champions of user-friendliness simply make our seduction by machines more comfortable.

Biomorphism

The trend for forms of biomorphic expression, particularly in cameras and other portable devices, can be seen as expressing either an uncritical desire to absorb technologies into the body, a wish to be a cyborg, or, more optimistically, a need to mold technology to the body. But this need for symbiosis does not have to be expressed through the clichéd language of bio-form; after all, the symbiosis yearned for is often mental not physical. An engaging, if conservative, image of this desire for symbiosis between people and the environment of electronic artifacts is provided by the series of kitchen tools designed by Marco Susani and Mario Trimarchi for the 1992 Milan Triennale. A mixture of abstract form and familiar materials, they neither pretend to have always been there nor are they completely alien (figure 2.6).

For extreme expressions of this wish for transparency or symbiosis, we need to look outside the design field, at the work of the artist Stelarc. He describes a synthetic skin that, absorbing oxygen through its pores and efficiently converting light into chemical nutrients, would make our internal organs redundant and allow them to be removed to create room for more useful technological components. In a performance at the Doors of Perception 3 conference in Amsterdam in 1995, remote viewers were able to manipulate his body into positions

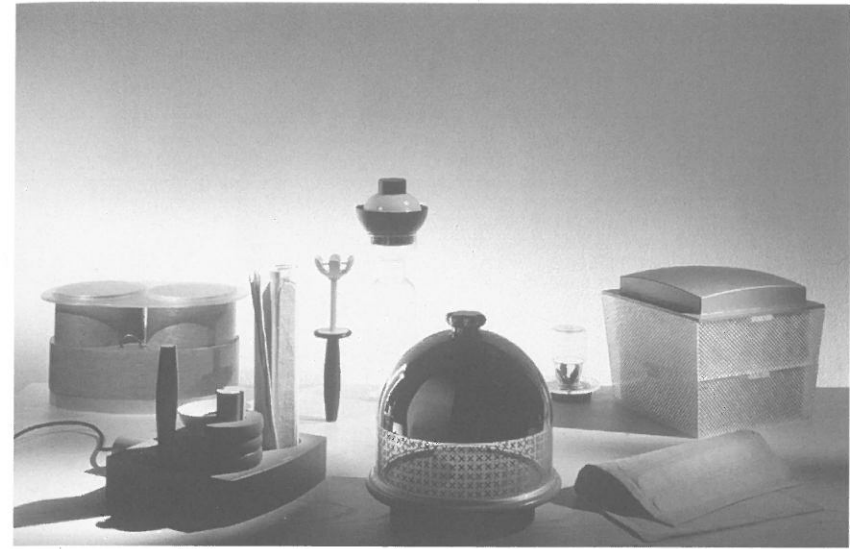


Figure 2.6 Marco Susani and Mario Trimarchi's *New Tools (for the kitchen)* for the 1992 Milan Triennale demonstrates that the need for symbiosis does not have to be expressed through the clichéd language of bio-form; after all, the symbiosis yearned for is often mental not physical.

that represented letters; a computer program allowed sequences to be made up forcing the artist, through electrical stimulation of his muscles, to enact a bizarre semaphore. In an earlier piece, *Third Hand*, he wrote single words with a third artificial hand strapped to one of his own (figure 2.7), activated by the EMG signals of the abdominal and leg muscles, while his real arm was remote-controlled and jerked into action by two muscle stimulators. Stelarc's work illustrates one vision of cyborgs. His work explores the interplay between self-control of the body and its control by the technological logic embodied in prosthetic devices.

Pets

If the desire for familiarity is applied to more complex machines with a potential for autonomous behavior, we could find ourselves living in a bestiary of technological "pets," or zoomorphic electronic objects. Although there is plenty of potential for new aesthetic experiences through the expression of electronic objects' behavior, this area is already dominated by an oversimple mimicry of human and animal behavior. The aesthetic experience they give rise to is based on recognition rather than perception.² The users experience something familiar rather

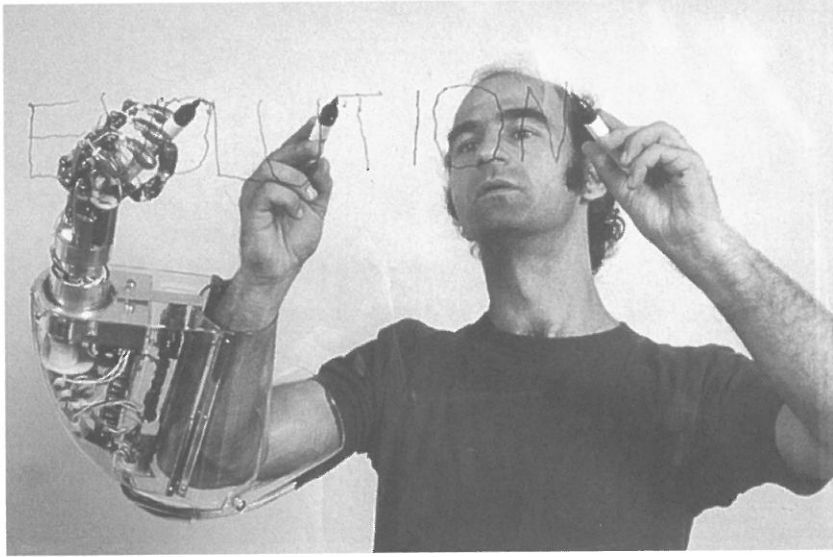


Figure 2.7 In *Third Hand*, Stelarc wrote single words with a third artificial hand strapped to one of his own, activated by the EMG signals of the abdominal and leg muscles, while the real arm was remote-controlled and jerked into action by two muscle stimulators.

than new, so they are conditioned to accept things as they are. Rather than being stimulated to modify their ideas about reality, the users become part of a behavioral “circuit”:

The famous Japanese car that talks to you, that “spontaneously” informs you of its general state and even of your general state, possibly refusing to function if you are not functioning well, the car as deliberating consultant and partner in the general negotiation of a lifestyle, something—or someone: at this point there is no longer any difference—with which you are connected. The fundamental issue becomes the communication with the car itself, a perpetual test of the subject’s presence with his own objects, an uninterrupted interface. (Baudrillard 1983, 127)

Not all work in this area closely mimics human and animal behavior. *Satori TV* (figure 2.8), a small television that turns its head to face the viewer when touched, is one of the few objects designed at Cranbrook during the 1980s that goes beyond visual semiotics by using performance. This television suggests a life where our only company will be electronic domestic appliances, which must supply the missing banalities of everyday human contact. The artist Alan Rath



Figure 2.8 Peter Stathis’s *Satori TV* (1988), which turns its head to face the viewer when touched, suggests a life where our only company will be the electronic appliances of the home, which must supply the missing banalities of everyday human contact.

goes one step further and literally gives technology a face, but not comfortingly. His faces are juxtaposed and recombined with other body and machine parts to create strange and sinister hybrids of people and machines. He uses videos of parts of the face, or whole faces held captive within cathode ray tubes: in *C-Clamp* a face grimaces while its CRT container is held in a C-clamp (figure 2.9). Many of his pieces rely on puns, are comic and anthropomorphic, and remind us of our fear that machines might have lives of their own. But although such works remind us of a possible future where the human soul becomes literally trapped within the machine, their easy appeal means they are also easily forgotten; they are not disturbing enough to shock.

Aliens

A range of possibility exists between ideas of the “pet” and the “alien.” While the pet offers familiarity, affection, submission, and intimacy, the alien is the pet’s opposite, misunderstood, and ostracized. The artist Martin Spanjaard

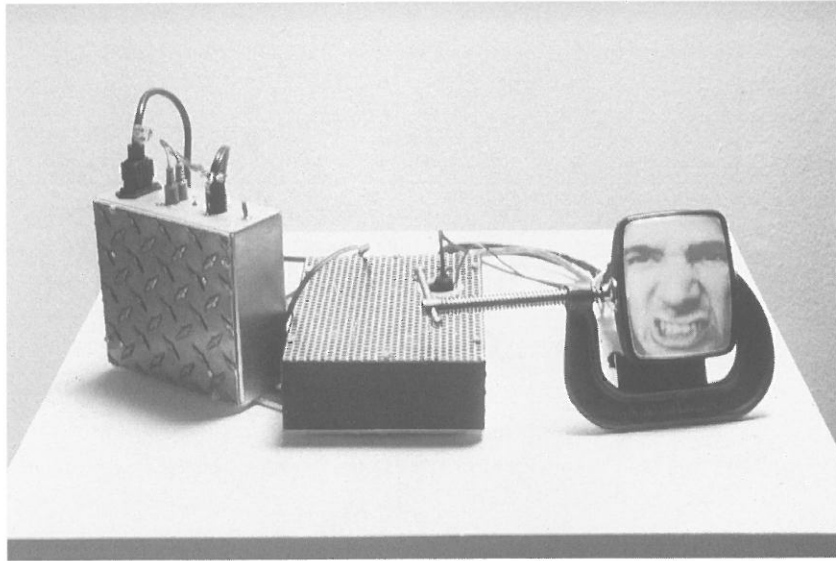


Figure 2.9 Alan Rath's *C-Clamp* (1992) literally gives technology a face, but not in a comforting way. His faces are juxtaposed and recombined with other body and machine parts to create strange and sinister hybrids of people and machines.

explores this space, believing: "In order to get used to talking to a machine, one should have one as a pet. A machine which has no particular function, and cannot actually be operated, but which responds to the events in its environment by producing spoken language. Like a cat, which rubs its head against you and meows when it wants to eat or go outside, or a dog which whines when you kick it" (Van Weelden 1992, 247–250).

