HERTZIAN TALES

Illustrations

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THE ELECTRONIC AS POST-OPTIMAL OBJECT

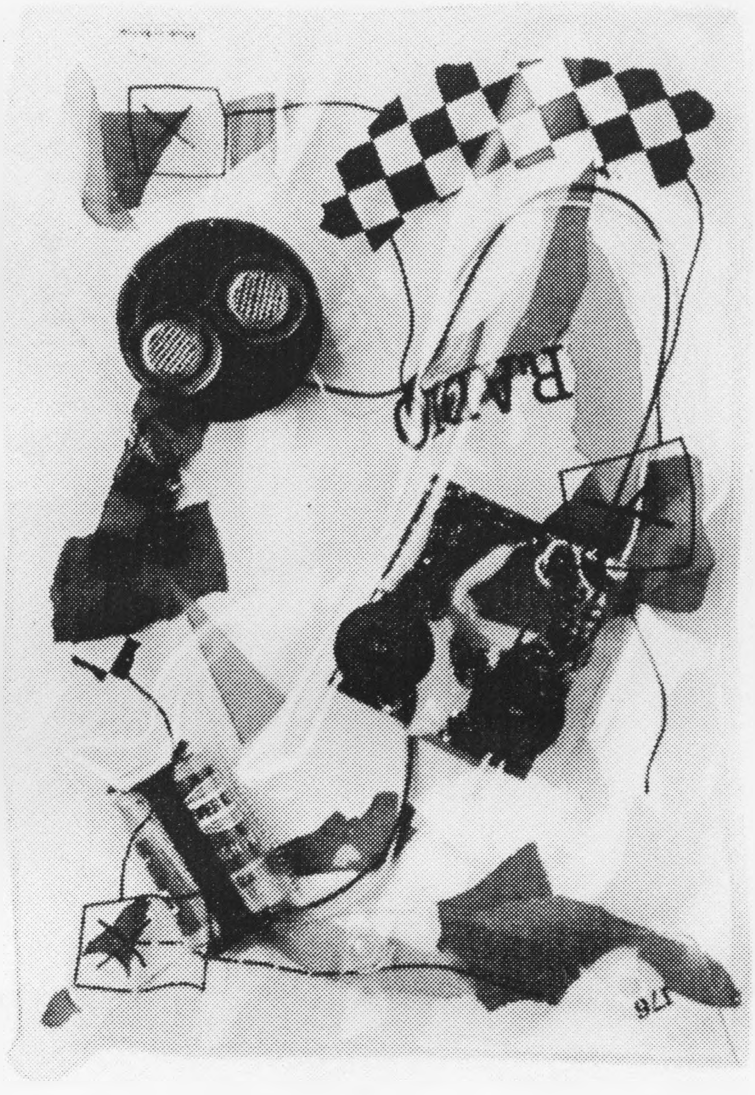
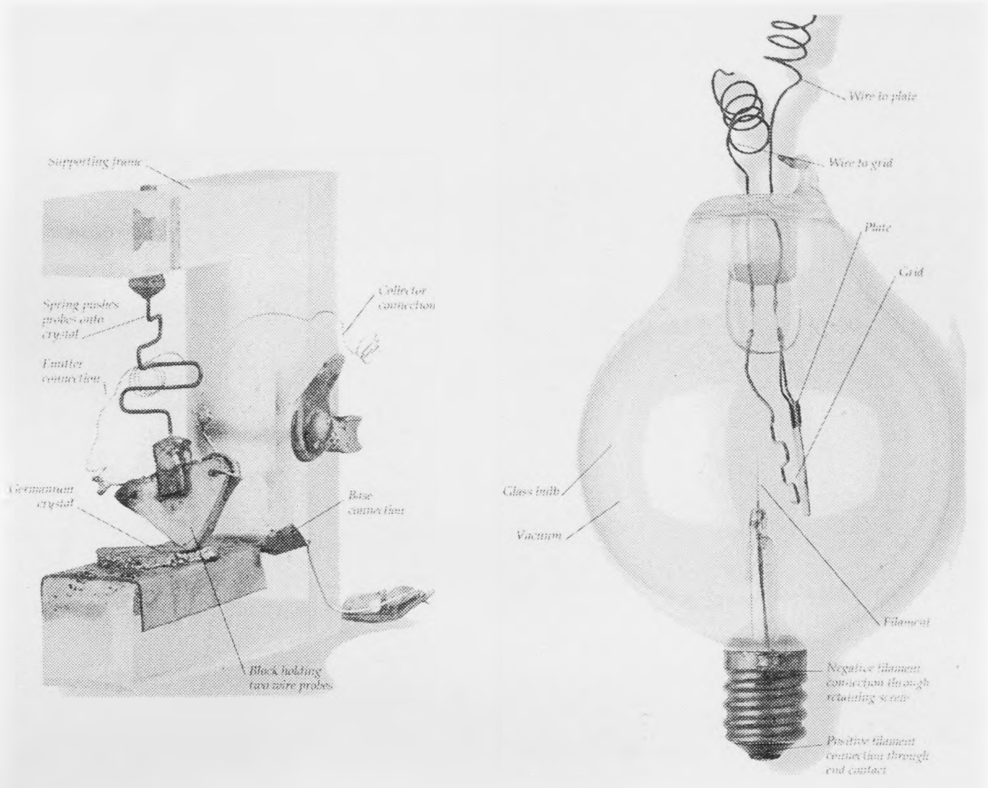


Fig.2.1 Daniel Weil's 'Radio in a Bag' of 1983 takes the idea of the designer's role as a packager of technology to the extreme. The design seeks to demystify the electronic object by exposing its components. On one level the electronics provide a form of decoration, on another their exposure signals a nonchalance towards technology.



Figs. 2.2-3 The 'First Transistor' and the 'Audion Valve' are test-rigs for key electronic components created by inventors who work at the level of both electrons and matter. They organise matter as interacting volumes of electrons. They offer an interesting possibility for reconciling the scales that separate the worlds of electrons and space.

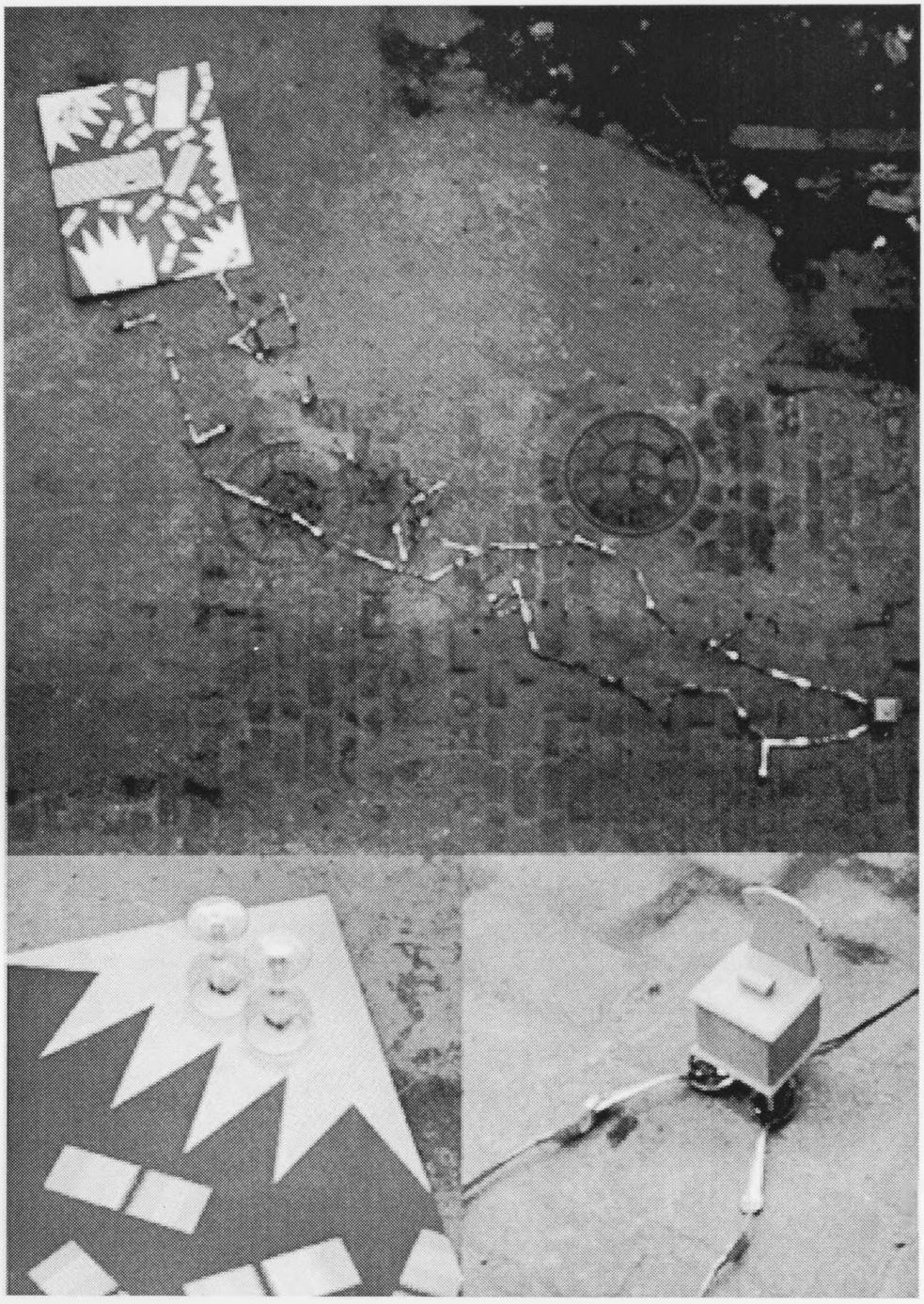


Fig. 2.4 Daniel Weil's clock of 1986 is partly a reaction against miniaturisation. Its size is based on the largest circuit boards available in the early 1980s. The circuit is designed as a visual composition and the wires linking the two main components are made from dining forks. Familiar objects are put into new but natural relationships based on their electrical properties.

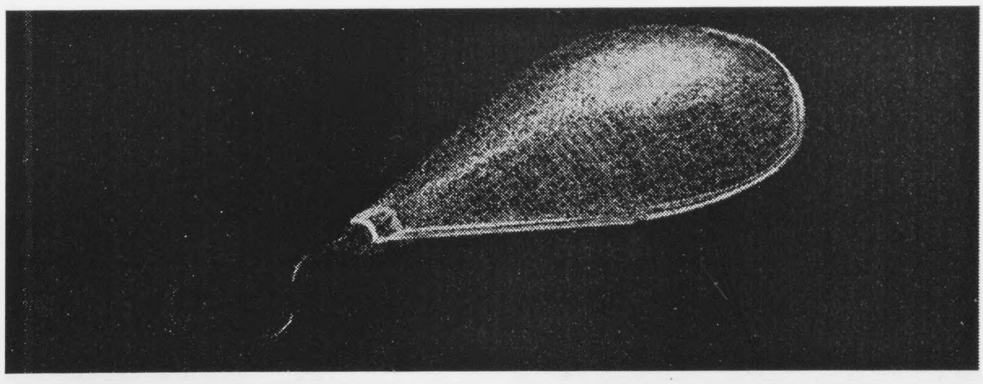


Fig. 2.5 Alberto Meda and Denis Santachiara's 'Stroke Lamp' of 1986 hints at the new relationships between people and machines made possible through new reactive materials. It is controlled by stroking the surface, made from an insulating plastic with a copper circuit deposited on it by a photochemical process similar to that used for printed circuits.

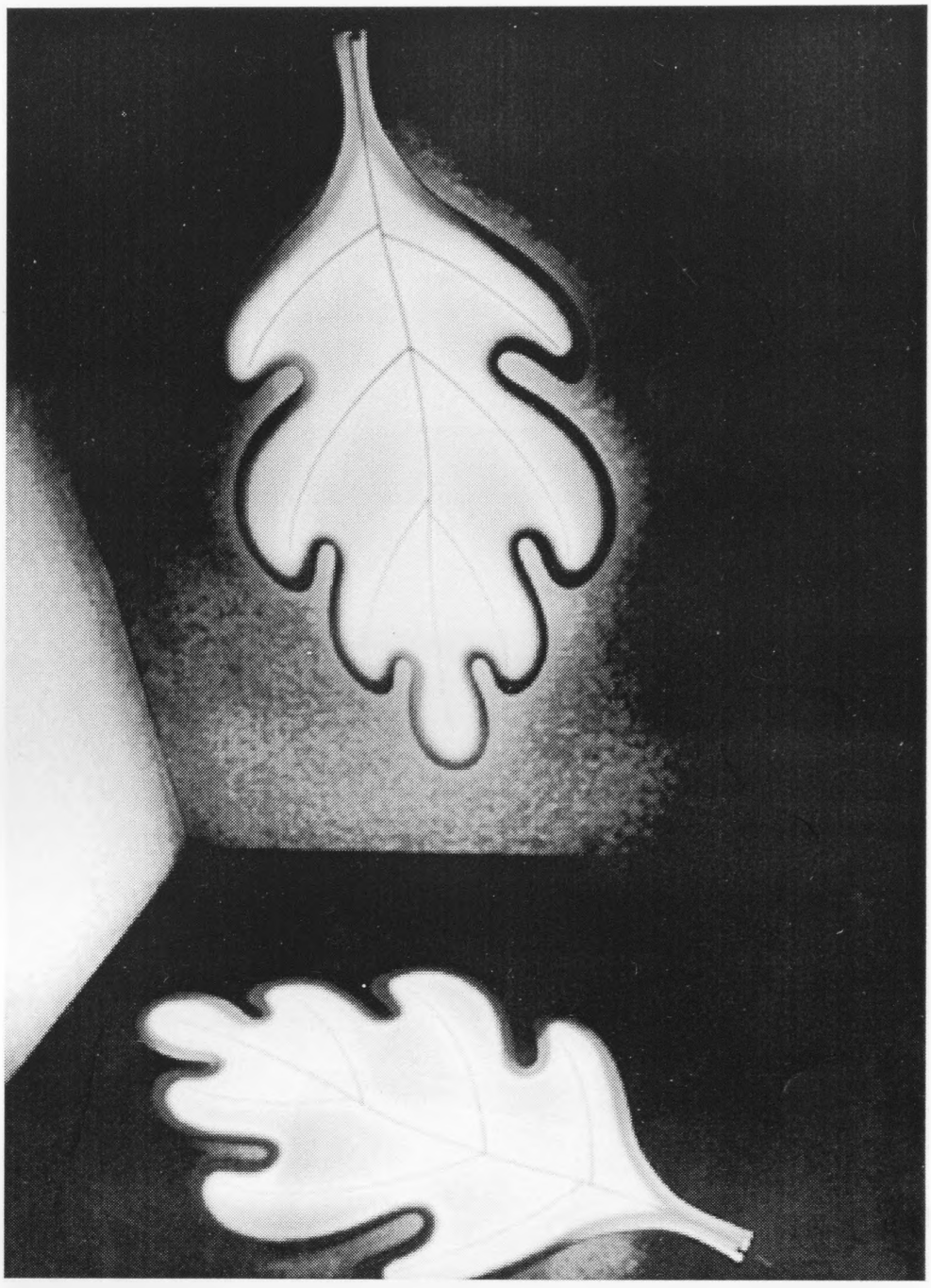


Fig. 2.6 Most designers seem unable to exploit the aesthetic dimension of new materials such as electroluminescent laminates in the same way engineers exploit their new functional possibilities. Andrea Branzi's 'Leaf' light of 1988 for Memphis is a rare example of an application of advanced electrochemical materials for cultural rather than functional innovation.

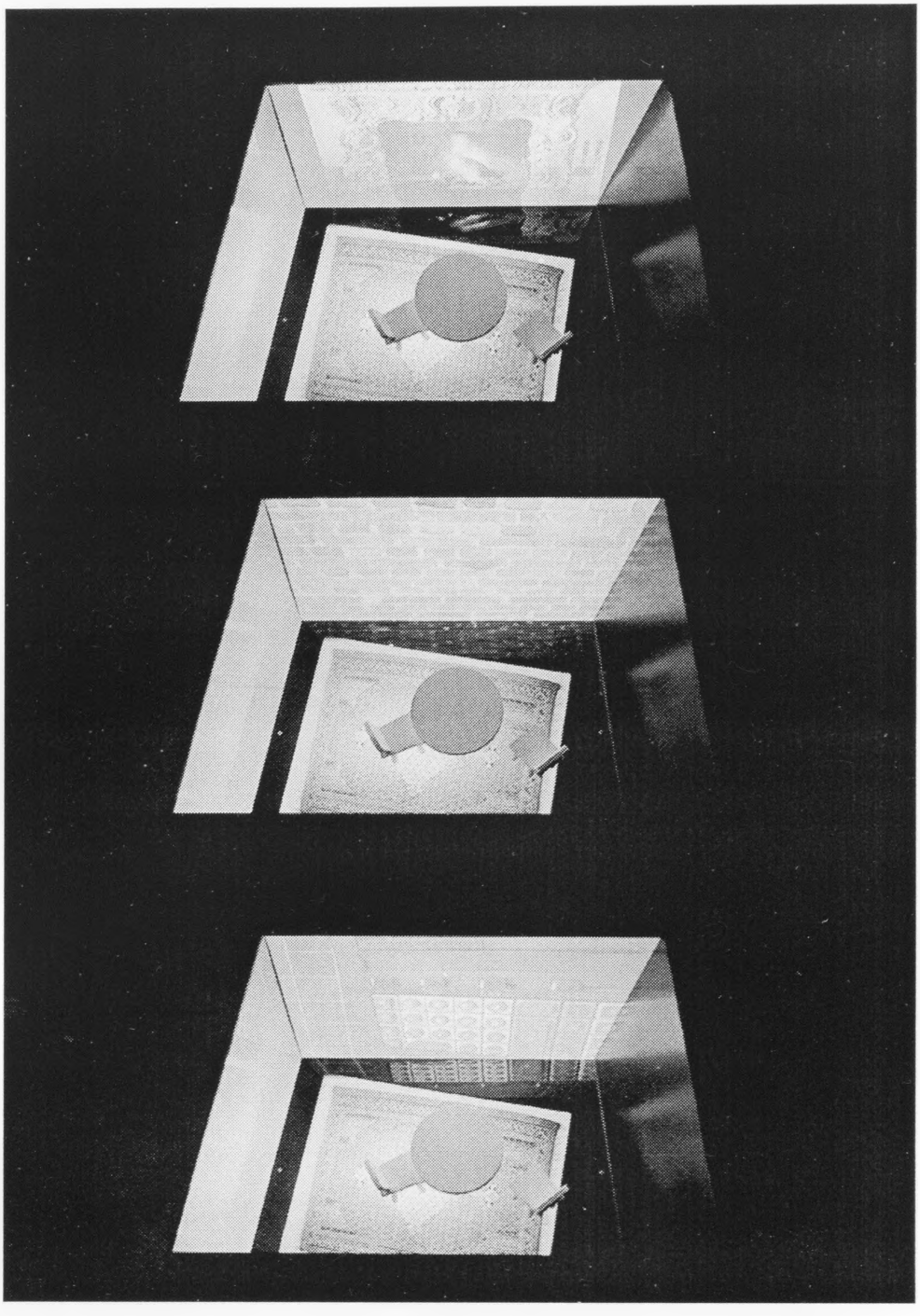


Fig. 2.7 The design group Kunstflug's 'The Electronic Room: Programmable Appearances - Surfaces, Appliances, Comfort' for the 'Design Today' exhibition held at the German Museum of Architecture in 1988 reinforces stereotypical approaches to the impact of electronics on architectural spaces.