Spanjaard's robot Adelbrecht evolved over ten years, starting in 1982, from his desire to build a ball that would roll of its own accord and, when it collided with other objects, reverse, change direction, or take other appropriate action. As technology developed so did Adelbrecht; he can now sense whether he is being picked up or stroked, and whether and by how much light and sound are present, influencing his mood or "lust" as it is termed by the artist. Adelbrecht expresses the level of his "lust" by rolling about and by a voice provided by the Institute for Research on Perception in Eindhoven. For example, if he has not been touched since becoming active, on becoming stuck he will call for help; but if he has been touched, he will call his owner. He says "Nice" on being stroked, and "Is it you?" on being picked up. The artist does not program Adelbrecht to totally replicate human or animal psychology, which results in unexpected and

quite poetic mumbblings. Adelbrecht is an example, as boundaries blur between ourselves and our digital environment, of where a new sense of "alienation" or distance may be discovered. The electronic object does not have to fulfill our expectations; it can surprise and provoke. But, to fulfill this potential, designers need to leave behind a desire to model the new world of electronic products in their own, human, image.

(In)human Factors

If user-friendliness characterizes the relationship between the user and the optimal object, user-unfriendliness then, a form of gentle provocation, could characterize the post-optimal object. The emphasis shifts from optimizing the fit between people and electronic objects through transparent communication, to providing aesthetic experiences through the electronic objects themselves.

But if aliens and user-unfriendliness are to be the alternatives to pets and user-friendliness, this user-unfriendliness does not have to mean user-hostility. Constructive user-unfriendliness already exists in poetry:

The poetic function of language has as its effect that when we read literature we become more aware of language than we are when we are confronted by language in its other functions. To introduce another term dear to the formalists, in literature language is "foregrounded." This, as Jakobson stresses, is the tendency of literature, much more fully recognised in poetry than it is in prose. In the everyday use of language it will seldom be practical and may even be found impolite to "foreground" language. Everyday language is usually informative and instrumental; there is no call for either the speaker/writer or hearer/reader to dwell on the form of what is said/written since if a piece of information has been successfully passed or some action successfully instigated, the words by which this has been managed can count as "transparent." With the poetic function comes a certain opacity, for the writer is no longer passing information nor seeking to instigate action. There may also come an intentional ambiguity." (Sturrock 1986, 109–110)

Defamiliarization

The poetic can offer more than simply enriched involvement. It can provide a complex experience, critical and subversive. The Russian formalist poets of the 1920s based their ideology on estrangement. According to Viktor Shklovsky, the movement's best-known exponent, the function of poetic art is to counteract the familiarization encouraged by routine modes of perception. We readily cease to "see" the world we live in, and become anaesthetized to its distinctive features.

Lebbeus Woods, an architect who has produced imaginary schemes (e.g., *Origins*) exploring this quality in building, refers to this strangeness as “objectivity,” meaning not an analytical state of mind but simply the appreciation of the objects as themselves, independent of the operations of the mind upon them.

The effect of strangeness, infusing an encounter with the unfamiliar and the unknown, was used by Bertolt Brecht to alienate the audience and make them aware that the institutions and social formulae they inherit are not eternal and natural but historical, man-made, and so capable of change through human action. He termed it the “A-Effect,” developing the conditions for informed appreciation rather than unthinking assimilation. And Theodore Adorno wrote that authentic art could only function to resist totalization if it was strange and unfamiliar.

Design as Text

Despite an interest in linguistics and texts, the Cranbrook work stopped short of realizing the full potential of the model of meaning it pursued. Rather than radical provocations, it produced beautiful, affirmative designs that were in literary terms structuralist rather than post-structuralist.

Daniel Weil’s work, on the other hand, shows what can be achieved if the notion of object as text is taken to its (apparently illogical) logical conclusion, echoing the “death of the author” in literature. His designs challenge the observer to participate in constructing their meaning, with their questions, interpretations, and criticisms becoming part of its meaning.

Weil’s designs could be defined as a “text” in Roland Barthes’ definition: a “space” of chains and layers of meaning between the object and the viewer, continuously expanding with no fixed origin or closure. When the boundaries of the work are demolished, the text opens out onto other texts. Barthes redefined “text” as a meta-linguistic mechanism that reorganizes the linguistic order, affecting the relationship between writing and reading. Writing and reading, the pre- and post-textual, are of equal value, and both writer and reader are required to exert an equal effort of imagination. Similarly, in the case of a design object as text, designer, and viewer play equal roles. This approach lends itself easily to electronic products, because their components can be freely arranged, unlike mechanical products where the arrangement of components is determined by technical constraints: “In Weil’s view the object has a conceptual story which the person owning it has to complete . . . his approach is heavily influenced by Duchamp’s conception of the ‘unfinished picture’ . . . for computer designers, as

for Duchamp, the focus of their work now is the process of use of computer systems . . . security is not the objective. He offers a degree of understanding of technology, but control and domination over it are not assured” (Thackara 1996a, 72).

Weil’s radios and clocks of the early 1980s are a good example of a research project exploring the aesthetic nature of electronic objects. Most products from this phase of his work seem transient and cheap. Thackara suggests this is an essential part of their nature, as their frailty reminds us of the delicate nature of our conceptual models too. They are objects about objects in the age of electronics, and they express our changing relationship to objects brought about by electronic technologies. They sometimes do this clearly, as in *Four Boxes and One Radio* (figure 2.10), a literal expression of the fact that all radios are packages in a box: the materials have little intrinsic value but acquire value through the authorship of the designer. At other times they do so more obscurely, as in *Small Door*, another design for a radio (figure 2.11). Weil’s designs are conceptual and open-ended, and they challenge the user or viewer to engage with them. In literary terms they are post-structuralist.

Like most experimental designs for electronic objects during the 1980s, though, Weil’s designs are reinterpretations of existing objects, primarily radios. Perhaps the radio is the electronic equivalent of the chair: a familiar and culturally rich object used by architects and designers as a vehicle to communicate new ideas. Although clocks and radios might seem trivial as technological objects, this is often the only level at which experimental electronic objects can be batch-produced without large investment. Ultimately, the radicalness of Weil’s objects lies in their novel imagery and his open-ended approach to meaning. But they still package technology as a visual sign.

Bypassing the Self

Whereas the apparent strangeness of Weil’s objects relates to linguistics and notions of the object as text, the architect Kei’ichi Irie and the computer artist Masaki Fujihata use technology to give strangeness to non-technological objects. They explore ways of incorporating technology into processes that bypass our desire to model reality in our own image. The resulting artifacts are sophisticated and subtle fusions of what is and what might be. They map the interface between the social consciousness of the individual designer and the collective scientific consciousness, the dominant ideology embodied within the operating systems of the computer.

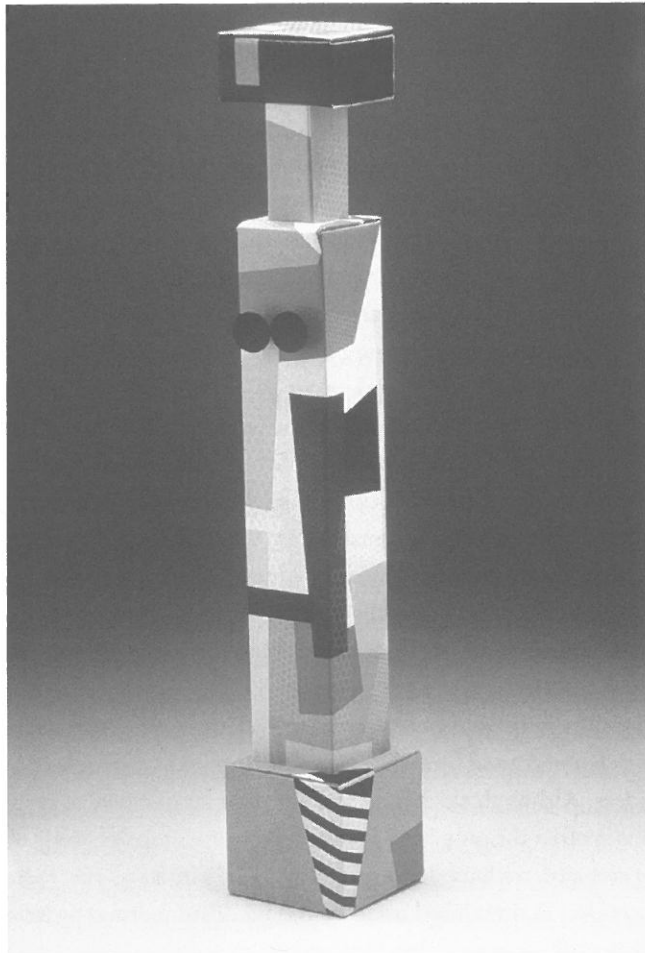


Figure 2.10 Daniel Weil's *Four Boxes and One Radio* (1983) is a literal expression of the fact that materials used in the design of cases for radios have little intrinsic value, but acquire value through the authorship of the designer.

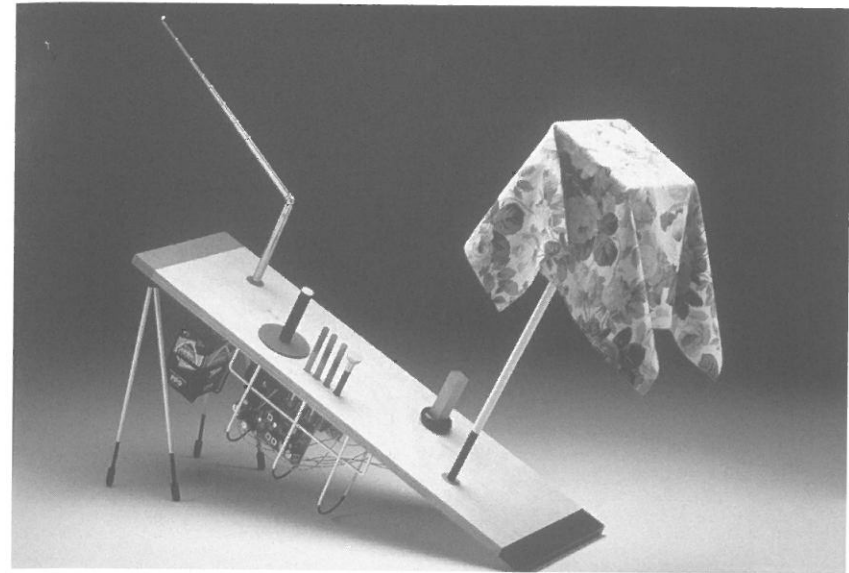


Figure 2.11 Daniel Weil's *Small Door* (1986) is more obscure. It challenges the viewer to participate in constructing its meaning. The viewer's questions, interpretations, and criticisms are part of the object's meaning.

As a designer operating in a media-saturated cultural sphere, Irie utilizes computer errors to escape making uncritical and unconscious use of existing cultural forms and conventions, and reproducing the ideology they encode. He considers designing to be autogenerative, made up of subroutines. For Irie, when anything is possible, design is no longer about necessity but becomes a play between subroutines, exploring what can be used rather than realizing an optimum fit. A valid decision may be made on a whim for, as with Weil, the experience of the work is partly what the viewer brings to it: "Even in my own house at Sangubashi, the meaning came from the programming. Which is to say, the elements and methods I employed may have dictated a 70s Tokyo house, but that filter aside, you can see it was just a program. The final form did not have to come out like that at all. If I had applied another filter—who knows?—a tile roof might have resulted" (Irie 1988, 8–9).

Irie's project for a chair (figure 2.12) experiments "with the interplay of noise and unadulterated parts." He first designed a computer program that generated different configurations for a chair with three legs and a seat. The structure of a practical chair is a main routine, but the program generates a host of variants,

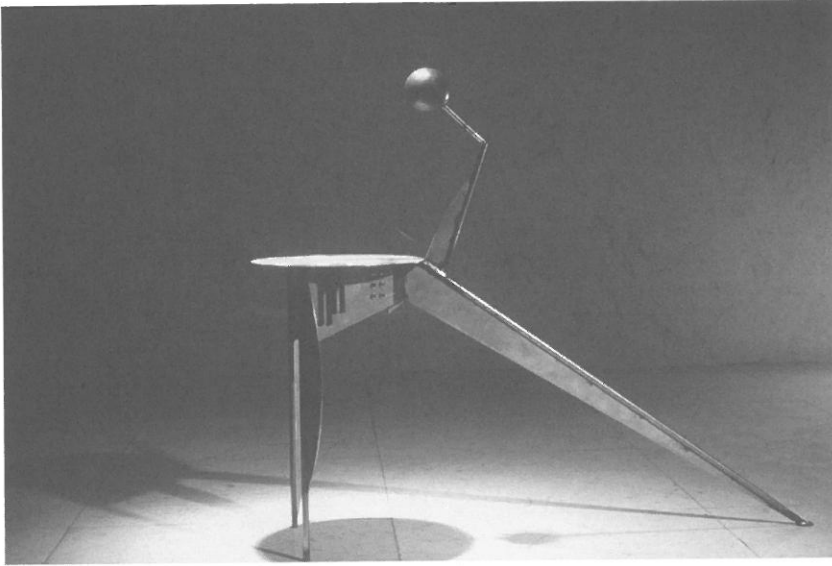


Figure 2.12 Kei'ichi Irie's *Lascaux Chair* (1988) began as a design for a computer program. The structure of a practical chair is a main routine; the program generates variants, splitting legs in two, twisting and stretching elements.

splitting legs into two, twisting and stretching elements. The designer simply edits, making selections and adjusting them to ensure they function as free-standing chairs. To Irie's delight, the addition of a number or two to the program can radically change the structure. He uses the computer as an extension of his consciousness: "My thought processes externalised in the form of a chair, which are in turn output as a terminal device 'chair.'"

Irie applied this thinking to his work as an industrial designer with a large housing manufacturer. In his view each company has a "guiding will" program or main routine. When one understands this program, it is possible to write "bugs" into it, generating objects that are neither the familiar output of large corporations nor the singular expression of the designer as author, but a new, technologically mediated collaboration between designer as virus and industry as program.

Fujihata (1991) responds to Tokyo's unique mixture of immaterial and material culture through an unconventional and conceptual form of industrial design. *Forbidden Fruits* realizes computer visions (figure 2.13), using a CAD system designed for industrial designers and linked to a model-making system.

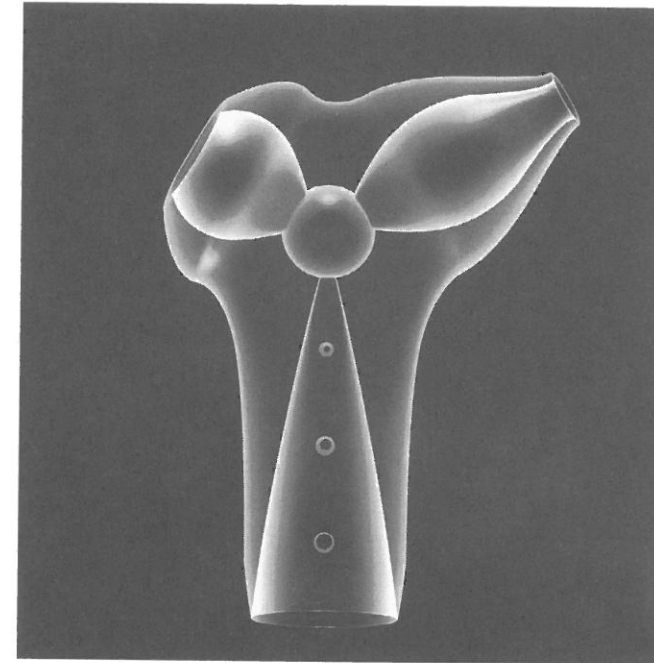


Figure 2.13 In *Forbidden Fruits* (1991), Masaki Fujihata regards these computer graphic images as "virtual fruit he is forbidden to hold."

An ultraviolet beam traces forms in a photosensitive resin that solidifies on contact with the light, creating translucent representations of computer data. His introduction claims that photography has generated a special "mental software" that is exploited by computer graphics. Interested in going beyond this to discover new potentials for computer graphics, Fujihata transports forms from the screen into the here and now, using a process very different from classical modes of making pictures and sculptures. He articulates data to edit form, using a tree structure to represent the process. On a whim, he returns to points, suddenly turning, constantly producing the tree map of his explorations from which grows "the virtual fruit he is forbidden to hold."³

Functional Estrangement

The objects Irie and Fujihata produce focus attention on the design process. They do not challenge the way we experience reality. To provide conditions where users can be provoked to reflect on their everyday experience of electronic

objects, it is necessary to go beyond forms of estrangement grounded in the visual and instead explore the aesthetics of use grounded in functionality, turning to a form of strangeness that lends the object a purposefulness. This engages the viewer or user very differently than the relatively arbitrary results of Irie or Fujihata, the crude interpretations and explanations offered through the well-mannered and facile metaphors of mainstream design, or the soft cybernetics of the human factors community. This strangeness is found in the category of “gadget” that includes antique scientific instruments and philosophical toys, objects that self-consciously embody theories and ideas.

The fit between ideas and things, particularly where an abstract idea dominates practicality, allows design to be a form of discourse, resulting in poetic inventions that, by challenging laws (physical, social, or political) rather than affirming them, take on a critical function. Such electronic objects would be conceptual tools operating through a language of functionality that is entangled in a web of cultural and social systems that go beyond appearance.

Although transparency might improve efficiency and performance, it limits the potential richness of our engagement with the emerging electronic environment and encourages unthinking assimilation of the ideologies embedded in electronic objects. Instead, the distance between ourselves and the environment of electronic objects might be “poeticized” to encourage skeptical sensitivity to the values and ideas this environment embodies. This could be done in a number of ways, of which the most promising is a form of functional estrangement: “para-functionality.” This quality, common to certain types of gadget, is the subject of the next chapter, which reviews projects and objects that work in this way and explores how para-functionality could be applied to electronic objects.

Para-functionality: The Aesthetics of Use

This chapter reviews projects from art, architecture, and design that exemplify the functional estrangement I call “para-functionality.” The term means here a form of design where function is used to encourage reflection on how electronic products condition our behavior. The prefix “para-” suggests that such design is within the realms of utility but attempts to go beyond conventional definitions of functionalism to include the poetic.