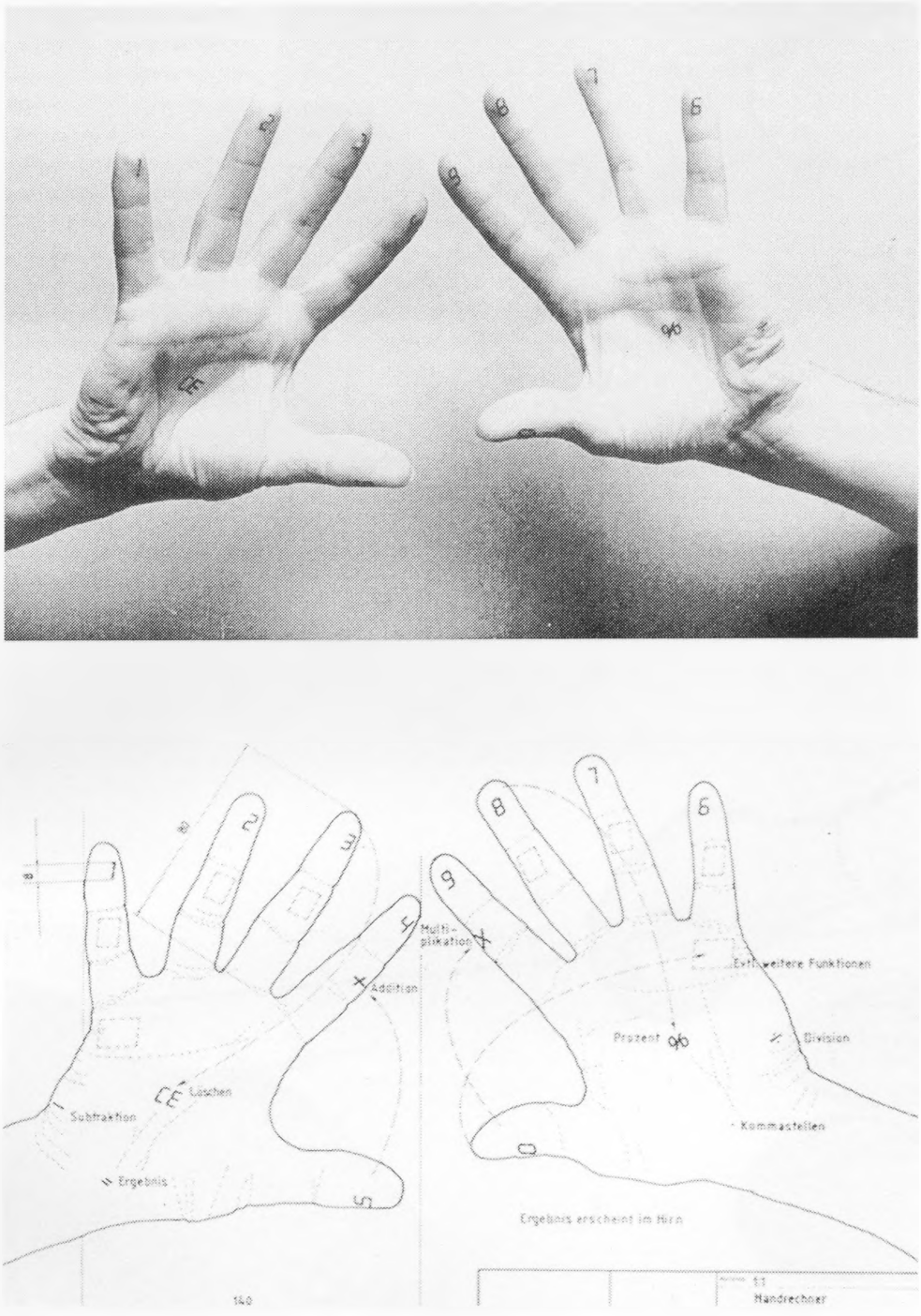


Fig. 2.8 Kunstflug's 'Electronic Hand Computer' for the 'Design Today' exhibition held at the German Museum of Architecture in 1988 is an icon for design-without-an-object. 'The design no longer communicates itself via the medium of visible form. The technical parts have shrunk to microscopic size, literally disappearing below the skin, the function no longer has a form, the design has no object'.

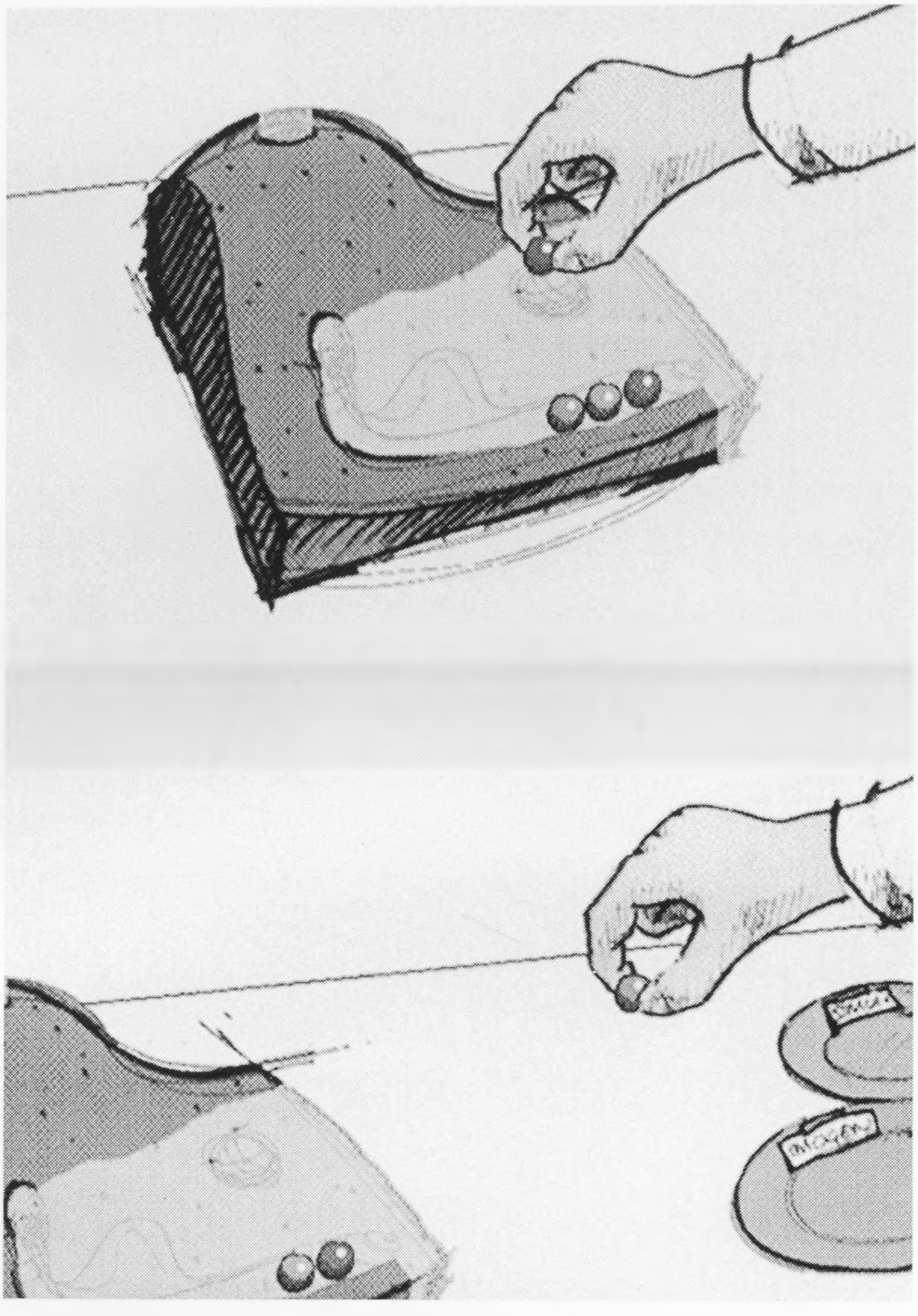


Fig. 2.9 In Durrell Bishop's design of 1992 for a 'Phone Answering Machine', small balls are released each time a message is left. These balls are representations of the pieces of information left in the machine, allowing direct interaction between the owner and the many possibilities an answerphone offers for connecting to the telephone and computer system.

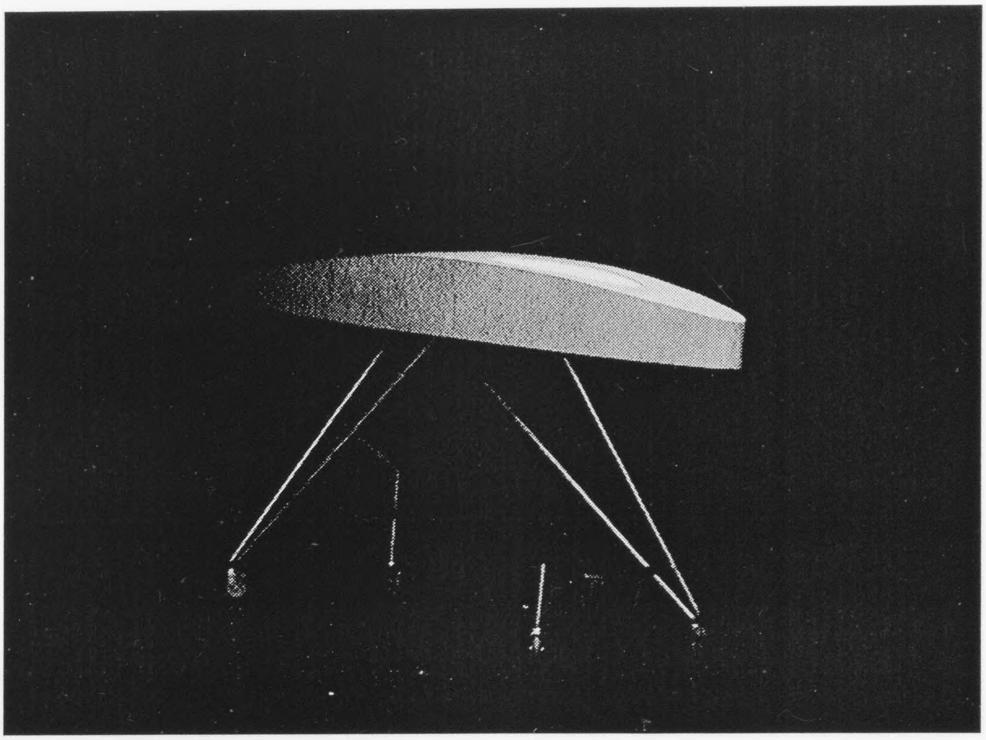


Fig. 2.10 Fiona Raby's telematic 'Balcony' of 1995 is an example of an approach to electronic objects where no effort is made to reconcile the different scales of the electronic and the material. They simply coexist in one object. Juxtaposition allows the best qualities of both to coexist, each with its own aesthetic and functional potentials. The balcony provides access to an open telephone line linking two or three places. Its physical form provides a focal point and support for leaning on, while an ultrasonic sensor detects the approach of users and slowly clears the line.

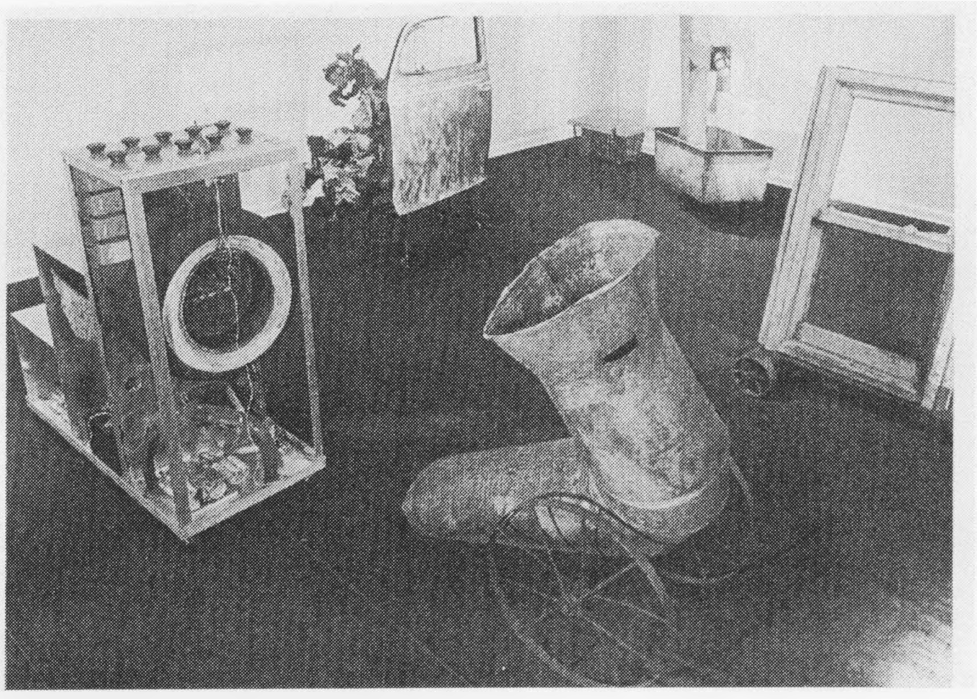


Fig. 2.11 Robert Rauschenberg's 'Oracle' of 1965 has had its technology updated three times over thirty years but its materiality and cultural meaning remain unchanged. Cultural obsolescence need not occur at the same rate as technological obsolescence.

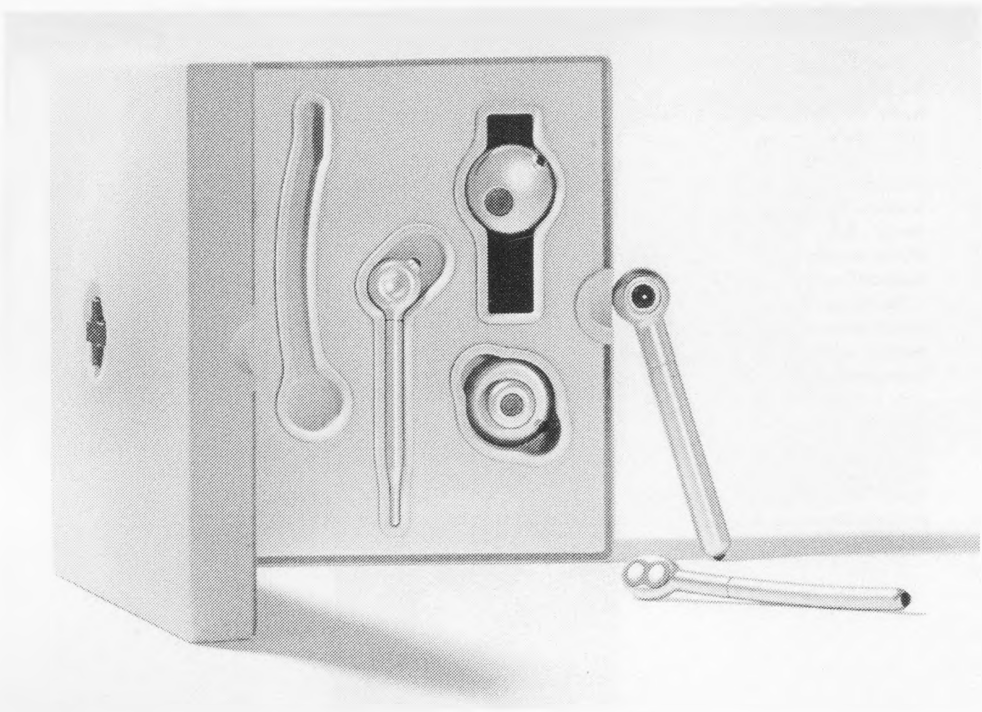


Fig. 2.12 The Philip's 'Vison of the Future' project of 1996 suggests that a more subtle awareness of the value of material culture has entered the mainstream of design thinking and may well soon enter the marketplace and everyday life. The electronic has reached an optimal level of semiotic and functional performance. The project consists of over 100 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 objects for example, hi-tech medical kits in the form of medicine cabinetstypologies, rather than by radically new hybrids.

(IN)HUMAN FACTORS

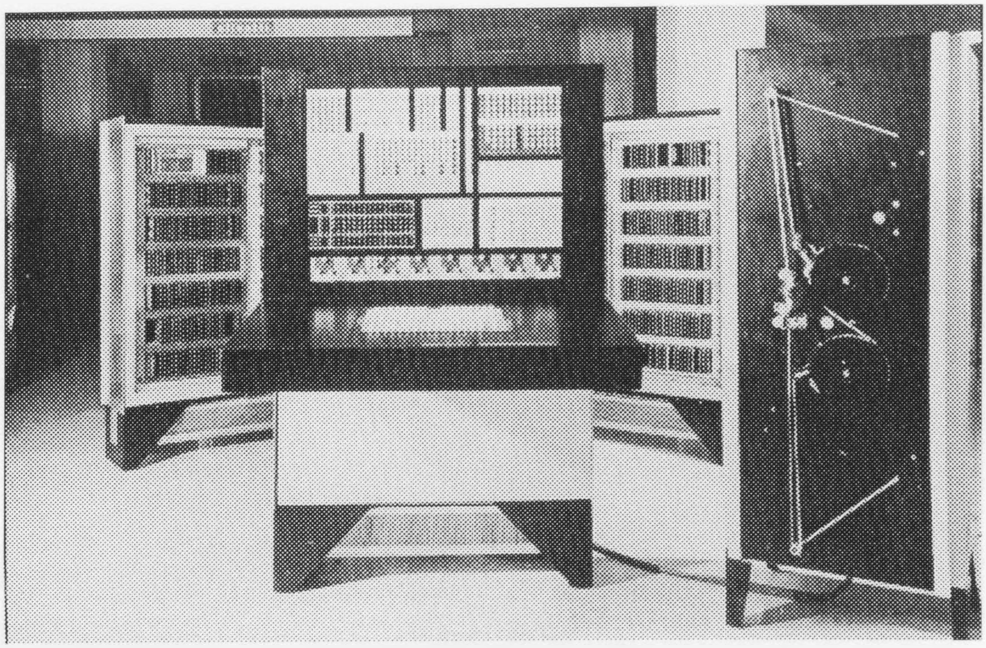


Fig. 3.1 The approach taken by Ettore Sottsass for the design of the ELEA 9003 computer for Olivetti in 1959 is very different from the 'user-friendly' approach taken by the HCI community which reduces the relationship between people and technology to a level of cognitive clarity. Sottsass spoke about not only the physical relationship with the instrument but also the physical culture of, and the psychic actions and reactions with, the environment in which people work.