Eccentric Objects: Para-functionality and Non-design

Some naive, curious, or eccentric objects, outside the world of conventional design, unintentionally embody provocative or poetic qualities that most product designs, even those intended to provoke, seldom achieve. Although industrial designers play a part in designing instruments of death (weapons) and pleasure (sex aids) these extreme areas of material culture rarely enter design discourse. Yet Jack Kevorkian’s *Suicide Machine*, a powerful “unofficial” design that materializes complex issues of law, ethics, and self-determination, shows how an industrial invention can be a form of criticism (figure 3.1). Critical of a legal system that outlaws euthanasia, Kevorkian has his machine to overcome this. Its ambiguous status between prototype and product makes it more disturbing than pure artworks by blurring boundaries between the everydayness of industrial production and the fictional world of ideas. It suggests a role for design objects as discourse where functionality can be used to criticize the limits that products impose on our actions.

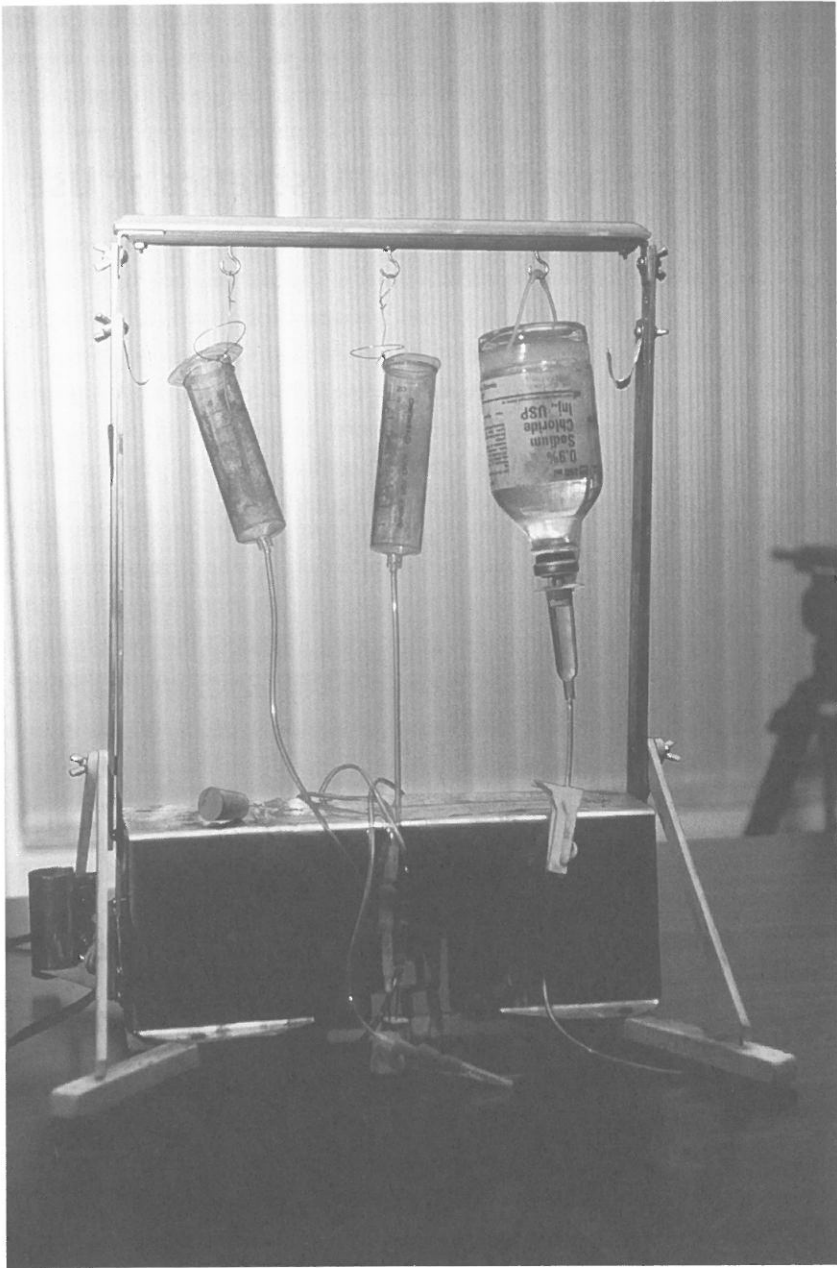


Figure 3.1 Jack Kevorkian's *Suicide Machine* is a powerful piece of "unofficial" design and shows how an industrial object can embody complex ideas through invention as a form of social criticism.

At the other extreme is the world of antique walking sticks. A drinking cane, designed for an alcohol merchant who must spend much of his time visiting the bars of his customers, discretely siphons off his drink while his host is not looking; a trigger later releases the drink into a gutter (figure 3.2). It satisfies etiquette and exploits the walking stick's inherent potential for connection to other objects and contexts: hand, bar, glass, and gutter.

Walking sticks that become a card table or seat (figures 3.3–3.4) show how simple portable props can transform architectural spaces. They conceptually colonize the functional possibilities of preexisting spaces. The user becomes a protagonist in a new narrative where a lobby or park becomes a casino.¹

A third device, used by detectives in the 1940s for protecting fingerprints on a steering wheel, is beautifully absurd and surreal (figure 3.5). Sigmund Freud (1996, 13) cites G. Heymans's explanation that a joke works through bewilderment succeeded by illumination. The word that is the vehicle of a joke often appears at first to be wrongly constructed, unintelligible, incomprehensible, or puzzling. In this double steering wheel a similar unintelligibility is evident: its comic effect is produced by solving this bewilderment by understanding its function. This is also the case with "Chindogu" (figure 3.6). Their individual elements are recognizable, but the reason for combining them is at first bewildering. The meaning behind the object is derived from "sense-fiction": the objects make functional sense, but are still useless.²

Forbidden Emotions: Para-functionality and Design

In a review of an exhibition of work by Intermediate Unit 3, *Objects in the Landscape*, at London's Architectural Association, Irie (1993) contrasts the "electronic devices essential to contemporary urban existence," the means whereby "information, entertainment and fantasy are promoted—and controlled," with the unit's "virus-like prototypes" that "invade and disrupt such networks, and propel minds and bodies into a hectically deregulated world of fragments—fragments of ideals, of illusions, of sensory impressions." The use of strange inventions by architects is not uncommon and, although they have lost much of their potency through overuse, their deployment in this instance as "bizarre monsters," designed to challenge the banal reality supported by consumer durables, emphasizes the need to identify how electronic products can offer alternative expressions of their own functional logic. In a field where "product design is thoroughly integrated in capitalist production, [and] bereft

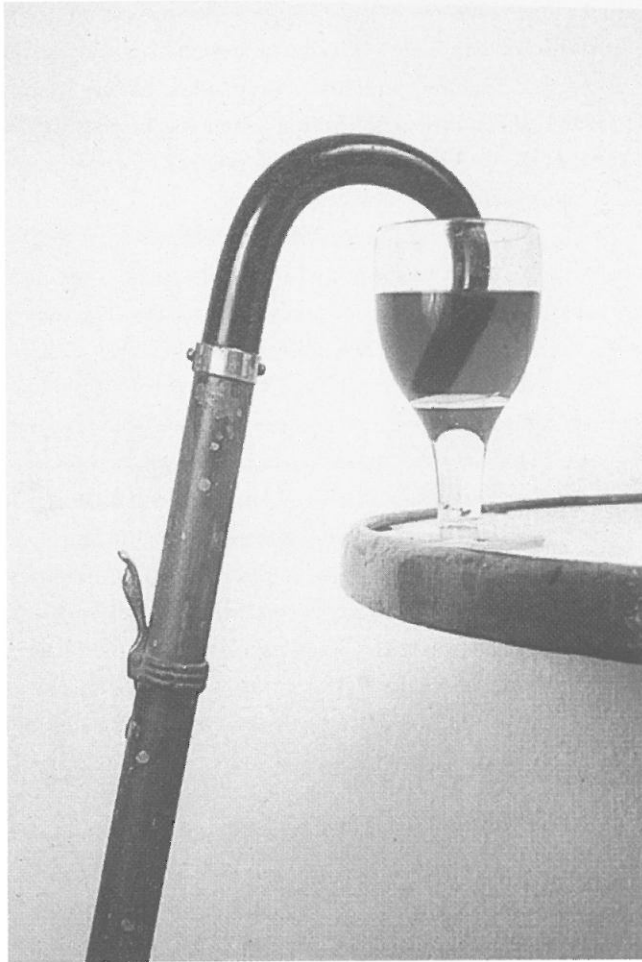


Figure 3.2 This drinking cane from the Saint-Etienne mail-order catalogue of 1910 operates in a context where etiquette assumes such importance that the object must be made to maintain it in a “socially dangerous” situation.



Figures 3.3–3.4 The table cane, patented in England in 1891, and the “low seat cane” are examples of how simple portable props can transform an architectural space.

of an independent critical tradition on which to base an alternative,”³ only a few designers use the function of products as criticism.

For example, Penny Sparke (1982) cites Gaetano Pesce: his “use of distortion and exaggeration [are] ‘absurd’ devices for commenting upon his observations. Rather than turning to alternative media, Pesce uses the language of design to make its own self-commentary” (52), but his objects do not incorporate functionality as a primary component (figure 3.7). When functionality does enter, it is often jokey and closer to the playful one-off multiples created by Fluxus. During the 1980s Denis Santachiara and Philip Garner developed approaches that merit a closer look. Santachiara, who developed a distinctive approach over many years, aims to raise the aesthetic quality of mass-produced everyday objects such

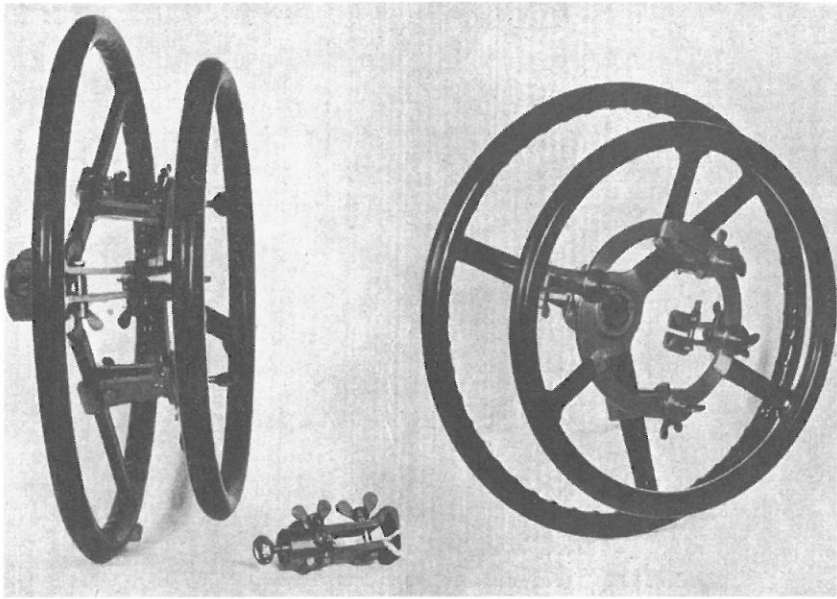


Figure 3.5 A steering wheel, used by detectives during the 1940s to drive recovered vehicles back to the police station without smudging the thief's fingerprints.

as domestic appliances by developing their possibilities of animation. This could be seen as little more than a desire to use technology to give objects a personality by making them more expressive and quirky (figure 3.8). But his concern is with an aesthetics of use which give objects a distinctive identity from the linguistics of construction and manufacture. Santachiara subverts technical knowledge, redirects it towards provocative ends, provides more than enriched interactivity, and raises the complex issues of what Baudrillard has called the "crisis of functionalism."

Baudrillard (1981) argues that the acceptance of functionalism as an arbitrary but dominant rationality gave rise to an irrational counter-discourse that moves between the two poles of kitsch and surrealism:

The surrealist object emerges at the same epoch as the functional object, as its derision and transgression. Although they are overtly dys- or para-functional, these phantasmic objects nevertheless presuppose—albeit in a contradictory sense—the advent of functionality as the universal moral law of the object, and the advent of this object itself, separated, autonomous and dedicated to the transparency of its function. When one ponders

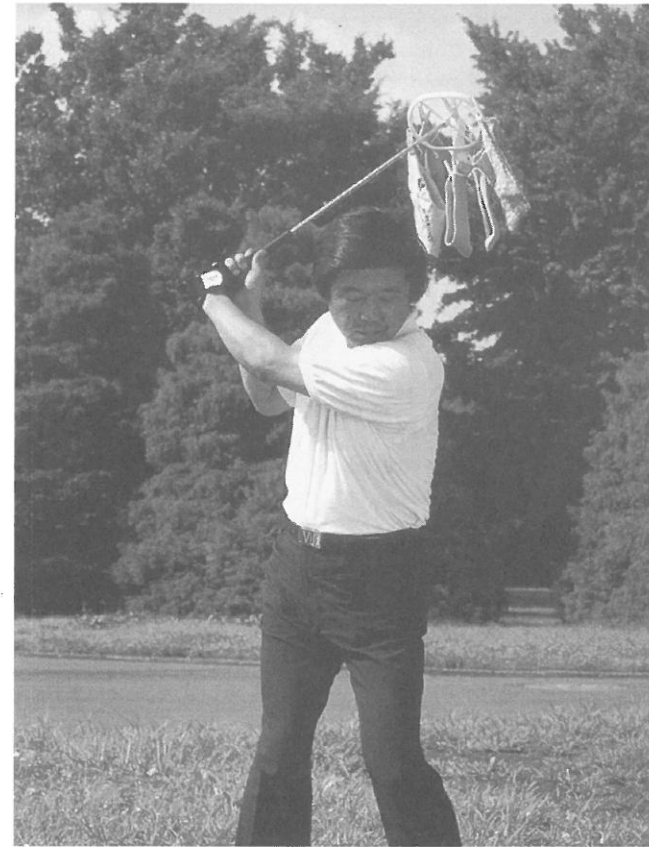


Figure 3.6 The individual elements of a "chindogu" are recognizable—in this case, a clothes dryer and golf club, but the reason for their combination is at first bewildering.

it, there is something unreal and almost surreal in the fact of reducing an object to its function: and it suffices to push this principle of functionality to the limit to make its absurdity emerge. This is evident in the case of the toaster, iron or "undiscoverable objects" of Carelman. (192–193)

Santachiara's work is often closer to kitsch than that of Garner, whose is closer to surrealism and the absurd. Garner's proposals for products are a form of industrial design that taps into the strange psychological and social narratives arising from the objects themselves and interaction with and through them in a consumer-oriented society. Although their overtly satirical and whimsical

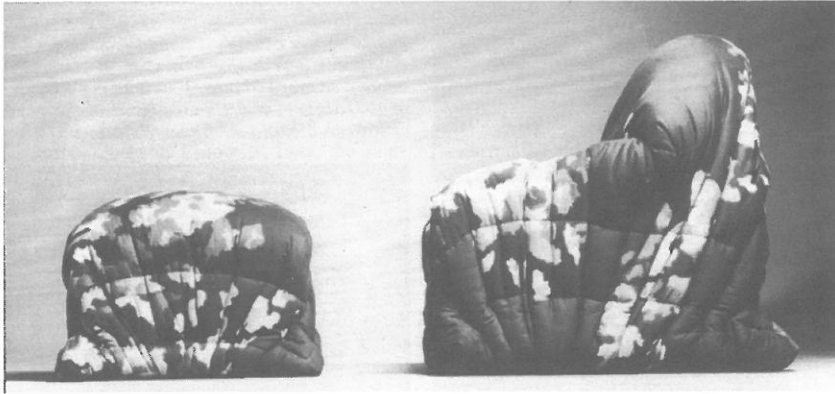


Figure 3.7 Gaetano Pesce's furniture for Cassina during the early 1960s uses the language of design to communicate his observation that people will always be alienated from objects as long as consumption is the primary reason for an object's existence.

character, often simply visual puns or jokes, undermines the viewer's suspension of disbelief (figure 3.9), they demonstrate the power of mock-ups, scenarios, and fictitious narrative over working prototypes as a way of presenting this kind of fiction. The success of both his books confirms that people understand and relate to the narrative behind the work without having to use the objects.

Santachiara and Garner operate within the realm of the gadget, the opposite of the well-designed object. The term "gadget" here denotes a curious, original and witty accessory of no real use, as opposed to the "gimmick," which is too transparent in its effort to impress and attract attention. Giulio Ceppi remarks that "probably the gadget has never been considered, by official design culture, as the result of a design effort, an industrial product capable of revealing interesting technical features or of influencing peoples behaviour" and that "the most important phenomenon caused by the gadget is, however, a psycho-behavioural factor: wonder. . . . The fact that wonder and surprise are two variables that rarely enter into the design of industrial objects has induced the development of a clandestine niche in which such forbidden emotions can be found" (Ceppi 1991, 15).

Heterotopian Gadgets: Para-functionality and Art Objects

For examples that explore the aesthetics of this "clandestine niche" of forbidden emotions it is necessary again to move away from industrial design, and begin

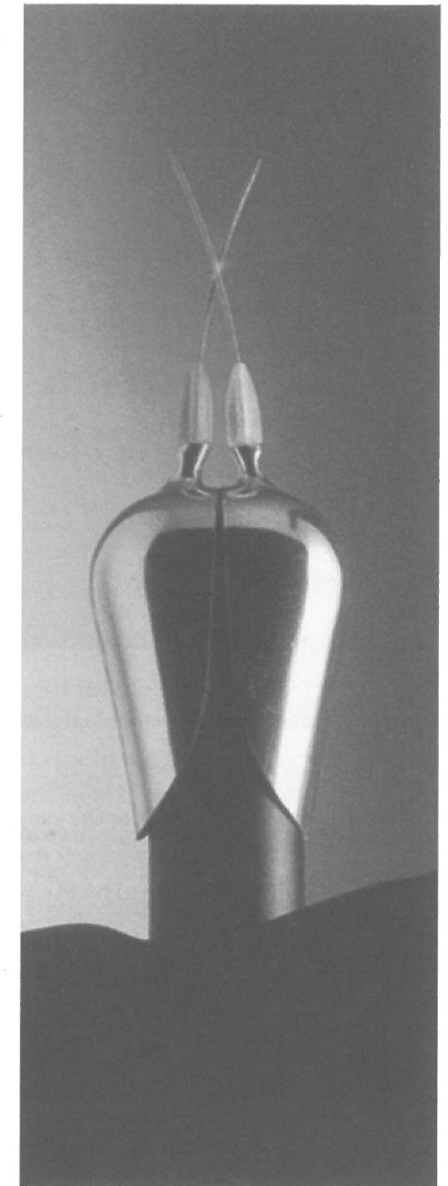


Figure 3.8 Denis Santachiara's *Portale* (1989), which sparks when it is passed through, is an example of his concern with an aesthetics of use where invention is used to give objects a distinctive identity that moves away from the linguistics of construction and manufacture.