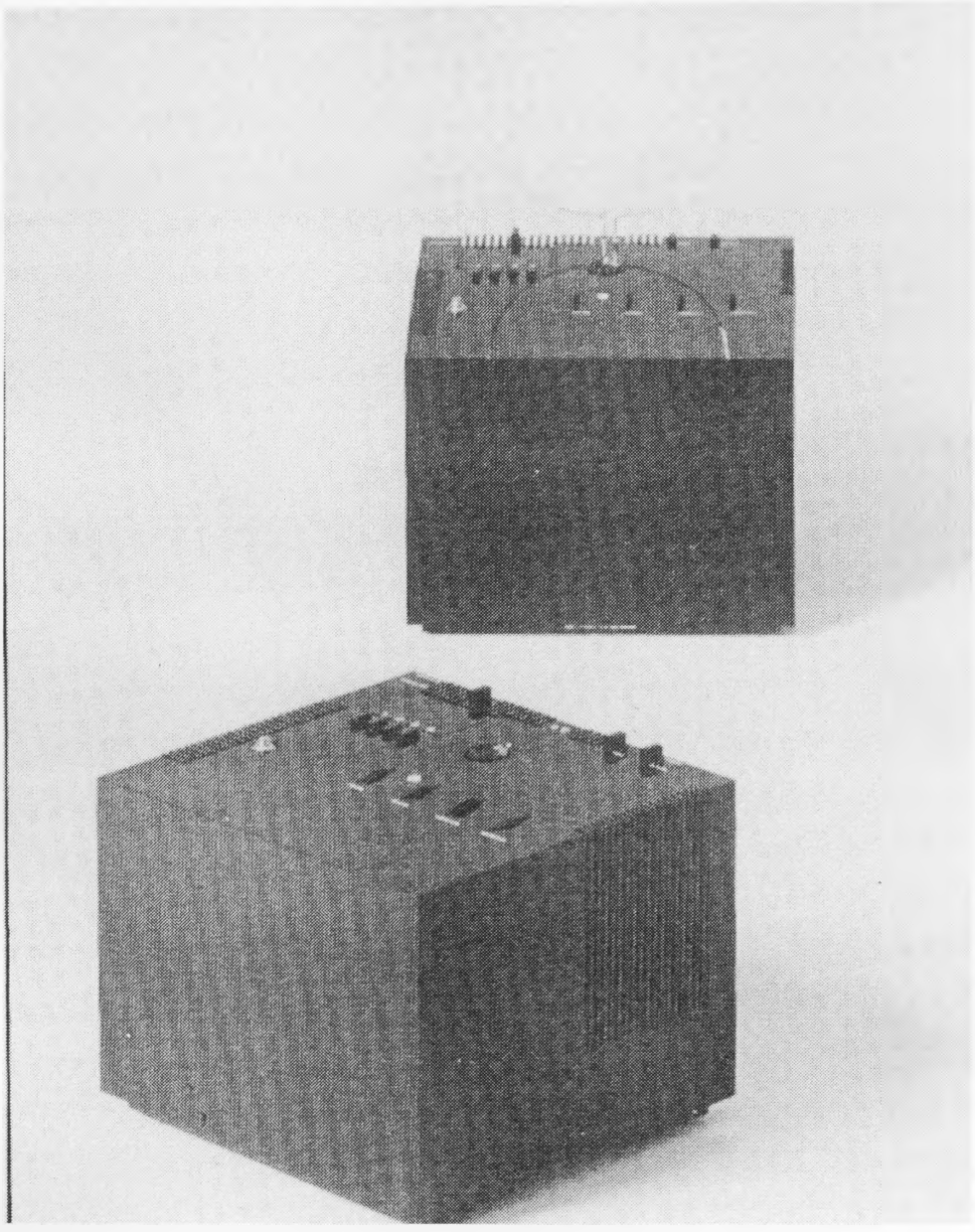


Fig. 3.2 Marco Zanuso and Richard Sapper's TV for Brion Vega was at the cutting edge of design when it was produced in the 1960s. It introduced a new approach to the expression of everyday electronic objects by taking the notion of the black box to the limit. It was a sophisticated expression of a new 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.

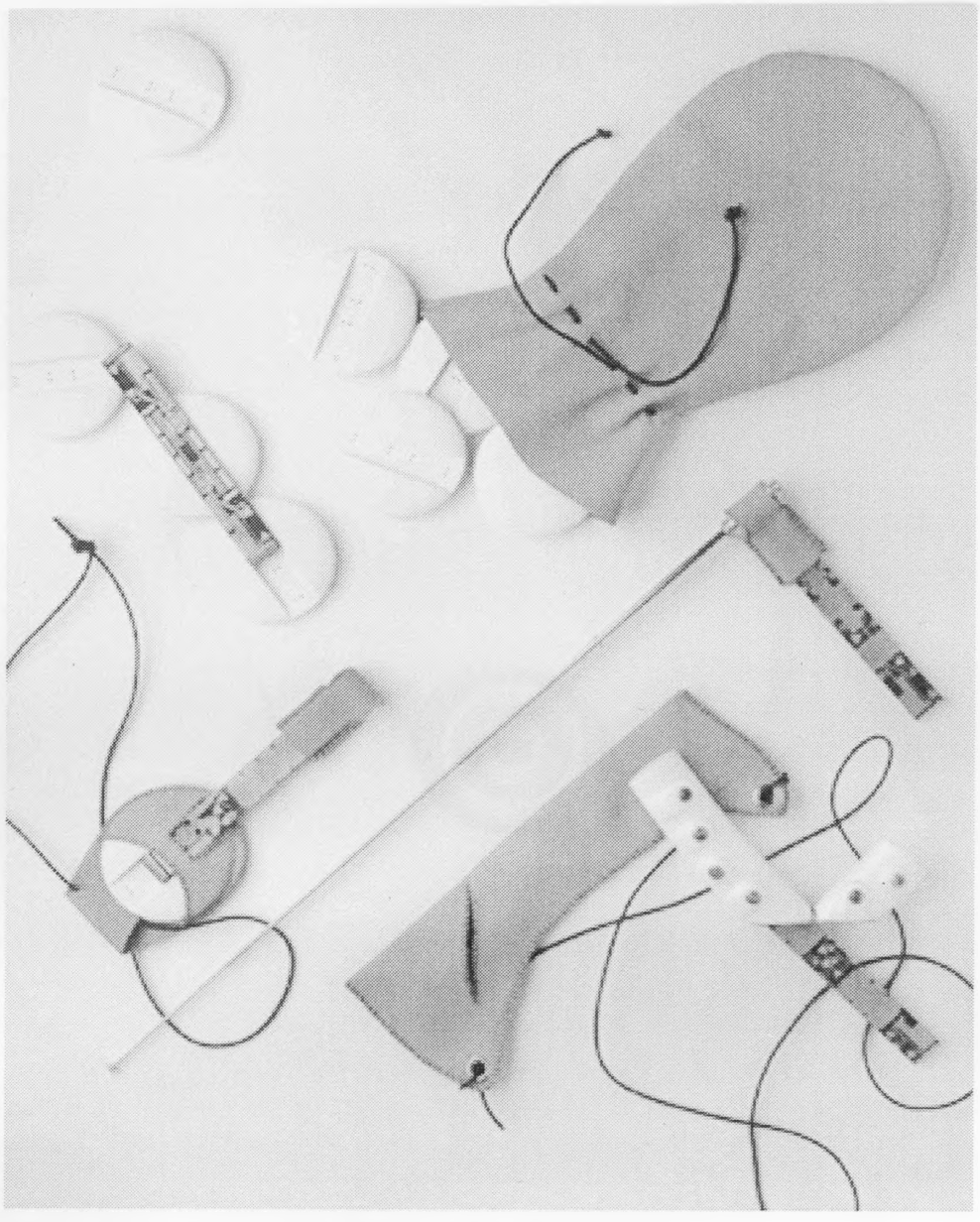


Fig. 3.3 Matthew Archer's miniature computer is one of many projects produced in the Industrial Design department at the Royal College of Art during the 1980s which exploited the new freedom offered to design by the fluid qualities of electronic technology, although in general they are still concerned more with representation and interpretation than function and interactivity.

Fig. 3.4 Semiotics and semantics were used by designers during the 1980s as tools for analysing the way industrial designers could use form to express implicit meanings: for instance the flow of air in this fan heater of 1981 by Winfried Scheuer.

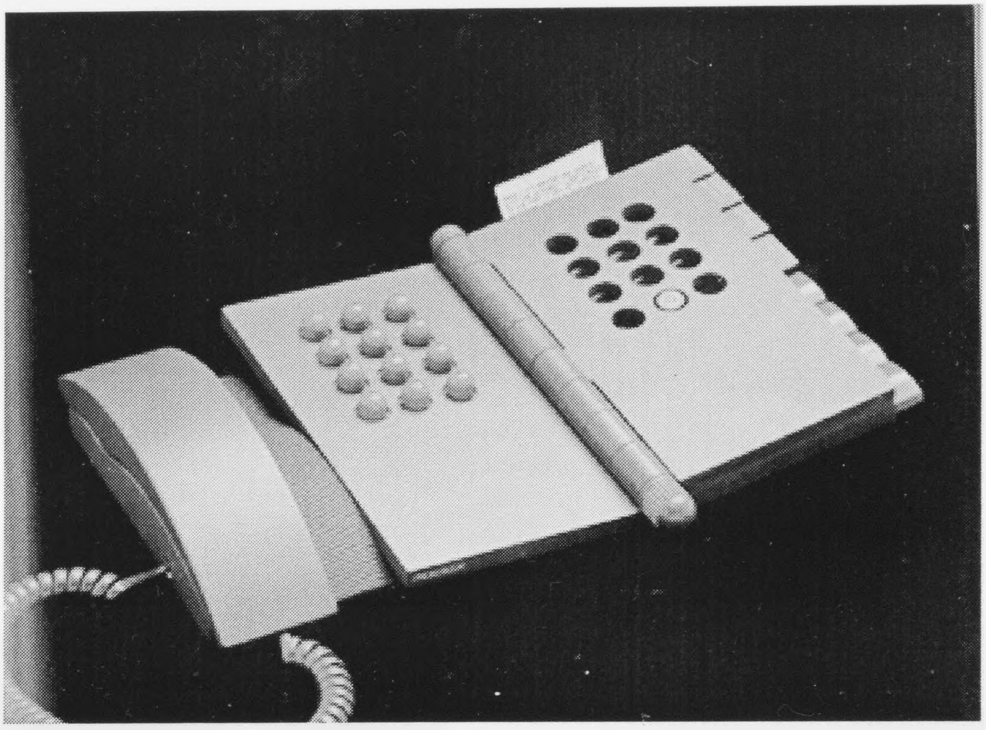


Fig. 3.5 Lisa Krohn's design for an answerphone of 1987 shows how a literal use of analogy results in metaphors with a single meaning. Products become depictive of what they do, limiting the viewer's interpretation of the electronic object to the designer's. Although sometimes the link made between groups of objects is ingenious, the power of these borrowed images to sustain interest is weak. They are the material equivalent of one-liners.

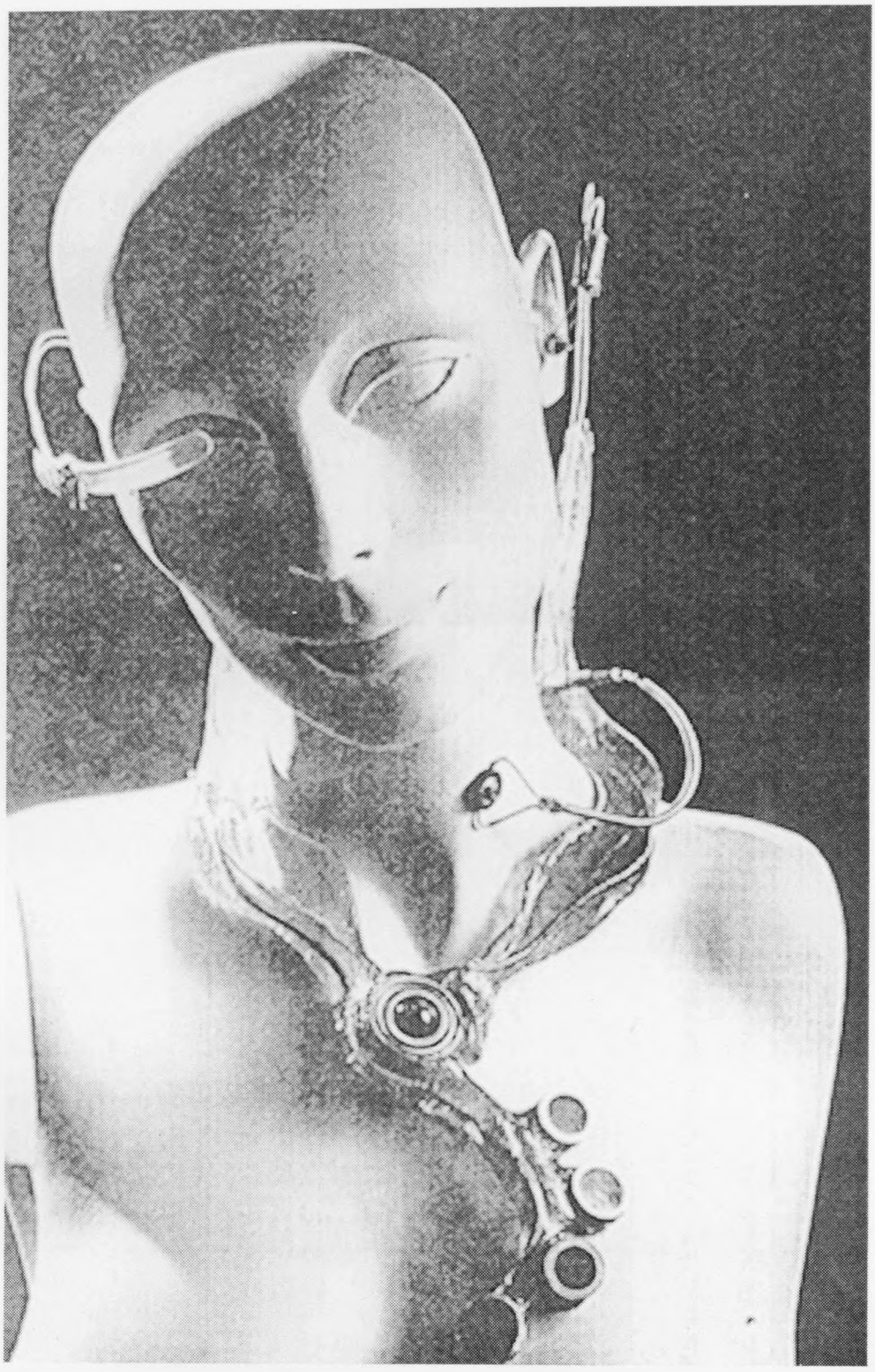


Fig. 3.6 This electronic device is an example of the trend in portable electronic objects for biomorphism that can be seen as expressing either an uncritical desire to absorb technologies into the body, a wish to be a cyborg, or, more optimistically, the need to mould technology to fit the body.

Fig. 3.7 Marco Susani and Mario Trimarchi's 'New Tools' (for the kitchen) for the 1992 Milan Triennale demonstrate 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.

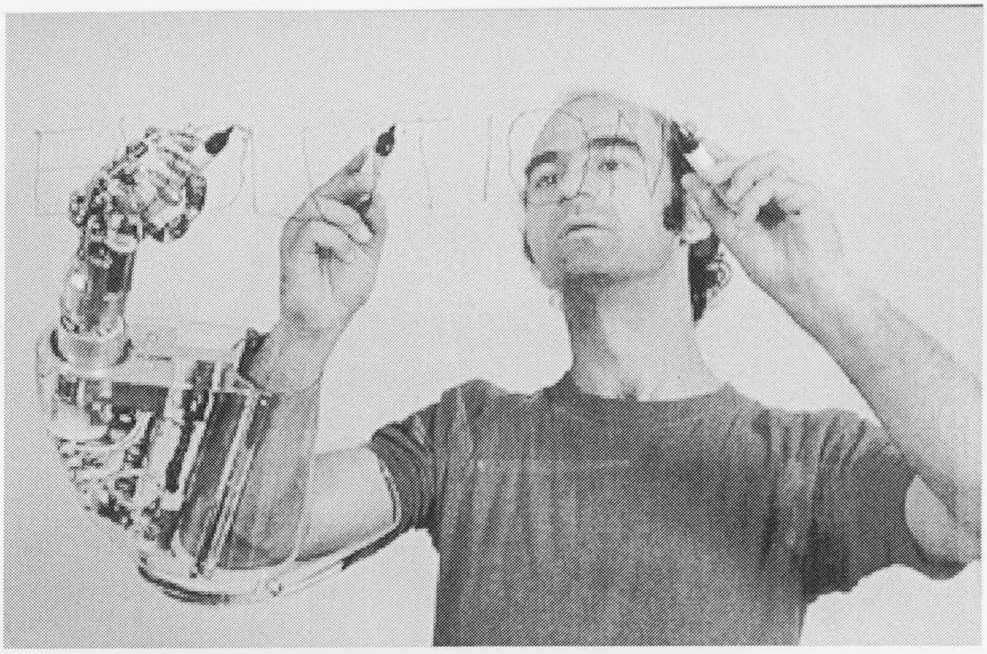


Fig. 3.8 In 'Third Hand', Stelarc wrote single words with a third artificial hand strapped to one of his own, activated by the EMG signals of the abdominal and leg muscles, while the real arm was remote controlled and jerked into action by two muscle stimulators.

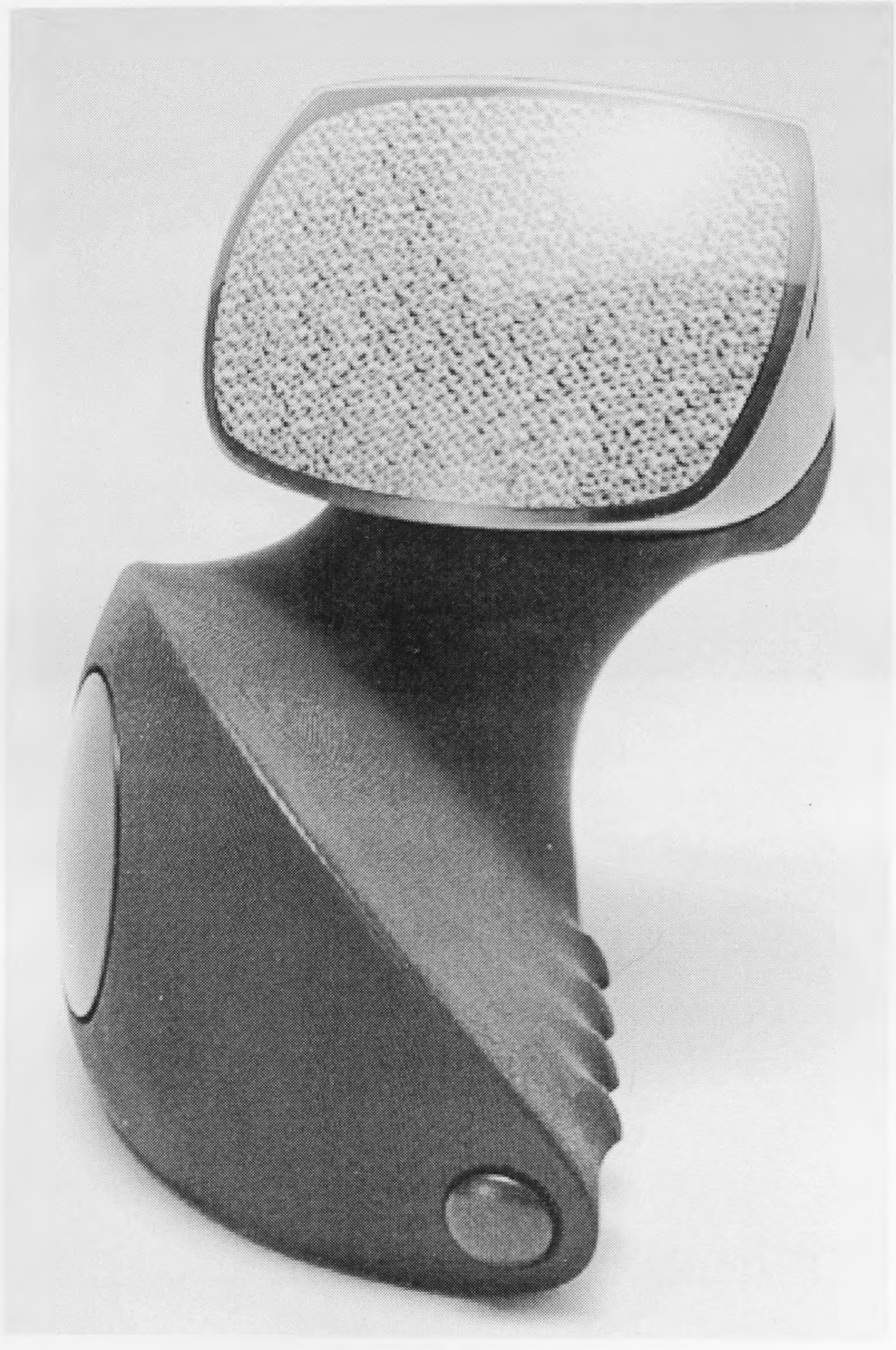


Fig. 3.9 Peter Stathis's 'Satori' TV of 1988, which turns its head to face the viewer when touched, is one of the few electronic objects designed at Cranbrook Academy that goes beyond visual semiotics to include performance. It suggests a life where our only company will be the electronic appliances of the home, which must supply the missing banalities of everyday human contact.