Figure 3.9 Philip Garner's *Alienature* (1985) demonstrates the power of mock-ups, scenarios, and fictitious narrative over working prototypes as a way of presenting this kind of fiction.

with literature: not the gadget-ridden world of science fiction but a world where writing itself is a gadget in that it celebrates the workings of language. The heterotopia described by Michel Foucault (1970) illustrates what a literary gadget might be like:

Utopias afford consolation: although they have no real locality there is nevertheless a fantastic, untroubled region in which they are able to unfold; they open up cities with vast avenues, superbly planted gardens, countries where life is easy, even though the road to them is chimerical. Heterotopias are disturbing, probably because they destroy "syntax" in advance, and not only the syntax which causes words and things (next to and also one another) to "hold together." This is why utopias permit fables and discourse: they run with the very grain of language and are part of the fundamental dimension of the fabulous; heterotopias (such as those found so often in Borges) desiccate speech, stop words in their tracks, contest the very possibility of grammar at its source; they dissolve our myths and sterilise the lyricism of our sentences. (xv–xvii)

David Porush (1985) uses terminology that invites comparison between the poetics of real machines and strange inventions, and literary gadgets: "[Samuel Beckett's] *Lost Ones* is a palpable fiction which, even as its inventor attempts to complete the blueprint, collapses into impossible meaninglessness, self-contradiction, and absurdity. The fallibility of the cylinder machine lies in the fact it is constructed in words; the author's attempt to describe it precisely becomes an exercise in the futility of trying to describe anything using language" (161).

Beckett uses two kinds of language, a precise technical/mathematical one, and a language of "failure, probability and doubt." These two rhetorics are at odds with each other and their weaving together provides the qualities of this text, "an allegorical world of pure fiction" about the "perception of the mute resistance of worldly objects to our vain and inappropriate attempts to attach names to them." Paul Klee seems to have incorporated this sensibility into his drawings: for example, *The Twittering Machine* (figure 3.10), where a strange device hovers in the imaginary space of the drawing, suggests a realm where machines do not simply mirror rationality through nonsensical functions but embody alternative physical laws to ours, like Marcel Duchamp's "Large Glass" and the "Pataphysics" of Alfred Jarry.

What happens when this sensibility moves from the page and canvas to become part of everyday space? The sculptor Panamarenko is interesting in this respect as his machines embody the same ambiguity as the literary and painterly gadgets of Beckett and Klee. Whereas artists like Jean Tinguely have constructed useless machines that comically mirror rationality, Panamarenko's objects rarely work (figure 3.11), provoking the viewer to think about the nature of invention and the desires that motivate it. They are about flight, desire, the limits of knowledge, and the transition from wondering and dreaming to the dull reality of realization. By denying that last step and conventional practice, they hover successfully between the imaginary and the real. His scientific theories on flight also highlight the fictional nature of scientific knowledge and blur the boundaries between words and things.

The inventor-artist Steven Pippin meditates on photography. He coats with photographic chemicals the interior surfaces of everyday objects like washing machines, toilets, and bath tubs, turning them into cameras. His ingenious experiments interweave the host object's original functionality with that of a camera, resulting in objects that occupy a difficult conceptual space outside the usual polarization of functionalism and surrealism. They do produce sense, and we understand them, but it is hard to say what exactly we understand about them.

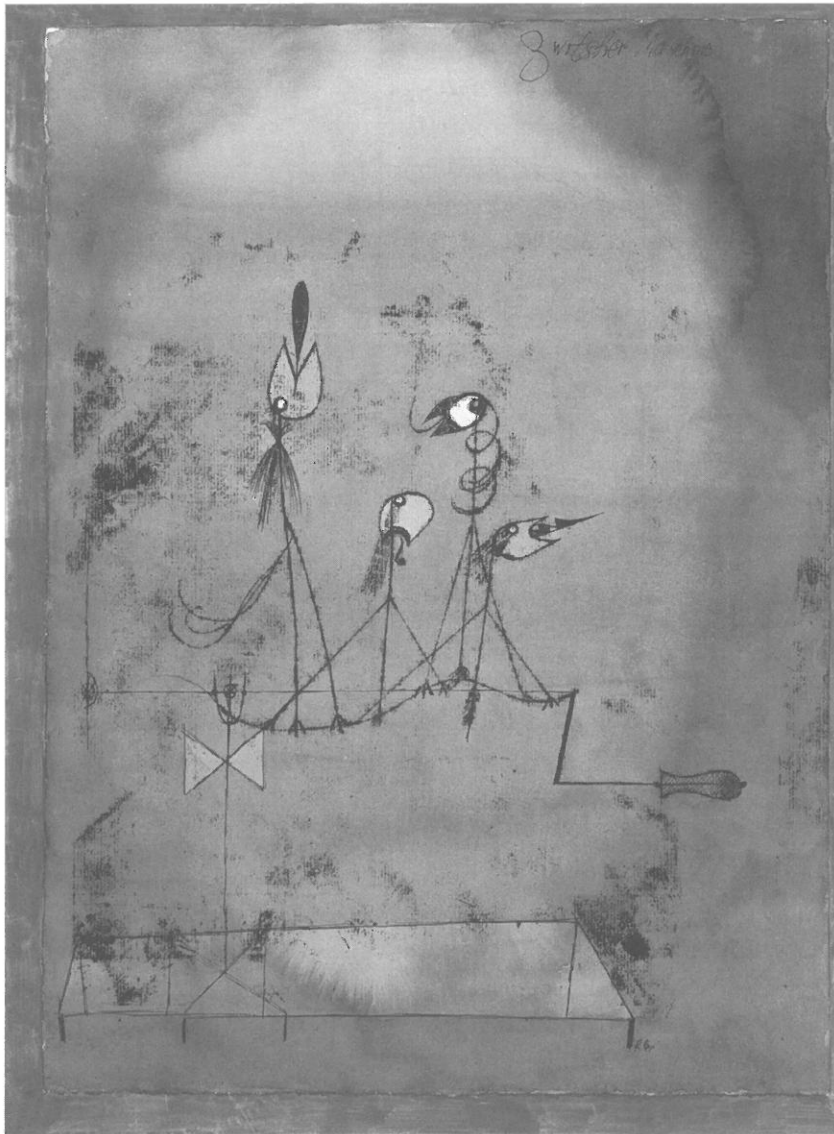


Figure 3.10 Paul Klee's *The Twittering Machine* (1922) shows a strange device hovering in the imaginary space of the drawing, suggesting a realm where machines do not simply mirror rationality through nonsensical functions. Paul Klee, *The Twittering Machine* (1922). Copyright DACS 1999.

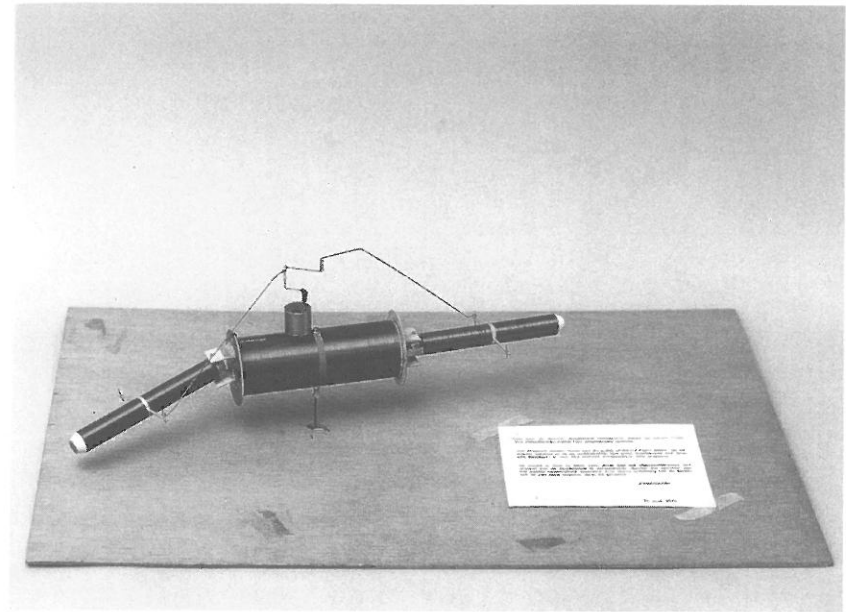


Figure 3.11 Panamarenko's *Voyage to the Stars* (1979), like many of his other pieces, does not actually work. This provokes the viewer to think about the nature of invention and the desires that motivate it.

They differ from the symbolic machines and devices of Rebecca Horn, where things do what we expect but the company they keep surprises. Pippin creates conceptual gadgets that render useless our expectation of what things ought to do; they turn knowledge itself into a gadget and allow us to catch glimpses of how knowledge works and wonder at its beautiful but useless mechanisms.