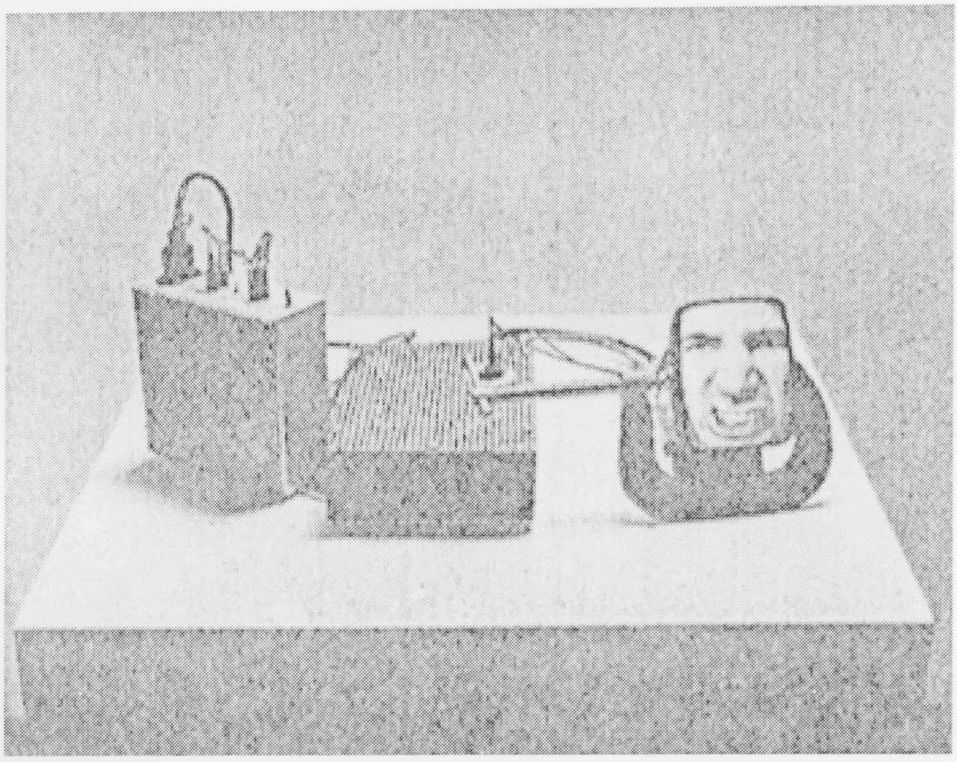


Fig. 3.10 Alan Rath's C-Clamp of 1992 literally gives technology a face, but not in a comforting way. His faces are juxtaposed and recombined with other body and machine parts to create strange and sinister hybrids of people and machines. Many of his sculptures rely on puns, are comic and anthropomorphic, and remind us of our fear that machines might have lives of their own.

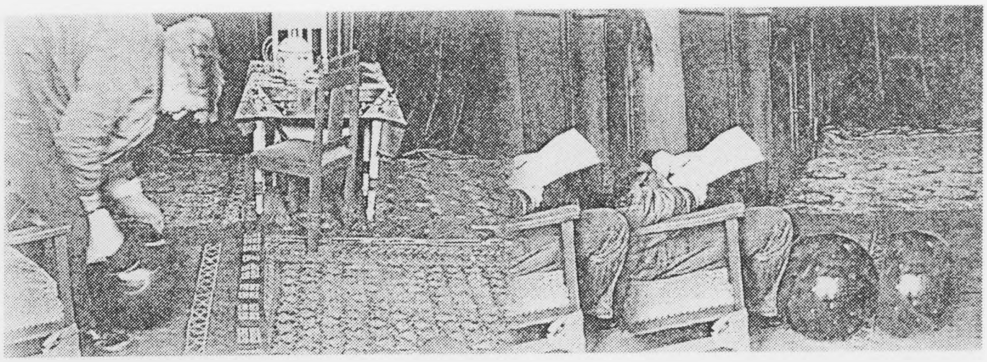


Fig.3.11 Martin Spanjaard's robot 'Adelbrecht' of 1982-1992 evolved over ten years from his desire to build a ball which would roll of its own accord, note when it collided with other objects and reverse, change direction or take other appropriate action. As technology developed so did Adelbrecht; he can now sense whether he is being picked up, stroked, and whether and by how much light and sound are present, influencing his mood or 'lust' as it is termed by the artist.

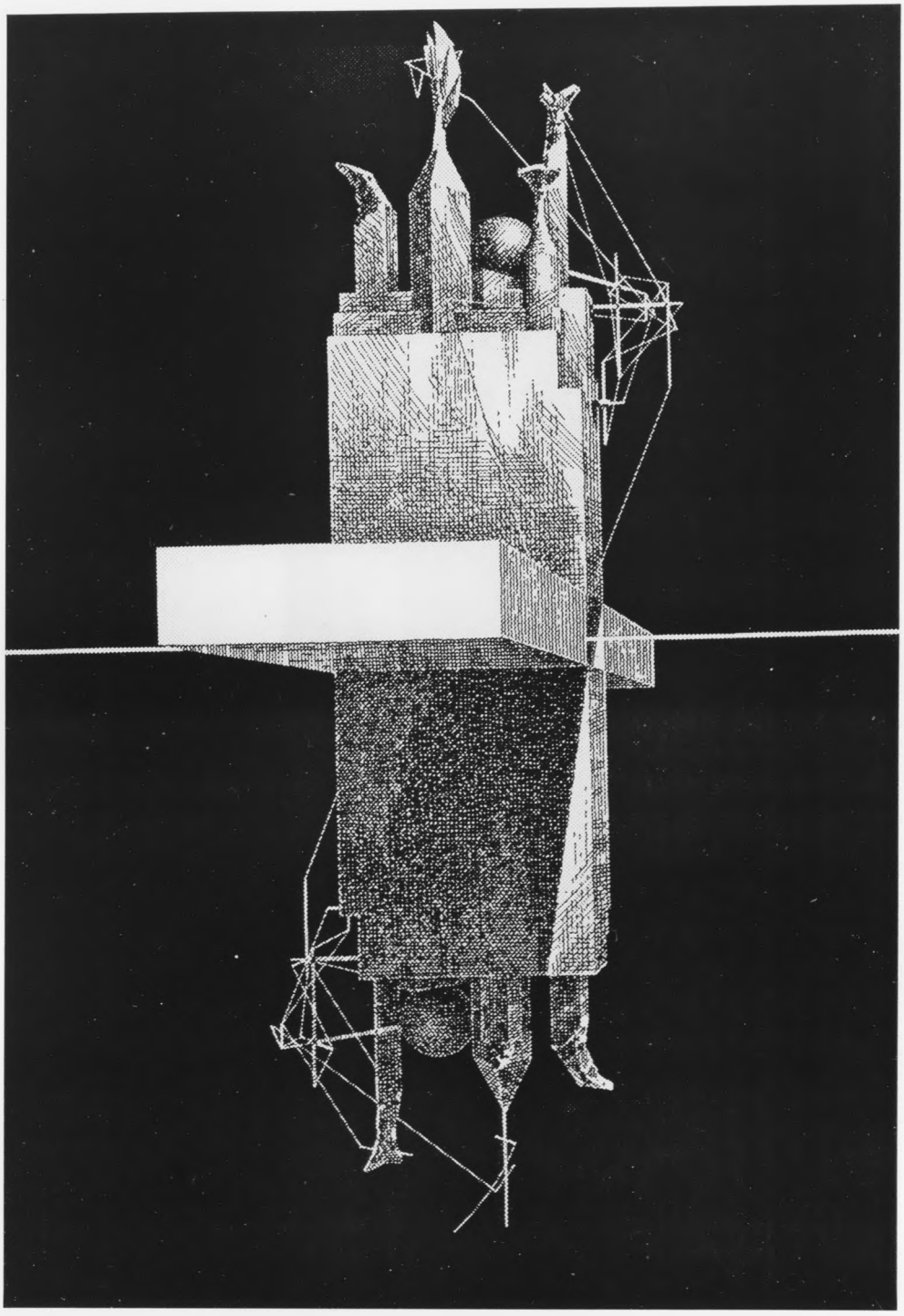


Fig. 3.12 Lebbeus Wood's *Origins* of 1985 is a book of imaginary schemes that counteract the familiarisation encouraged by routine modes of perception. In it, he refers to this 'strangeness' as 'objectivity', meaning not an analytical state of mind but simply the appreciation of objects for what they posses in themselves, independent of the operations of the mind upon them.

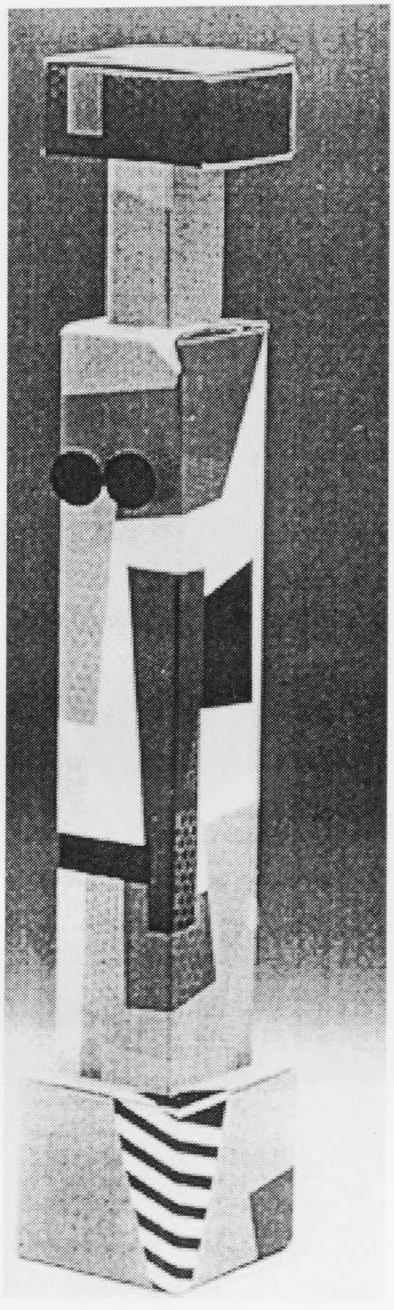


Fig. 3.13 Daniel Weil's 'Four Boxes and One Radio' of 1983 is a literal expression of the fact that materials used in the design of cases for radios have little intrinsic value, but acquire value through the authorship of the designer.

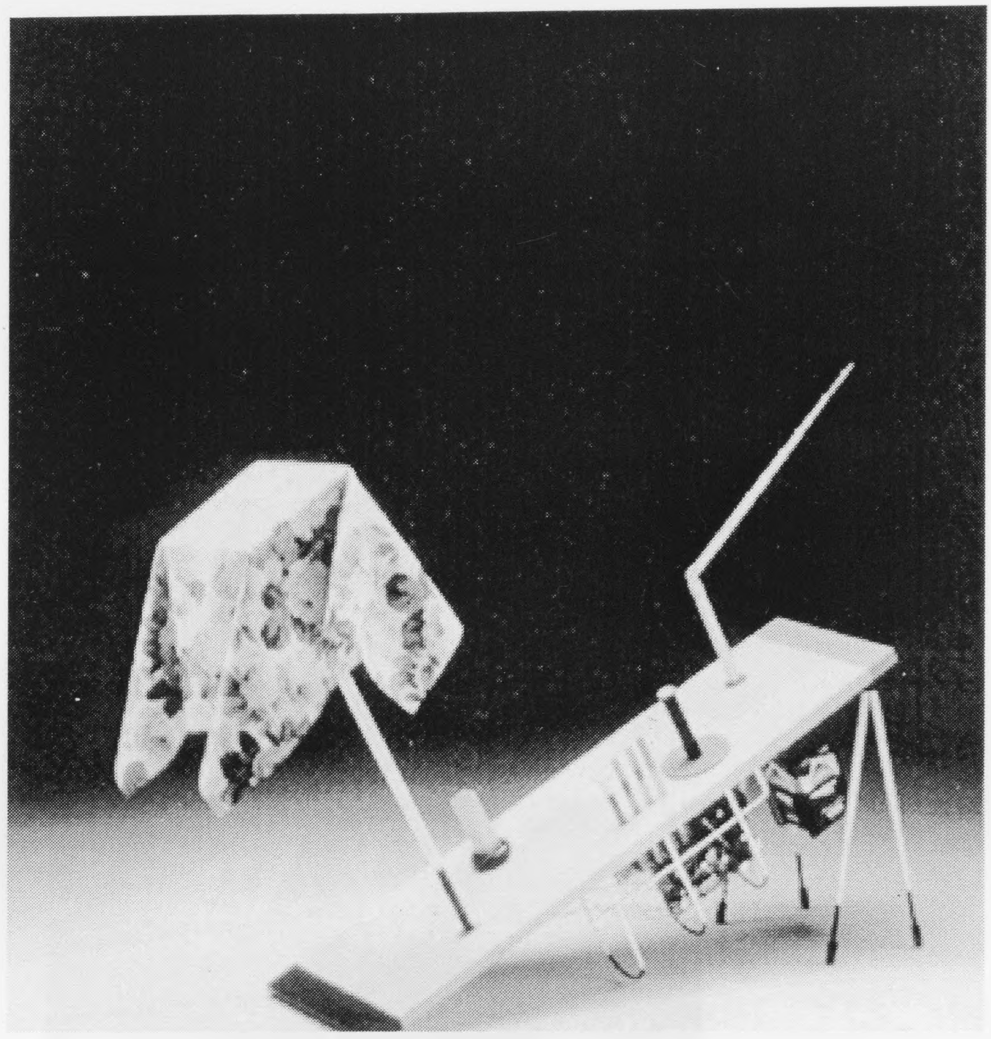


Fig 3.14 Daniel Weil's 'Small Door' of 1986 is more obscure. Its challenges the viewer to participate in constructing its meaning. The viewer's questions, interpretations and criticisms are part of the object's meaning.

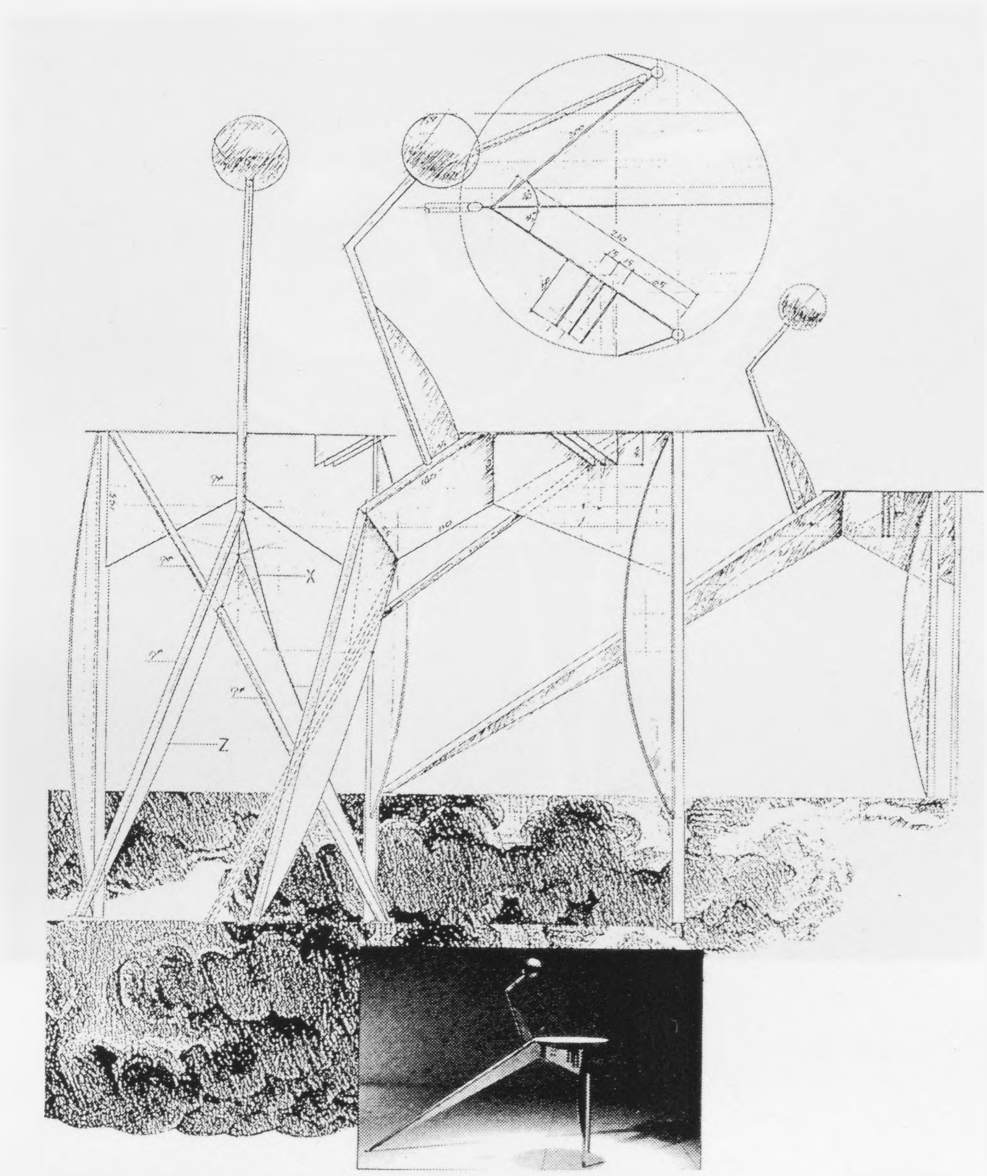


Fig. 3.15 Kei'ichi Irie's 'Lascaux Chair' of 1988 began as a design for a computer program. The resulting simulations accept that a minimal chair has three legs and a seat. The structure of a practical chair is a main routine; the program generates variants, splitting legs in two, twisting and stretching elements. The designer simply edits, making selections and adjusting them to ensure they function as free-standing chairs.