The objects produced by the inventor-artist Philippe Ramette occupy a different part of the space between ideas and things. They resemble in atmosphere the design proposals of Philip Garner but are less ironical in their straightforward presentation of function through the nostalgic language of antique scientific instruments. Meyer Rubinstein (1993) describes them as “prostheses of the spirit” (100), aids to thought and contemplation. As with many of the objects described in this chapter, the emphasis on functionality focuses the viewer's attention on the space between the experience of looking at the work and the prospect of using it. Here the emphasis is on the body and its relationship through the senses to the space that contains it. Although fully working, many of Ramette's objects cannot be used because they can hurt or worse: for example,



Figure 3.12 The emphasis placed on functionality in Philippe Ramette's *Object with Which to See the World in Detail* (1990) focuses the viewer's attention on the space between the experience of looking at the work and the prospect of using it.

Object to Make Yourself Be Struck by Lightning, or *Intolerable Object* whose lens focuses sunlight onto the top of the head. But not all his objects are threatening. In a world of artificial objects shaped almost entirely by functionalism, devices like an *Object with Which to See the World in Detail* do not attempt to escape the dictates of functionalism but instead work from within, extending it to include the poetic and playfully subversive (figure 3.12).

Social Fictions: Para-functionality and Criticism

Although often threatening, Ramette's objects do not shock. Their critical content is hidden beneath the poetry of construction and the humorous appreciation of their function. But the work of the artist Andrea Zittel shocks by using the familiar contexts of the home, and of the system of production and consumption, to concretize alternative values that are outside notions of the future or past but sit uncomfortably alongside "now." They suggest that the way things are may not be the only possibility. They initiate a questioning and awareness that helps unravel the "one-dimensionality" that characterizes present times and maintains "the impossibility of the possible."⁴ Zittel's *Comfort Units* suggests an



Figure 3.13 Andrea Zittel's *Comfort Units* (1994) suggests an unusual way of thinking about the role of furniture. Her emphasis shifts from issues of style and image to their psychological use as tools for inhabitation.

unusual way of thinking about the role of furniture (figure 3.13). Her emphasis shifts from style and image to their psychological use as tools for inhabitation. By clearly favoring the manifestation and fusion of particular functional possibilities over others they remind us, through an extreme but credible form of functional reductionism, of our dependence on objects for developing new behaviors. In her work it is never quite clear whether her positive-reinforcement prototypes reflect a genuine belief that this is what we need, or are an ironical play on modernism.

The architects Kenneth Kaplan and Ted Krueger (K/K Research and Development) leave no doubt about the status of their assemblages of found machine parts (figure 3.14) as ironic "analogues" for architectural ideas. Although their writing is polemical their use of objects to attract the attention of the audience,

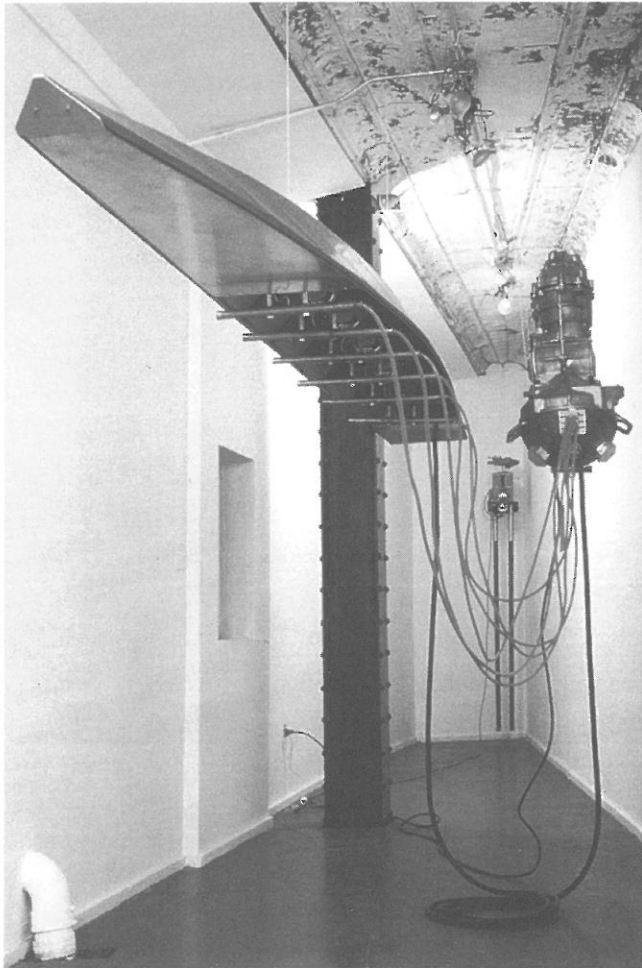


Figure 3.14 K/K Research and Development's *Bureau-dicto* (1989) is an ironic "analogue" for architectural ideas consisting of an assemblage of found machine parts.

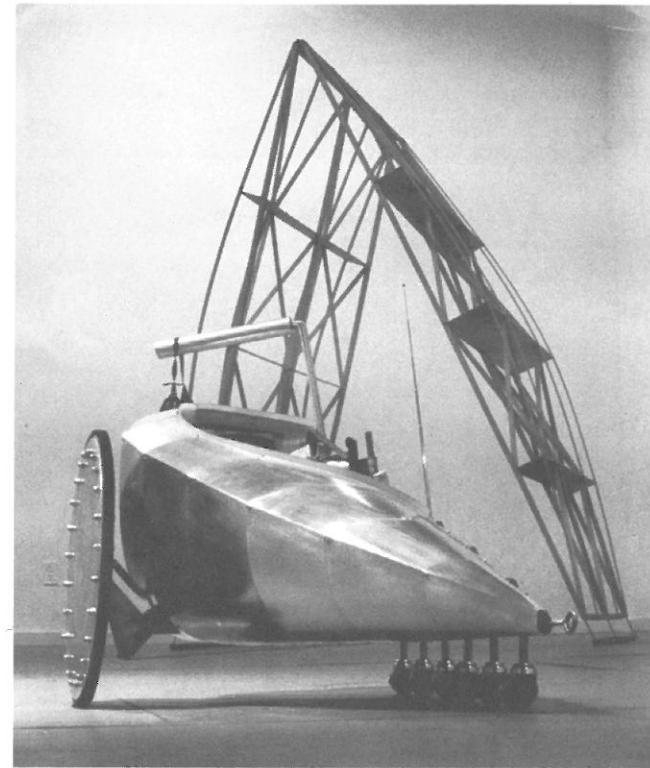


Figure 3.15 K/K Research and Development's *Crib-batic* (1986) is a prototype for a push-chair made from steel (they felt children needed to be exposed to hard materials from an early age). It was equipped with measuring equipment so that the child might interact with the environment on the go.

before it is seduced by their usually written political narrative, reduces the objects to dumb props. Their *Crib-batic* project (with Christopher Scholz), however, is an exception (figure 3.15). A prototype for a child's push-chair made from steel (they felt children needed to be exposed to hard materials from an early age), it was equipped with measuring equipment so that the child might interact with the environment on the go. This piece is more powerful than their more obtuse architectural analogues, because it is possible to imagine what it would mean for such thinking to enter everyday life through similar objects. It moves beyond implied functionality and appearances to use function to draw attention to the role objects play in conditioning our responses to the environment.

Another architectural practice, Diller + Scofidio, designs and builds architectural gadgets that work on a critical level. *Para-Site*, an architectural exploration of the impact of electronic media on architectural space, is relevant here because of the equal importance it gives to electronic and conventional media. Electronic objects such as televisions and video cameras are not repackaged or redesigned but integrated into new hybrid objects (figure 3.16), transforming these boring and familiar devices into an architectural intervention. Diller + Scofidio deploy technology intelligently, using it to reveal, enable, and criticize, intervening in not only the abstract space of the building but also its social and practical use.

Para-Site is one of many critical interventions in public spaces by architects and artists. One of the best known is Krzysztof Wodiczko's large-scale projections onto public buildings. He has written: "My socio-aesthetic research and experiences deal with 'strategies' for making public art critical, non-official art." He studied in the graduate program of industrial design at the Akademia Sztuk Pięknych in Warsaw under a former collaborator of Le Corbusier, Jerzy Soltan, who advocated a "(post)-avant-garde" strategy of critical engagement with and infiltration of, the institutional structures of industry and culture. After graduating he worked in Warsaw as an industrial designer for UNITRA, a manufacturer of electronic products. One of his first pieces of art was done in 1969 while still an industrial designer there: *Personal Instrument*³ (figure 3.17). He was assisted in this by technicians from the Experimental Music Studio in Warsaw:

- The instrument transforms the sounds of the environment.
- The instrument functions in response to hand movements.
- The instrument reacts to sunlight.
- The instrument is portable.
- The instrument can be used any place and any time.
- The instrument is for the exclusive use of the artist who created it.
- The instrument permits him to attain virtuosity. (Wodiczko 1992, 76)

Wodiczko has said that "the instrument's magic silence is its socio-political message." Although private, it depends on a public space as a source of sound, and so that others can gaze at it and imagine how it works. According to Wodiczko, "It was a way to shape a metaphor for the limits to the freedom of the individual Pole, to the ways he could exercise this freedom, and to his power in



Figure 3.16 Diller + Scofidio's *Para-Site* (1989), an architectural exploration of the impact of electronic media on architectural space, gives equal importance to electronic and conventional media. Electronic objects such as TVs and video cameras are not repackaged or redesigned, but are integrated into new hybrid objects.