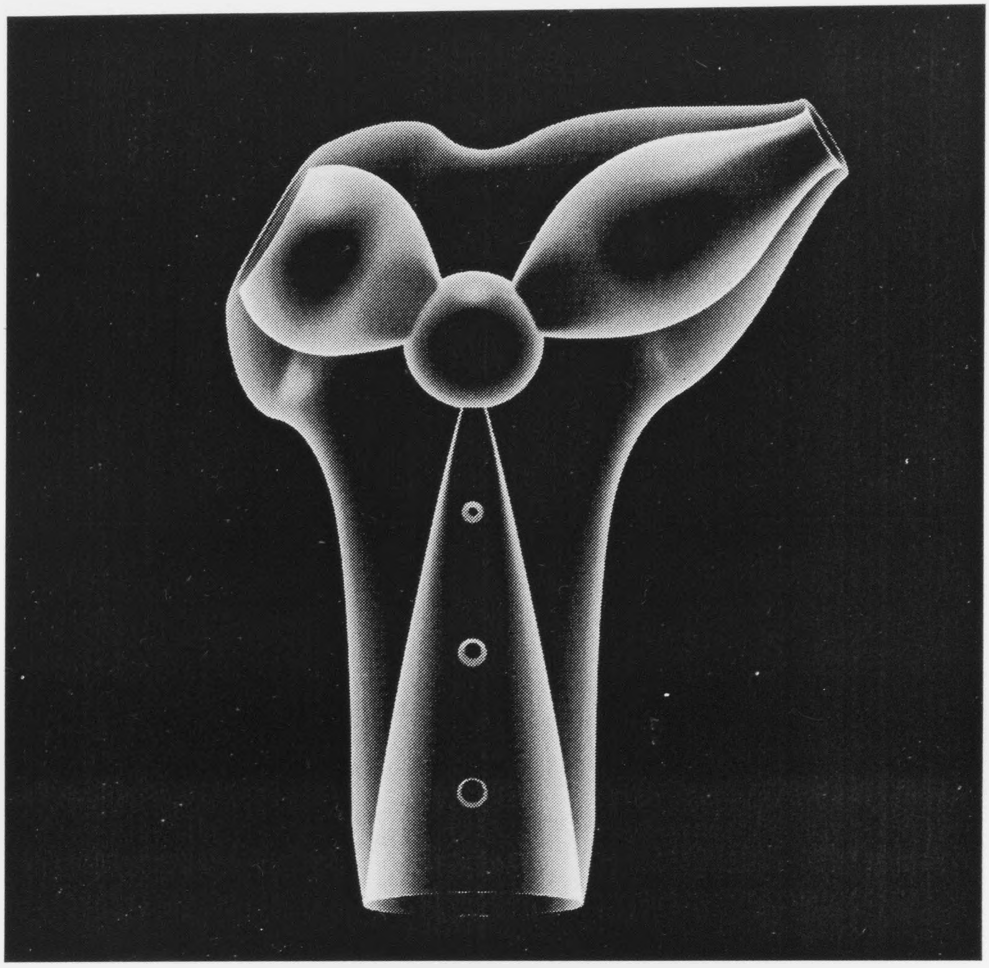


Fig. 3.16 In his *Forbidden Fruits* of 1991 Masaki Fujihata regards these computer graphic images as 'virtual fruit he is forbidden to hold'. He is interested in exploring new relationships between this 'forbidden fruit' and the world of physical materials outside the computer.

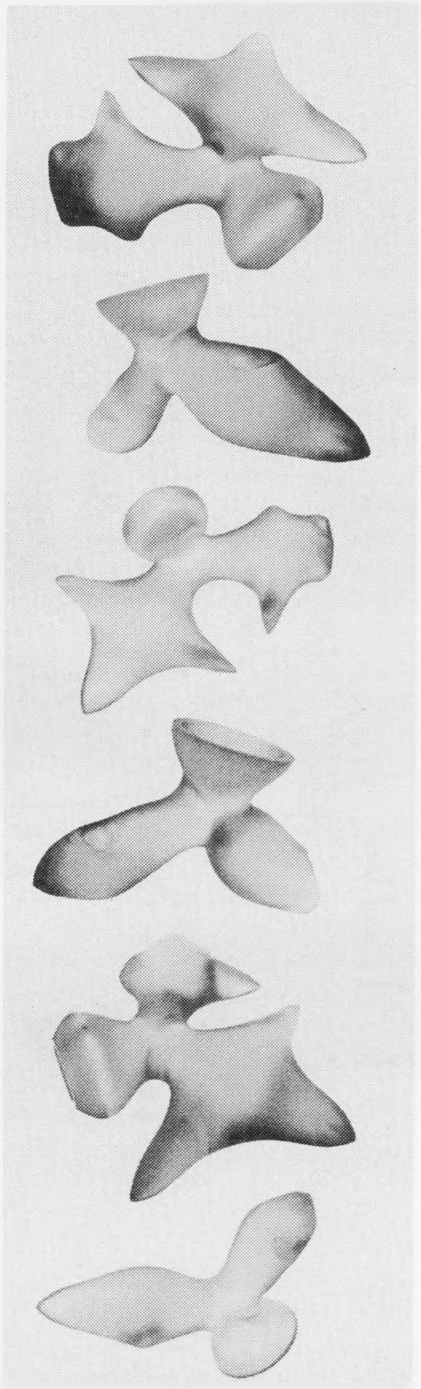


Fig. 3.17 These objects from Masaki Fujihata's *Forbidden Fruits* of 1991 are created when an ultra-violet beam traces their forms in a photosensitive resin which solidifies on contact with the light. The objects are physical representations of computer data.

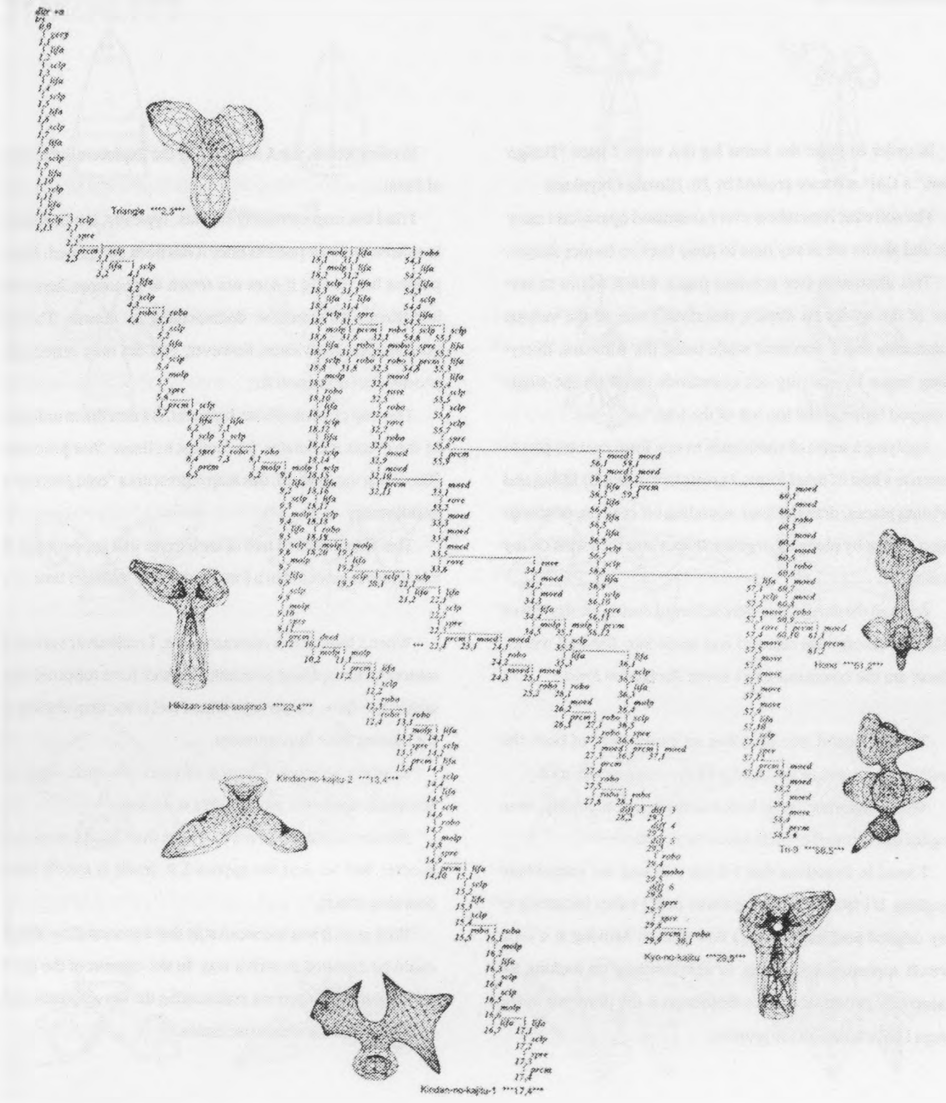


Fig. 3.18 This tree map from Masaki Fujihata's *Forbidden Fruits* of 1991 records his explorations of how data can be articulated to edit form.

PARA-FUNCTIONALITY

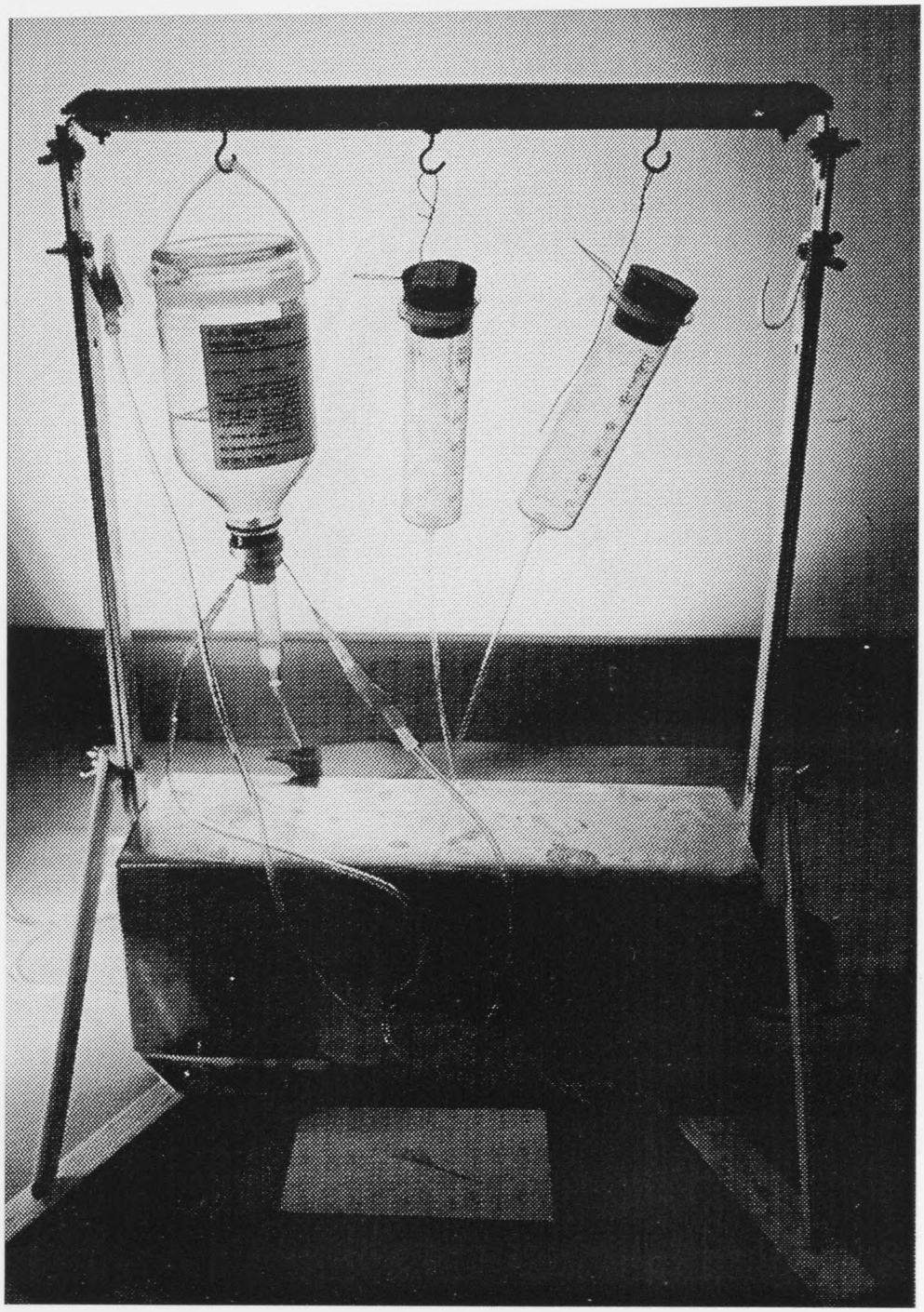


Fig. 4.1 Jack Kevorkian's Suicide Machine is a powerful piece of 'unofficial' design and a materialisation of complex issues of law, ethics and self-determination. It is an excellent example of how an industrial object can embody complex ideas through invention as a form of social criticism.

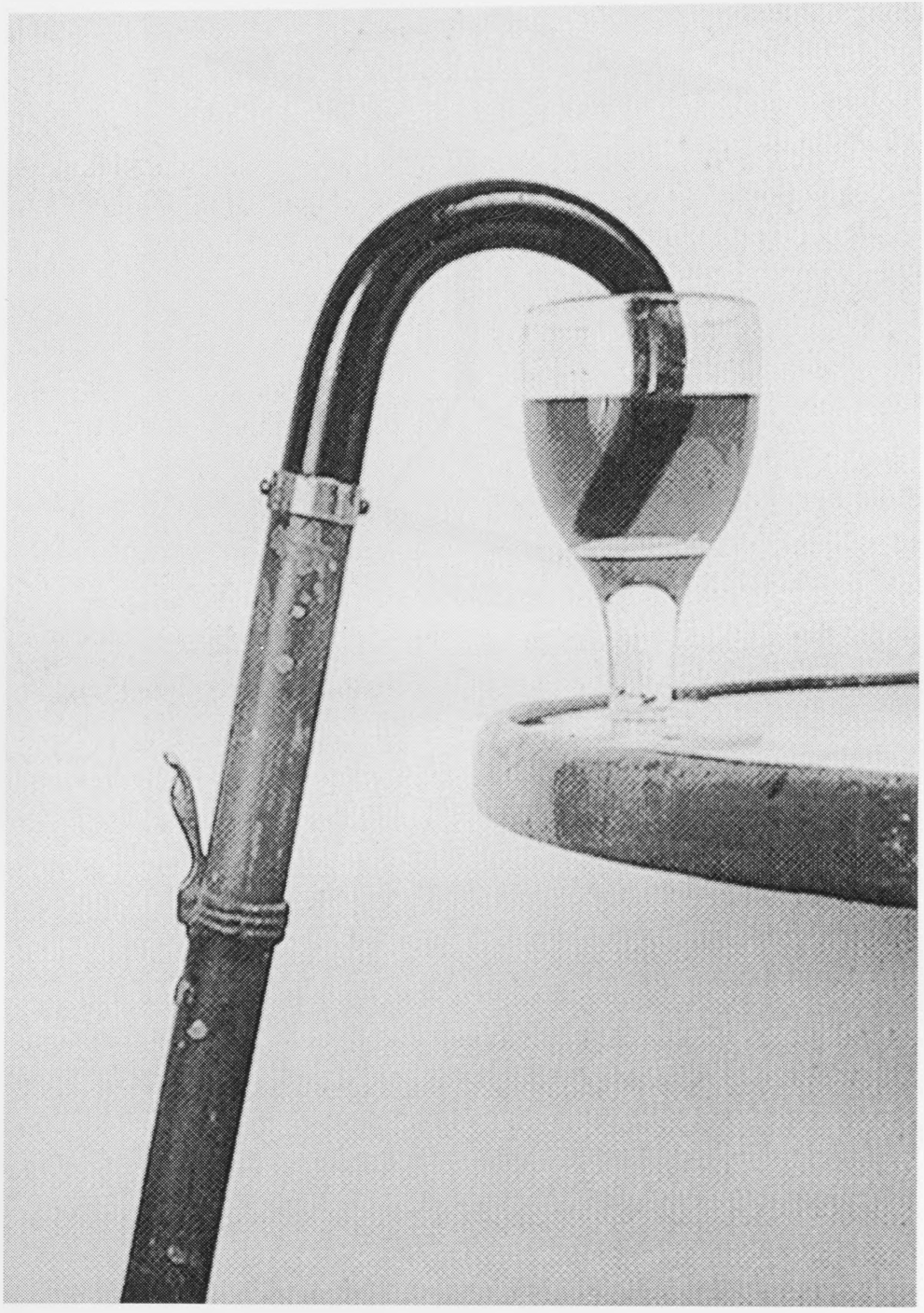


Fig. 4.2 This 'drinking cane' from the Saint-Etienne mail-order catalogue of 1910 operates in a context where etiquette assumes such importance that the object must be made to maintain it in a 'socially dangerous' situation, exploiting the cane's inherent potential for physical connections to other objects: hand, bar, glass and gutter. The cane is used to siphon alcohol from a glass and release it later into the gutter, saving the owner from slowly becoming drunk as he shares a drink with his client.

Figs. 4.3-4 The 'table cane', patented in England in 1891, and 'low seat cane' are examples of how simple portable props can transform an architectural space. The practical resolution of the conflict between the walking stick as a format and the need to transform it into furniture generates another level of interest in the object.

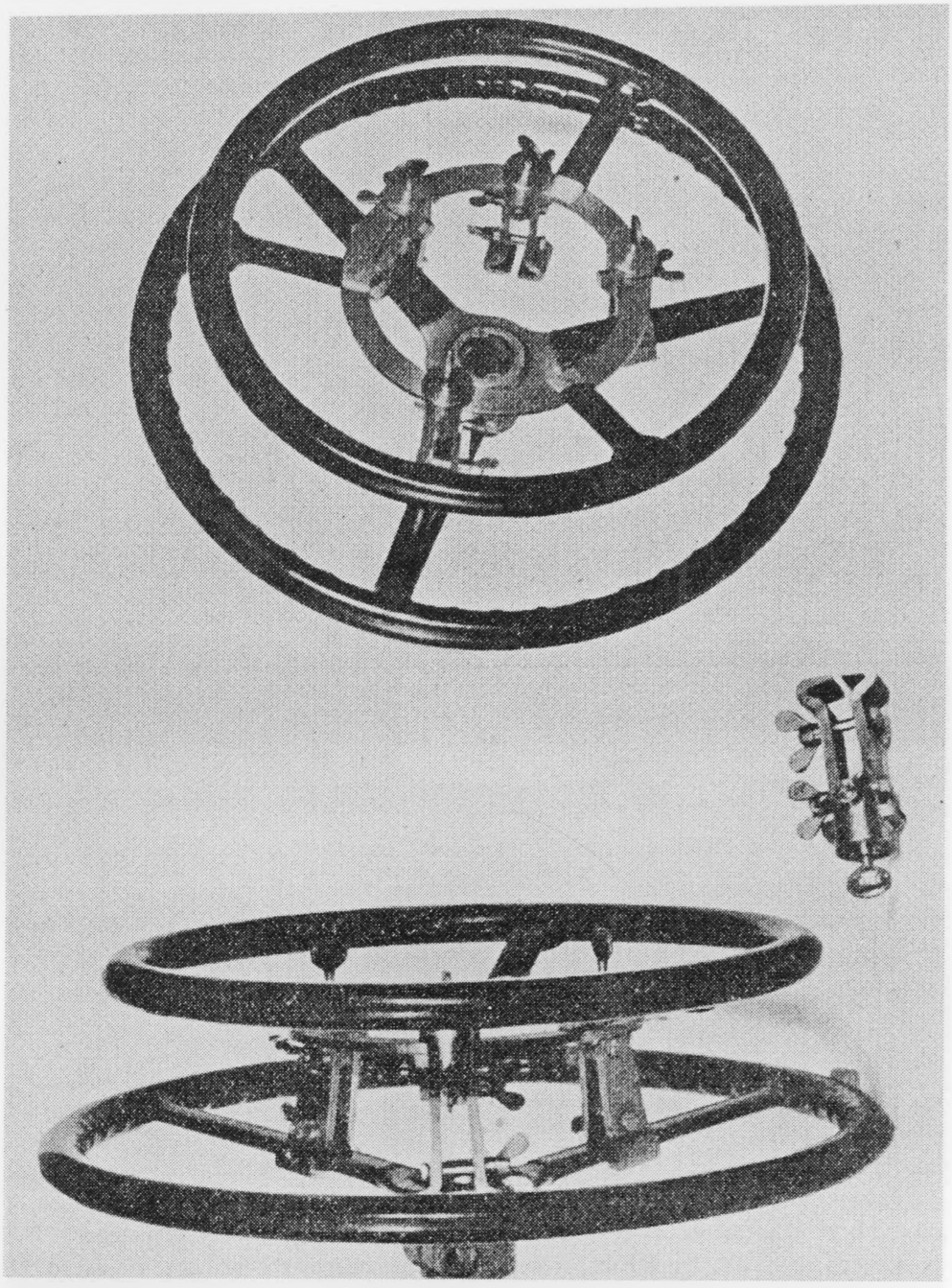


Fig. 4.5 This steering wheel, used by detectives during the 1940s to drive recovered stolen cars back to the police station without smudging the thief's fingerprints, is beautifully surreal. The comic effect is produced by the solution of an initial bewilderment, by understanding the object's function.

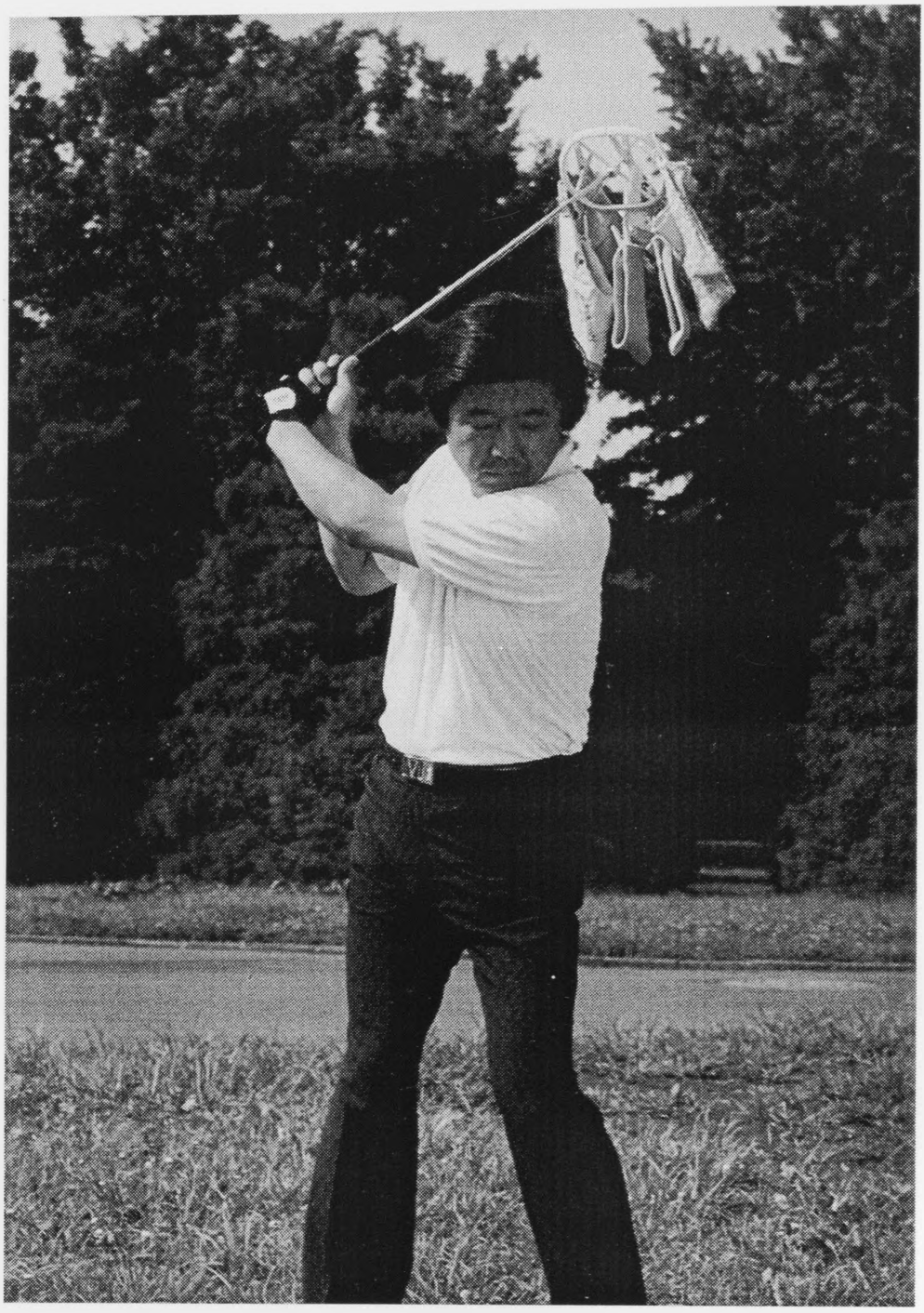


Fig. 4.6 The individual elements of a 'chindogu' are recognisable, in this case, a clothes dryer and golf club, but the reason for their combination is at first bewildering. The meaning behind the object is derived from 'sense-fiction': chindogu make functional sense, but are still useless.

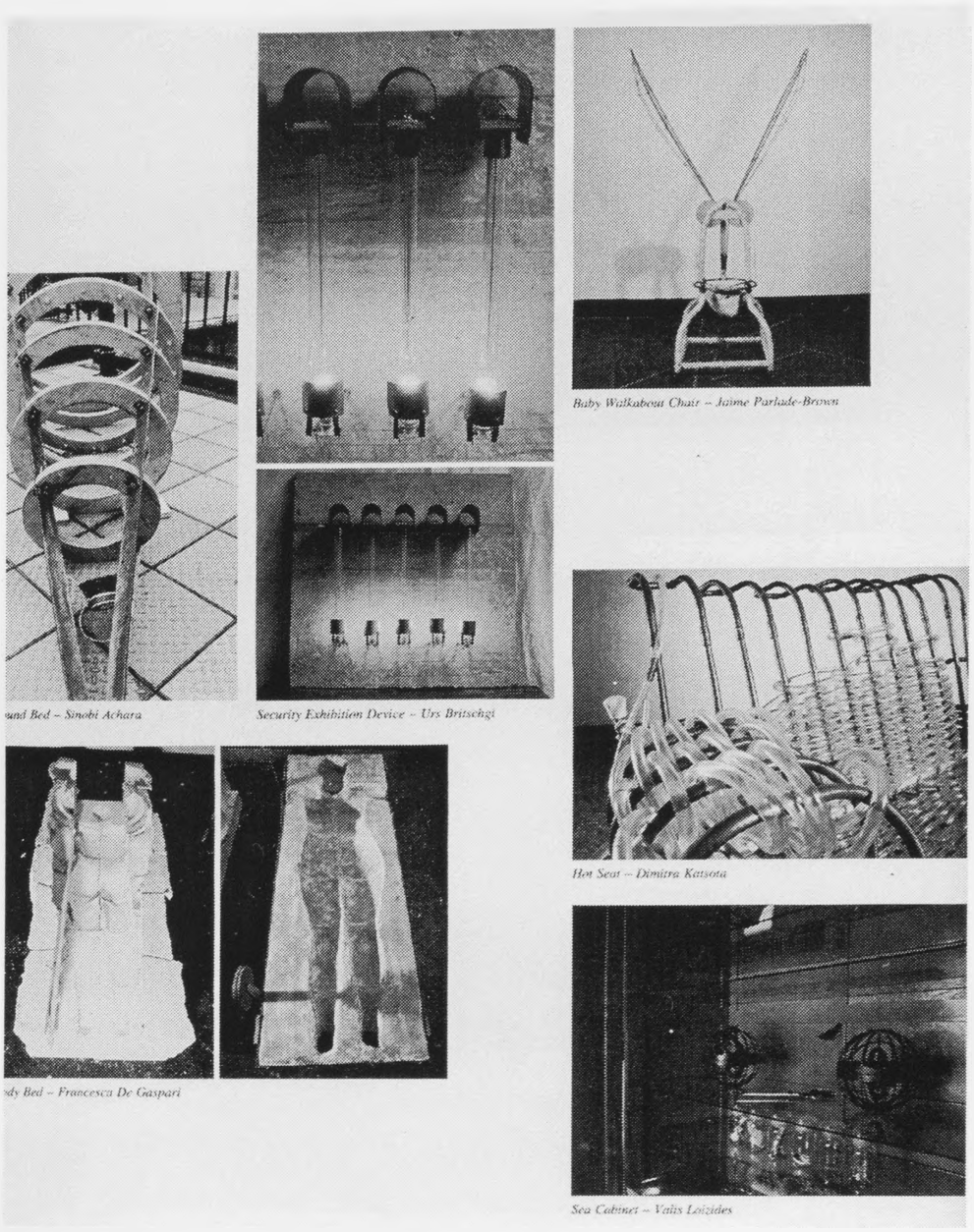


Fig. 4.7 Intermediate Unit 3's 'Objects in the Landscape' of 1993 at the Architectural Association are deployed as 'bizarre monsters' designed to challenge the reality supported by electronic consumer durables in the home.

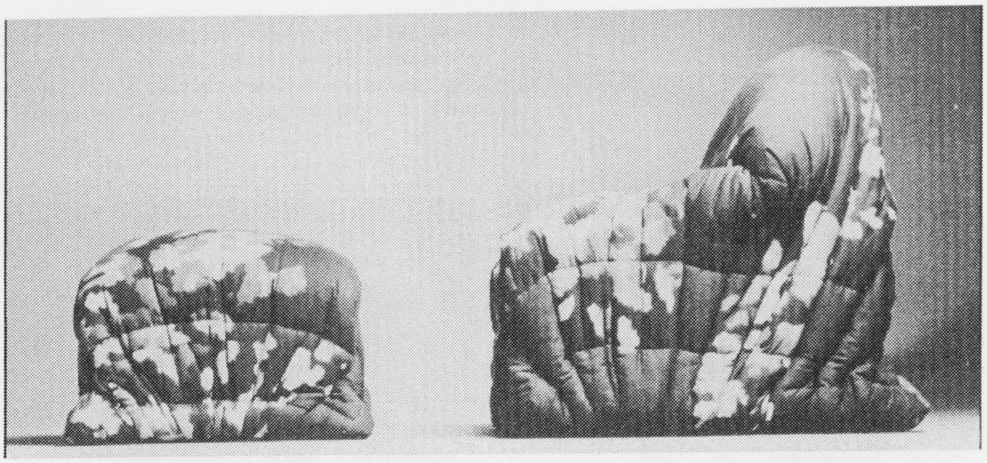


Fig. 4.8 Gaetano Pesce's furniture for Cassina during the early 1960s uses the language of design to make its own self-commentary. But even this object does not incorporate functionality as a primary component, depending instead on exaggeration and distortion to communicate his observation that people will always be alienated from objects as long as consumption is the primary reason for an object's existence.

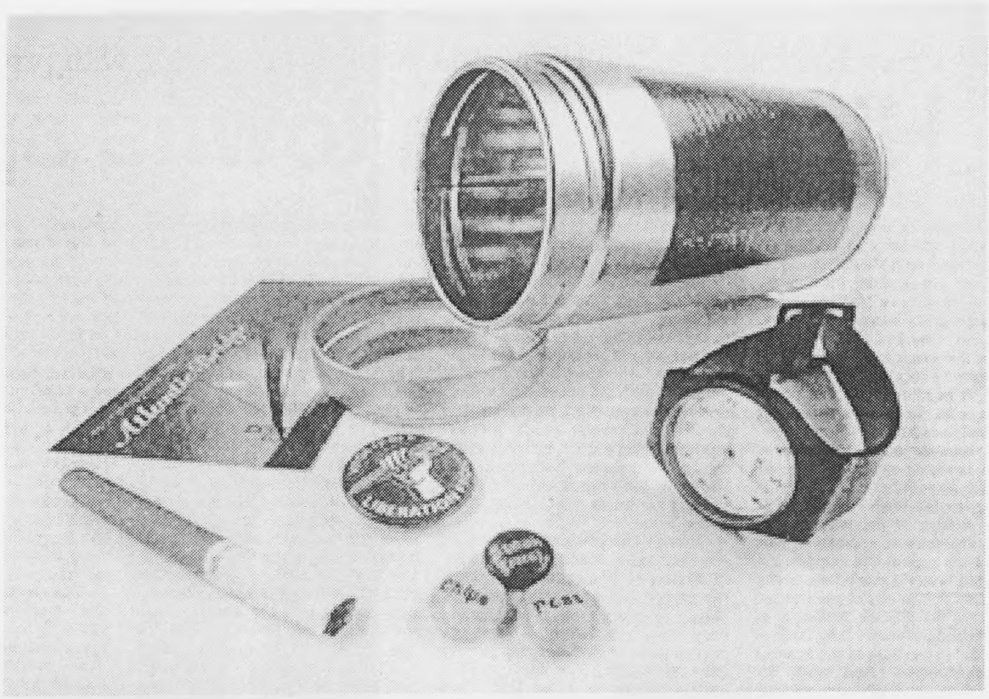


Fig. 4.9 When functionality is used by designers to make a point it is often jokey. Even so, it is clear from the Partner's '2003 - A Design Odyssey' that the use of function directs the viewer's attention away from form to other issues, in this case general conventions such as the division of time.

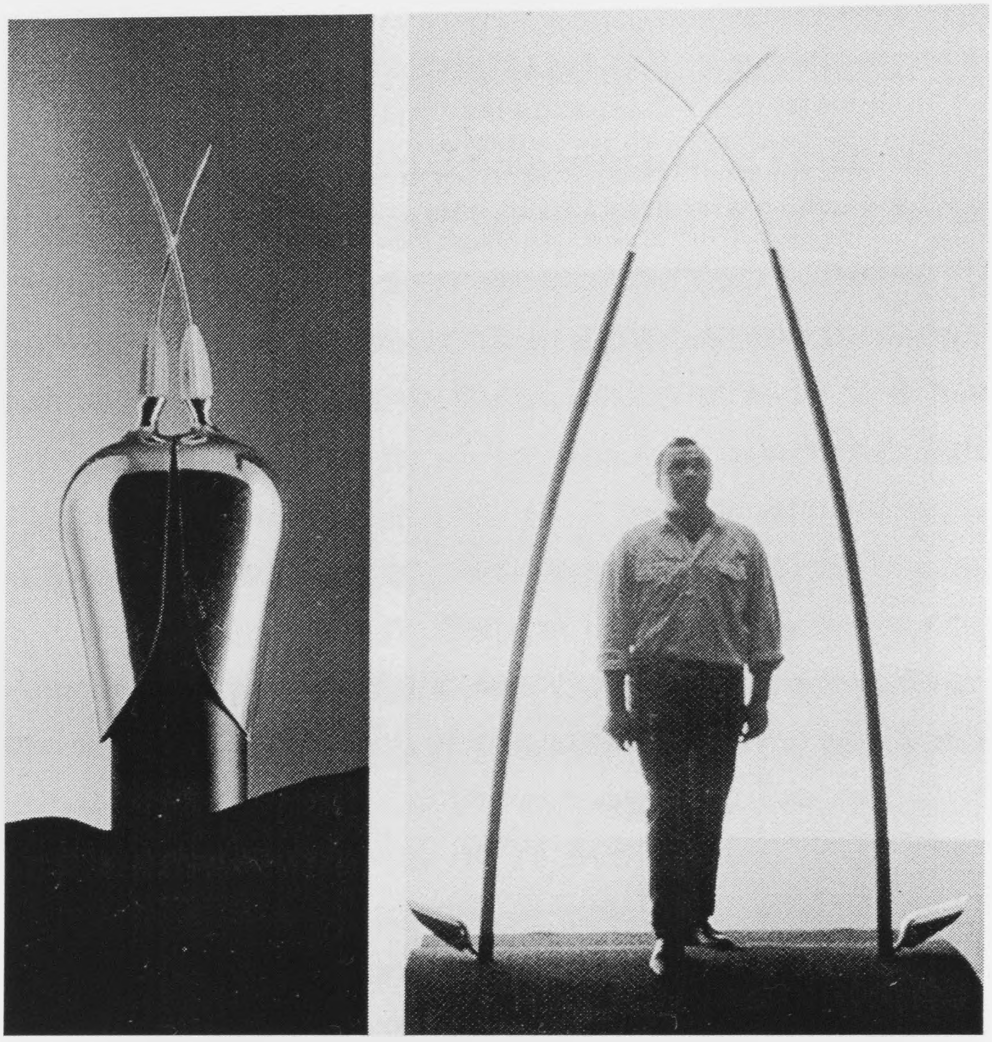


Fig. 4.10 Denis Santachiara's 'Doorway' of 1989 is an example of his concern with an aesthetics of use where invention is used to give objects a distinctive identity that moves away from the linguistics of construction and manufacture. Santachiara subverts technical knowledge and redirects it towards more provocative ends. In this case, the owner is greeted by a spark as they pass through the doorway.

ALIENATURE

Discovered recently in one of our national forests, this broken branch, packed to the bark with technology, suggests some horseplay on the part of aliens, foreigners or both. Does this specimen indicate that the entire "forest" was an ingenious mechanical facsimile, or was it merely a plant? The question remains unanswered, as the photographer became frightened and left quickly when he sensed that the trees were staring woodenly at him. A "sticky" situation.

Fig. 4.11 Philip Garner's 'Alienature' of 1985 demonstrates 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 books confirm that people understand and relate to the narrative behind the work without having to use the objects.