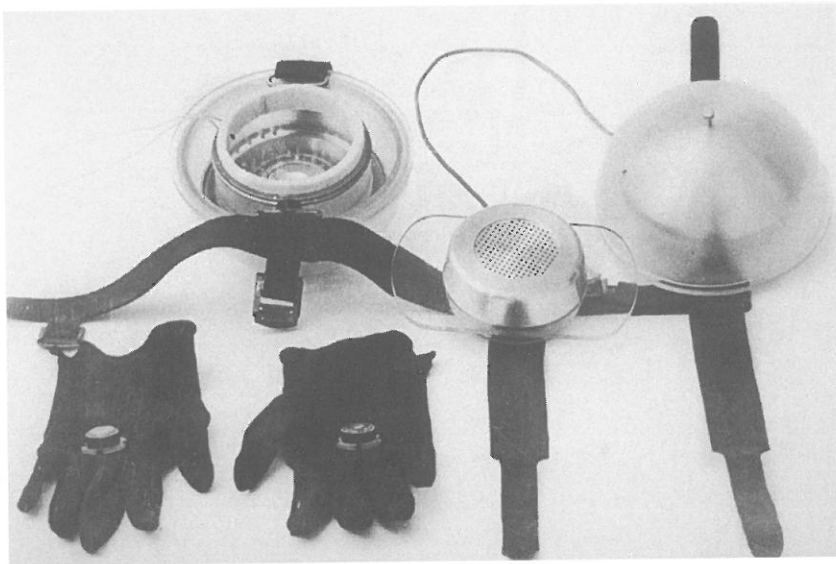


Figure 3.17 Krzysztof Wodiczko's *Personal Instrument* (1969), although private, depends on a public space as a source of sound, and so that others can gaze at it and imagine how it works.

relation to public spaces." It was not designed for mass production nor even for a limited edition "and yet it was intended for the whole world as a metaphor for community life and the nature of public spaces in Poland":

My personal instrument proved to be the point of departure for all my public works. It was my first attempt to provide a metaphorical definition of man's position as a "citizen" of a dominated public space. It was also the first time I attempted to hint at the "strategy" of taking words and using space as medium in which to speak them, even though the right to use a private voice in space that was totally "socialized" (politicized) by the government was utterly nonexistent. I proposed the technique of speaking silently, reticently or by grotesquely exhaling silence." (Wodiczko 1992, 71)

Wodiczko's public projections and homeless vehicles continue this research (figure 3.18). A lesser-known object, *Alien Staff*, shows how industrial design, through conceiving new functions and their configuration as "accessible" products, can function critically. The staff houses a small LCD television, while a small video player, a CB radio or walkie-talkie, and batteries are in a shoulder



Figure 3.18 One of Krzysztof Wodiczko's *Homeless Vehicles* (1988–1989).

bag. The small size of the display, its position at eye level, and its proximity to the alien's face are all important. Once somebody has been attracted, a relationship is perceived between the face within the screen and the actual face of the alien, conceptual barriers are destabilized, and real communication may begin: "It is an instrument that gives the individual immigrant a chance to 'address' directly anyone in the city who may be attracted by the symbolic form of the equipment and the character of the 'broadcast' program" (Wodiczko 1992, 303).

Wodiczko's designs show how simple electronic technologies can challenge preconceptions, but are at the margins of design. Although I see them as design proposals not artworks it seems that, to hold a design view where electronic objects function as criticism, one must move closer to the world of fine art because the design profession finds it difficult to accommodate such research. Objects such as *Personal Instrument* and *Alien Staff*, with their use of simple electronics and their emphasis on invention and social and cultural content, are rare examples of how product design and the electronic object can fuse into critical design.

Hertzian Pathologies: Para-functionality and Electronic Objects

People like to play lotto and people like to use the ATM. Why don't you make it an option in the ATM to say put your money in and say, I'll bet a little bit and see if I can get a little more out, so you ask for twenty dollars, and you push the button, and you could get twenty-five or you could get fifteen.

—JEFF KIPNIS, "ATM COMPETITION"

Another zone of activity outside that of even the exiled designer is "anonymous design," where alternative conceptual models already find expression through electronic artifacts. "Pathological" gadgets are examples of life outside the normal conception of reality; they are design fictions, deviations, and failures and help to maintain the "impossibility of the possible."

Many of these devices concern communication. Most communication technology is oriented toward the individual; it cannot yet support or even encourage more complex social situations. It is point-to-point, one-to-one, not place-to-place. Yet most of this narrow form of communication takes place within that vast field of telematic possibility, the electromagnetic spectrum. The tools and devices limit the possibilities, not the medium. Ironically, many of the more interesting possibilities can be found in "pathological" products based on paranoia and suspicion. Many are designed to "open up" one-to-one channels, transforming private situations into public ones. Scanners, bugs, and detectors illegally "socialize" the world of private telematics. For example, scanners have tuned into wireless baby intercoms enabling "recreational voyeurs" to listen into intimate bedroom conversation.

The radio scanner⁶ hovers at the limits of legality (figure 3.19). In the United Kingdom it is legal to make and sell it but, like many pieces of surveillance equipment, not to use it for eavesdropping. It draws attention to what DeLanda has termed the "policing of the spectrum," not a public space but a highly policed and militarized state space. It is one thing to be prosecuted for eavesdropping but, if the information is passed on to a third party and worse, sold, it becomes a serious offense. If sensitive frequencies are found stored in the memory, the owner is likely to be prosecuted. That the radio scanner is a powerful object, entangled with the social and legal systems of society, has been recognized by the artist and musician Robin Rimbaud, alias Scanner: "To Scanner, the world of the personal phone call—an easily tapped medium, especially if you've been building your own radio sets since your teens—represents a far more honest



Figure 3.19 The scanner is an example of a "pathological product" based on suspicion and paranoia designed to open up one-to-one channels, transforming private situations into public ones.

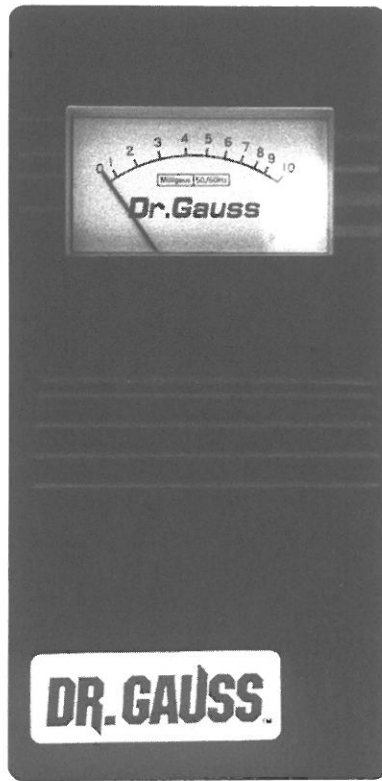


Figure 3.20 The Dr. Gauss EMF detector allows the owner to gather information about the presence of harmful electromagnetic fields so that a complaint can be made.

depiction of the world than the outpourings of televised reality. And Scanner's records, packed with a huge collection of telephone 'normality,' are, in turn, far more real and disturbing than any arty fabrication of reality" (King, n.d., 136). The radio scanner enables new urban maps to be made, revealing normally hidden structures of the visible and conventional. The scanner is a meta-radio: it transcends the many categories of radio incorporated into commodities, highlighting their commonality as parts of an electromagnetic spectrum.

The Dr. Gauss EMF detector is one step further up the evolutionary ladder of gadgets (figure 3.20), a low-cost version of a usually expensive piece of equipment, used to measure the magnetic component of possibly harmful electromagnetic fields in the home. The device is simply a black box, but the act of using it reveals its conceptual power: when it picks up a field it screams, rising in pitch with the strength of the field.

Objects like this allow us to develop new conceptual models about our environment, helping us to see invisible structures and patterns. They often occupy the cultural wasteland of in-flight magazines, Sunday supplements and specialist shops, where alternative world views embodied as material reality exist as a nonserious and marginal phenomena. But in showrooms they become vital alternatives to art works and galleries. Whereas people step out of ordinary life into an art gallery, the contents of showrooms relate directly to everyday life in the mind of the window shopper.

Between Rationality and Reality

The most effective examples in this chapter function as test pieces that, through their marginalization, make visible the barriers limiting poetic experience in everyday life. The apparent unusability of many of these objects creates a heightened sense of "distance." This can be because the objects do not work technically or, because they are conceptually difficult to assimilate. To see that they are usable is to acknowledge that existing notions of functionality have been extended, a result of imagining uses for these objects. They challenge the impossibility of the possible. It is not enough to look and decode their visual iconography: they must be used. Through use, or at least by modeling a scenario of use in the mind, the observer discovers new ways of conceptualizing reality. They dismantle conceptual models that limit the way we use artifactual reality to extend our scope for action. They challenge how we think about extensions to our "selves" in ways that do not simply magnify but, rather, transform our perception and consciousness of our relation to our environment.

They share no coherent theory. They are simply stories, but stories that allow complex interactions between reality and imagination. Driven by poetry, imagination, and intuition rather than reason and logic, they have their own rationality, an alternative to our everyday scientific-industrial rationality. These are stories about the space between rationality and reality, which in an industrial society have come to be synonymous. When these props are introduced into everyday life as a "virus," subverting it, people can participate in the story, exploring the boundaries between what is and what might be. This is the role of the para-functional as criticism.

By imagining the object in use, we become lost in a space between desire and determinism. Within this space lies the bizarre world of the "infra-ordinary," the subject of the next chapter, which reviews a number of projects in relation to behavior and narrative.