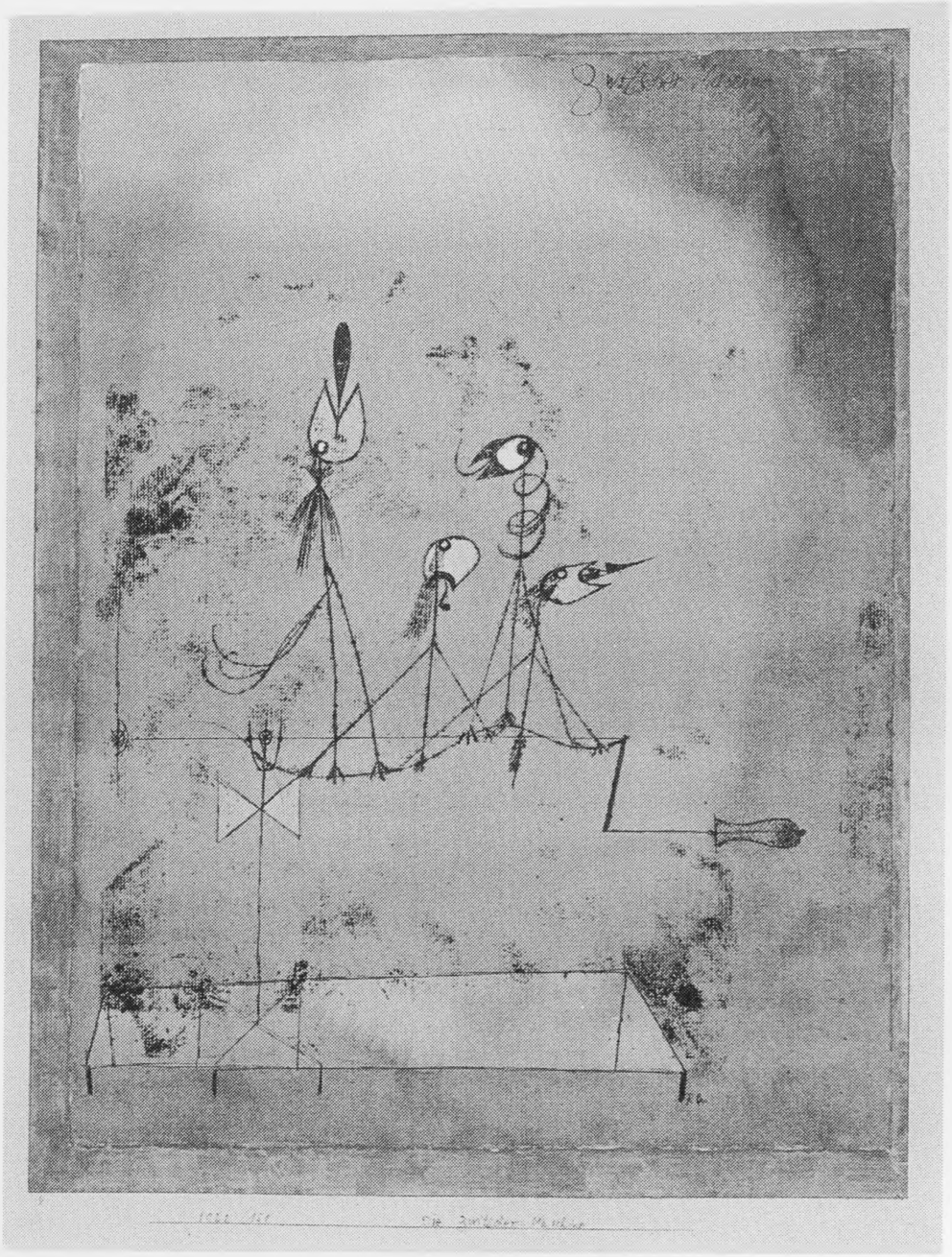


Fig. 4.12 In Paul Klee's 'The Twittering Machine' of 1922 shows a strange device hovering in the imaginary space of the drawing, suggesting a realm where machines do not simply mirror rationality through nonsensical functions, but embody an alternative notion of physics similar enough to our own to invite comparison and draw us into his world.

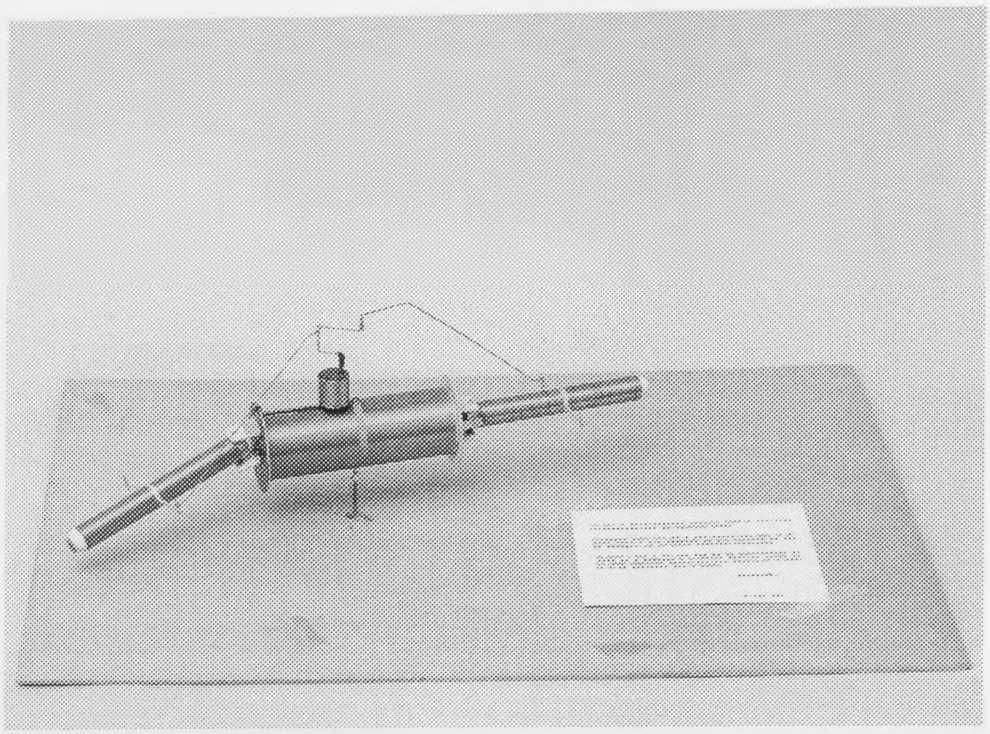


Fig. 4.13 Whereas Jean Tinguely has constructed useless machines that comically mirror rationality, Panamarenko's 'Voyage to the Stars' of 1979 like most of his other pieces, does not actually work. This provokes the viewer to think about the nature of invention and the desires that motivate it. His objects are about flight, desire, the limits of knowledge and the transition from wondering and dreaming to the dull reality of realisation. By denying this last step and conventional practice they hover successfully between the imaginary and the real.

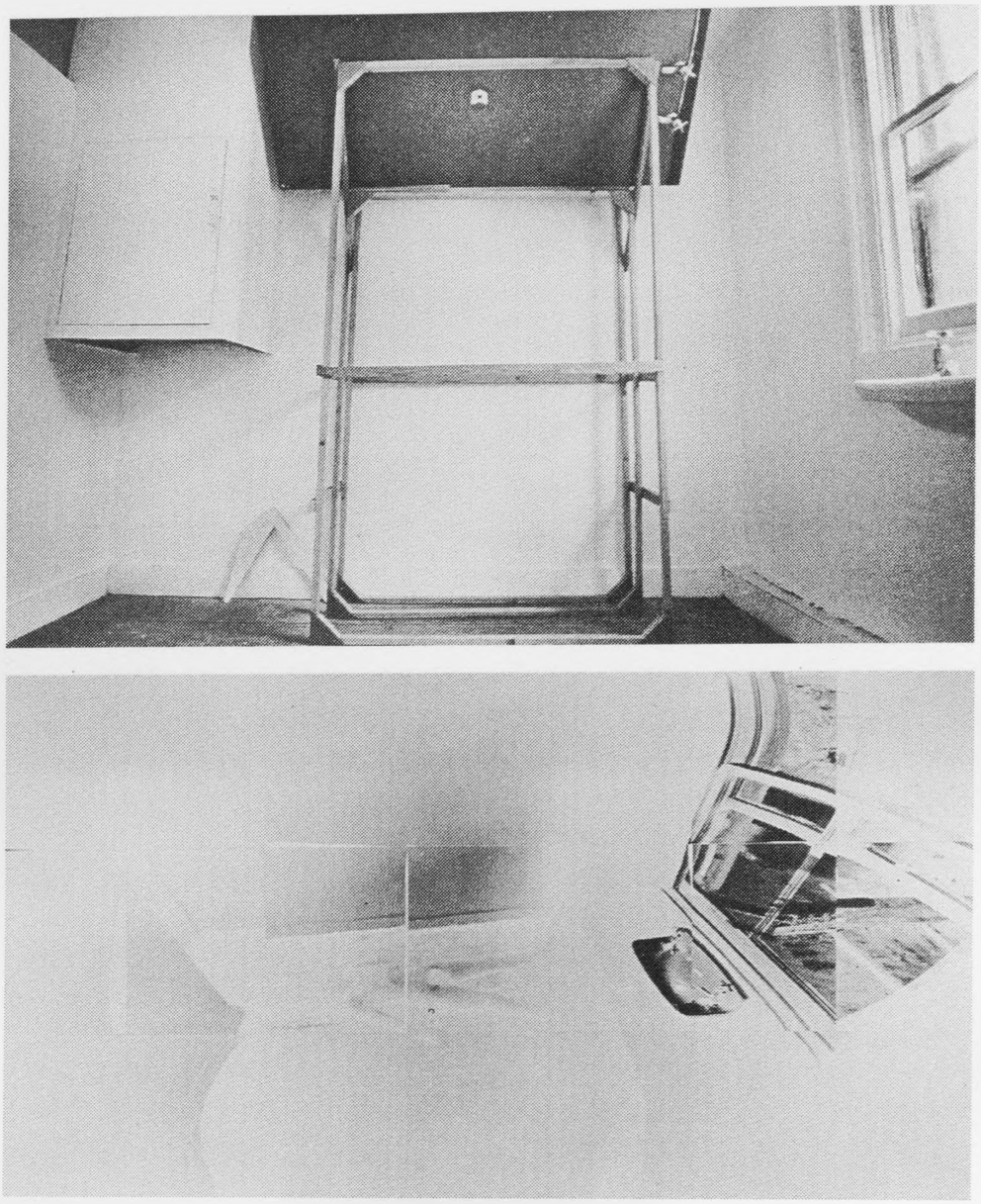


Fig. 4.14 Stephen Pippin's 'Bath Tub Converted Into Pin-Hole Camera' of 1984 is an example of an object that occupies a difficult conceptual space outside the usual polarisation of functionalism and surrealism. It does produce sense, and we understand it, but it is hard to say what exactly we understand about it.

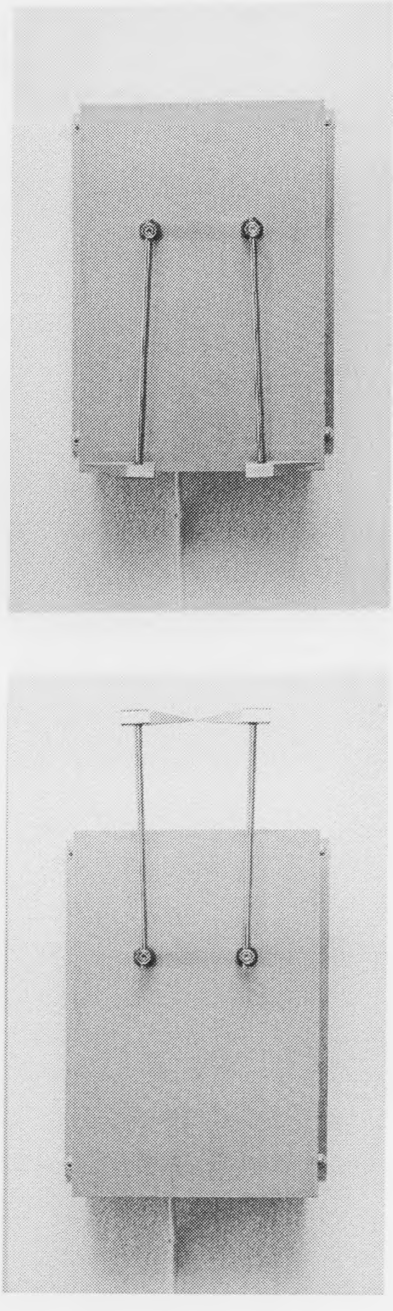


Fig 4.15 'The Unconsciousness of Feelings' of 1983 by Rebecca Horn is a symbolic machine where things do what we expect, but the company they keep surprises.

Fig. 4.16 The emphasis placed on functionality in Philippe Ramette's 'Object with Which to See the World in Detail' of 1990 focuses the viewer's attention on the space between the experience of looking at the work and the prospect of using it. Here emphasis is on the body and its relationship through the senses to the space that contains it. Functionalism is extended to include the poetic and playfully subversive.

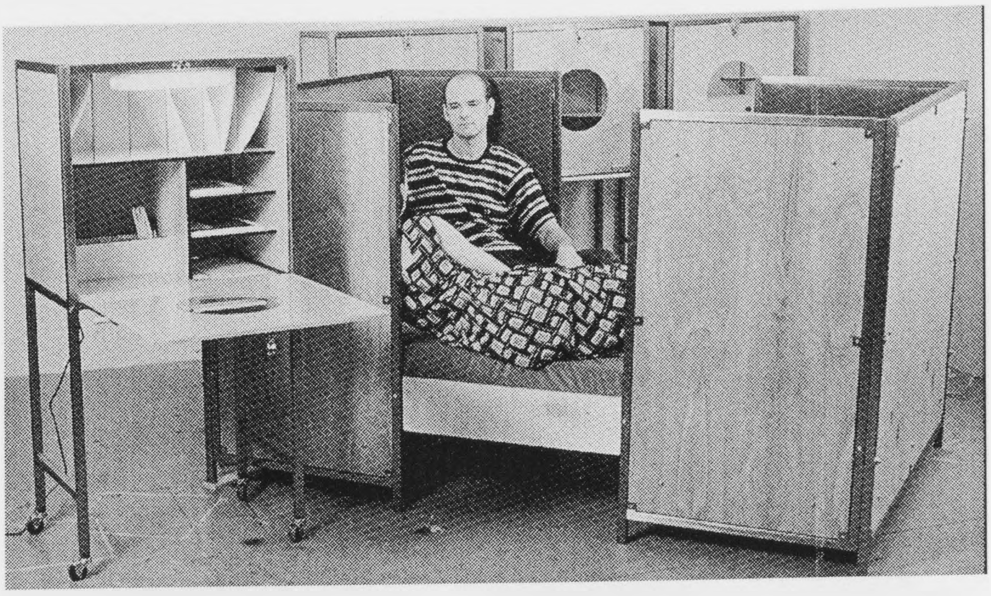


Fig. 4.17 Andrea Zittel's 'Comfort Units' of 1994 suggest an unusual way of thinking about the role of furniture. Her emphasis shifts from issues of style and image to their psychological use as tools for inhabitation. By clearly favouring the manifestation and fusion of particular functional possibilities over others they remind us, through an extreme but credible form of functional reductionism, how dependent on objects we are in developing new behaviours.

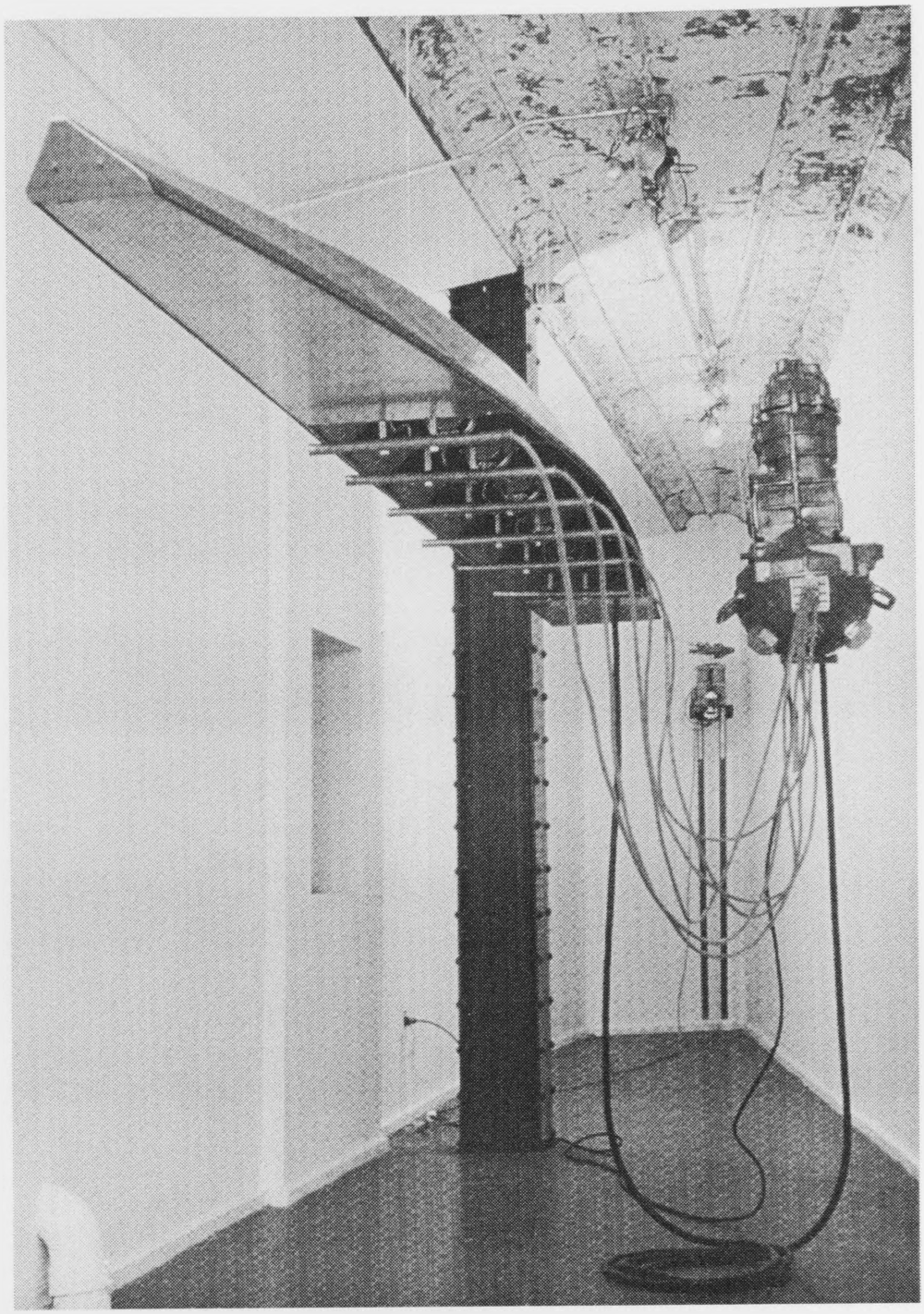


Fig. 4.18 K/K Research's 'Bureau-dicto' of 1989 is an ironic 'analogue' for architectural ideas consisting of an assemblage of found machine parts.

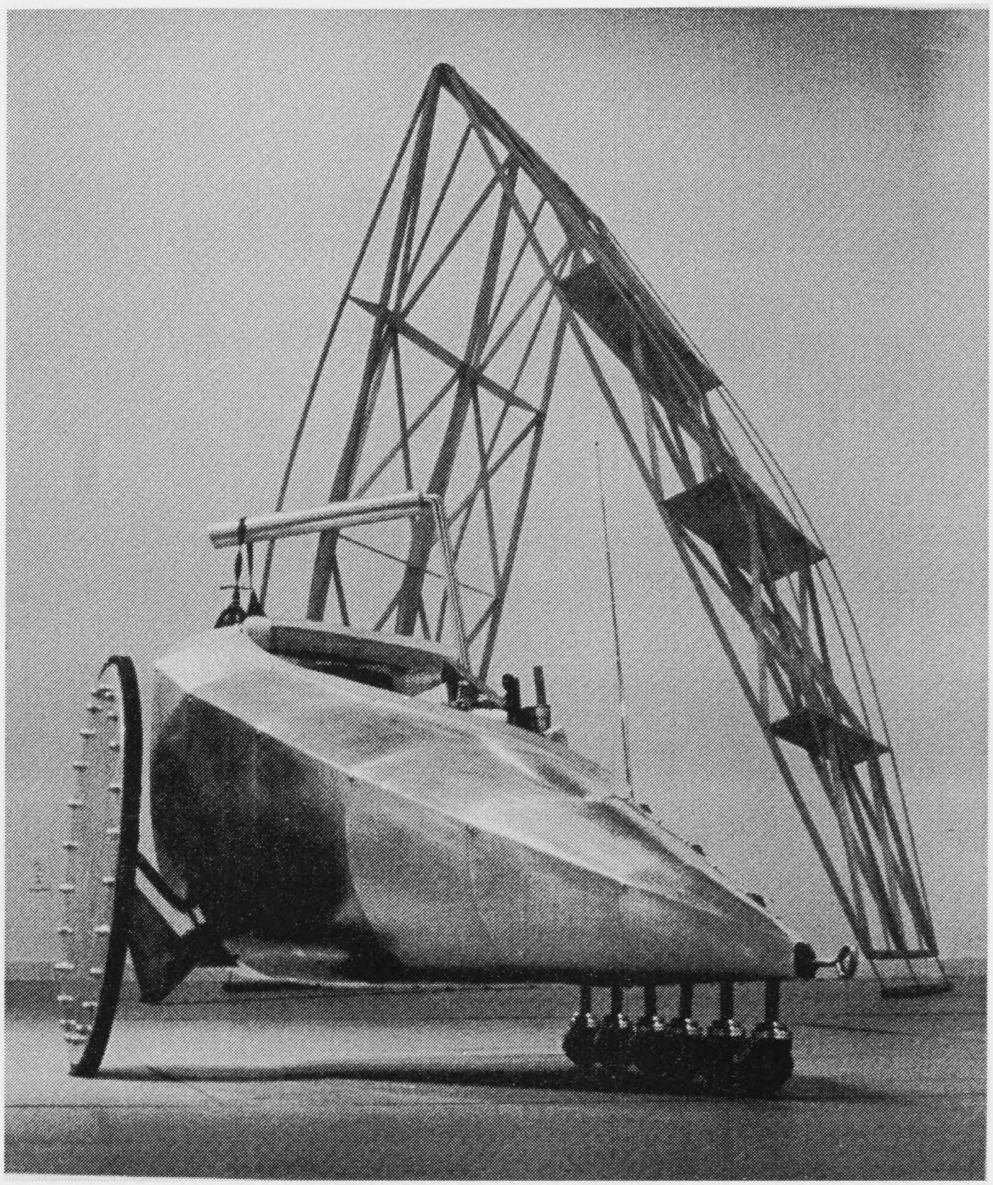


Fig. 4.19 KK Research's 'Crib-batic' of 1986 is a prototype for a push-chair made from steel (they felt children needed to be exposed to hard materials from an early age). It was equipped with measuring equipment so that the child might interact with the environment on the go. It moves beyond implied functionality and appearances to the use of function to draw attention to the role objects play in conditioning our responses to the environment.

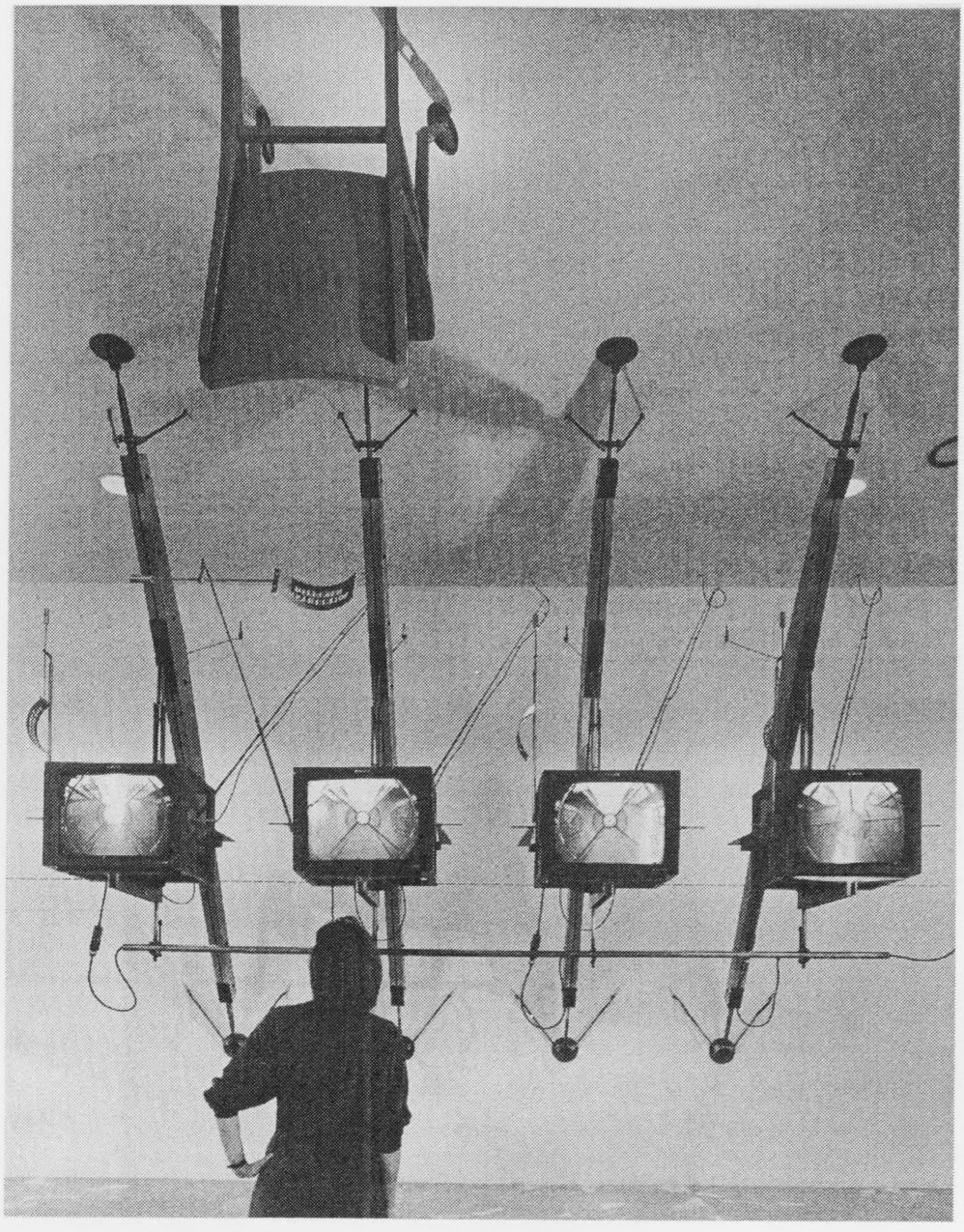


Fig. 4.20 Diller + Scofidio's 'Para-Site' of 1989, an architectural exploration of the impact of electronic media on architectural space, gives equal importance to electronic and conventional media. Electronic objects such as TVs and video cameras are not repackaged or redesigned but are integrated into new hybrid objects. Diller + Scofidio's imagination directs an intelligent deployment of electronic technology, using it to reveal, enable and criticise, intervening not only in the abstract space of the building but also its social and practical use.

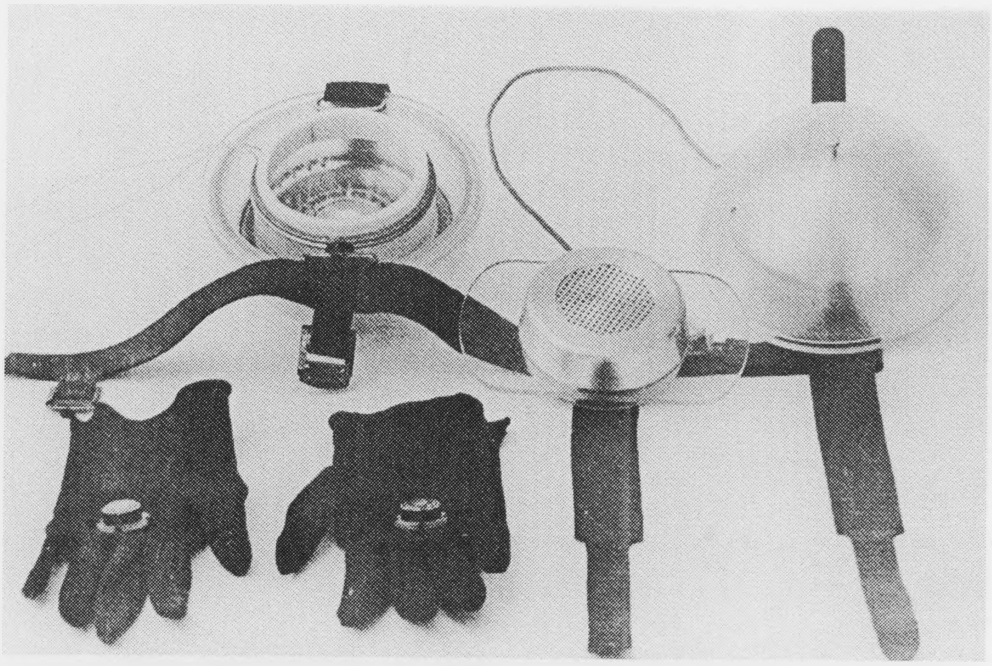


Fig. 4.21 Krzysztof Wodiczko's 'Personal Instrument' of 1969, although private, depends on a public space as a source of sound, and so that others can gaze at it and imagine how it works. The instrument was not designed for mass production or even for a limited edition 'and yet it was intended for the whole world as a metaphor for community life and the nature of public spaces in Poland'.

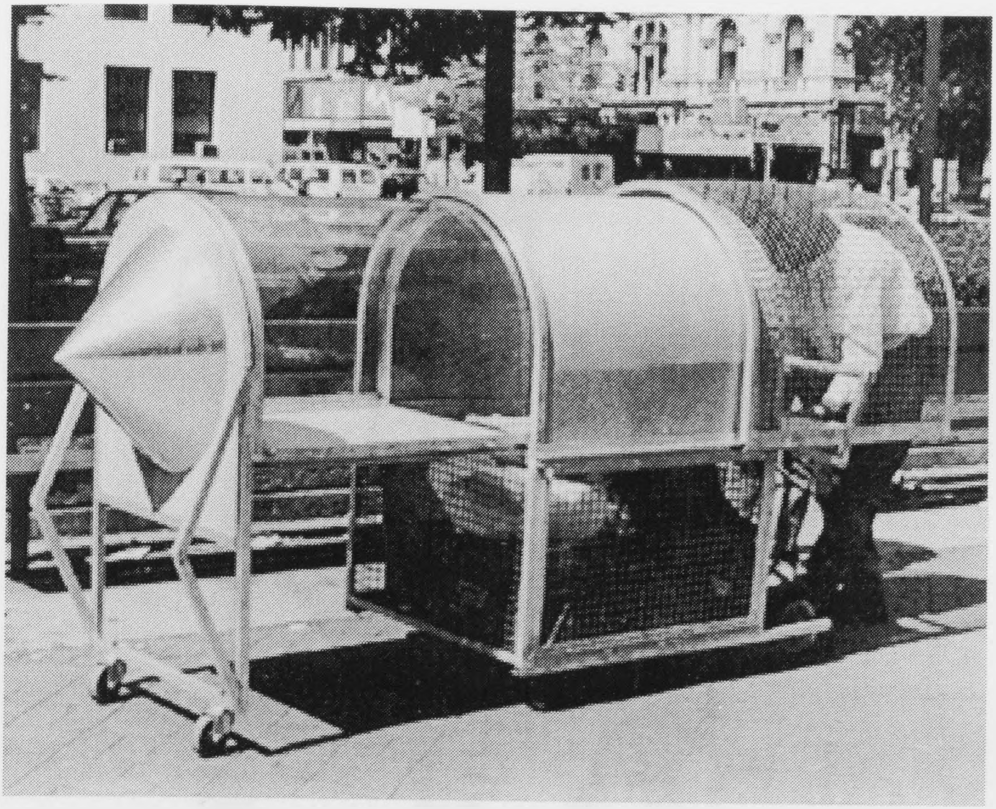


Fig. 4.22 Krzysztof Wodiczko's 'Homeless Vehicles' of 1988-89.

Fig. 4.23 Krzysztof Wodickzko's 'Alien Staff' of 1992- houses a small LCD TV. 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 destabilised, and real communication may begin.

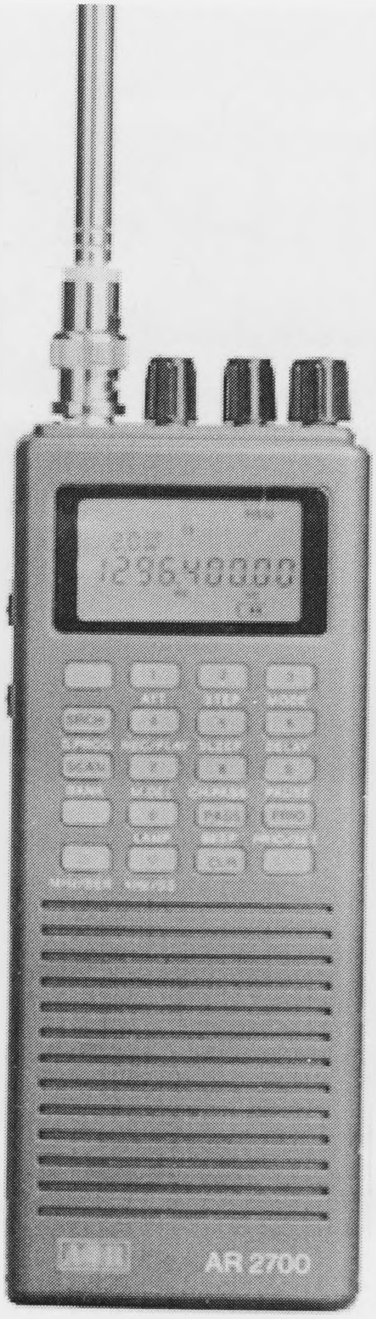
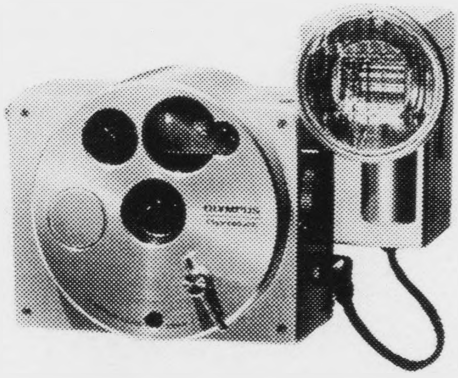


Fig. 4.24 The AR2700 scanner is an example of a 'pathological product' based on suspicion and paranoia designed to open up one-to-one channels, transforming private situations into public ones. It draws attention to what Manual De Landa has termed the policing of the spectrum, not a public space but a highly policed and militarised state space. It enables new urban maps to be made, revealing normally hidden structures of the visible and conventional.

Fig. 4.25 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. The device is a black box. But it is the act of using it and the conceptual dimensions of this object that count: when it picks up a field it screams, rising in pitch with the strength of the field.

PSYCHOSOCIAL NARRATIVES



Figs. 5.1-2 Sony's 'Sports Walkman' of 1984, and Water Studio's 'O-Product' of 1988 for Olympus, are examples of a conventional application of semiotics to electronic objects. The form, material and textures of both products are manipulated to evoke a world of fantasy and fiction, blurring distinctions between everyday life and the hyper-reality of advertising and soap opera.

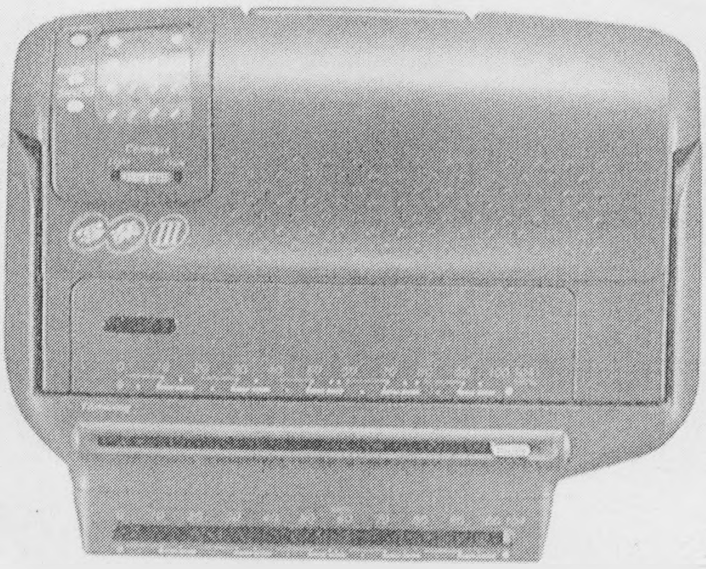


Fig. 5.3 This hand-held scanner/fax is an example of an (ab)user-friendly product used to exploit the potentially subversive possibilities of the parallel world of illicit pleasures stolen from commodified experience. Short-circuiting the combinatorial limits suggested by electronic products, it is used to scan parts of the body through sheets of clear plastic and fax the resulting images to lone women.

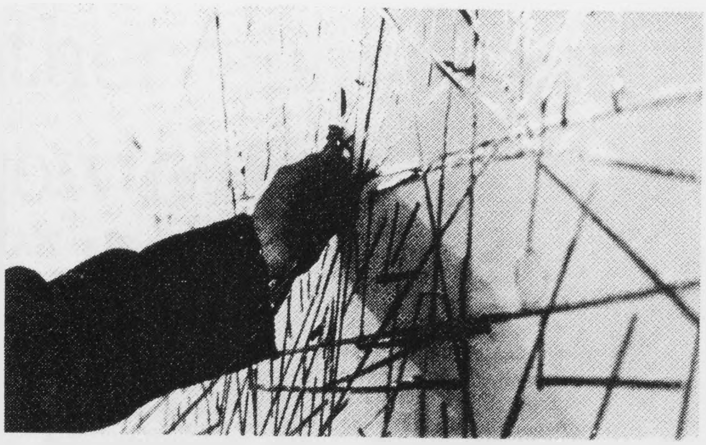


Fig. 5.4 Nam June Paik's 'Random Access' of 1963 is an example of a device where the artist has invented new interactive possibilities for existing products that draw attention to the limitations imposed by manufacturers through unimaginative design on our experience of everyday electronic products.

Mother 'shoots son, 12, in row over TV channel'

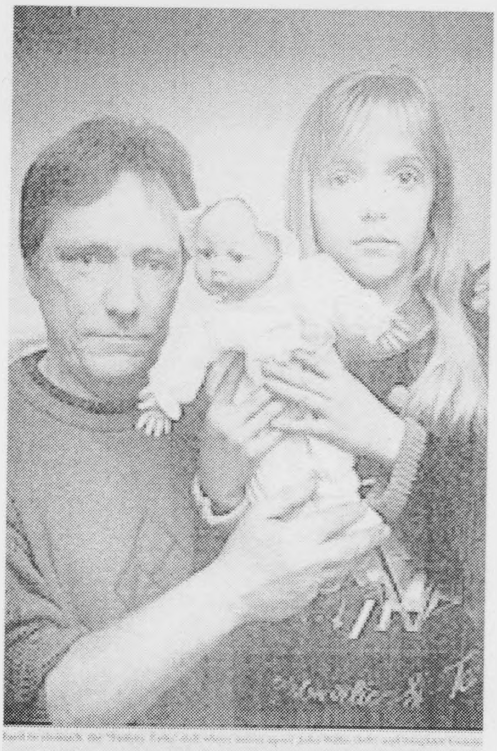
A WOMAN allegedly shot her 12-year-old son in an argument over the television remote control.

The boy was shot through the left wrist and the bullet lodged in his stomach, US police said. He was in a serious but stable condition in a St Louis hospital.

Yvonne Lindsey, 39, the boy and three other children were watching television when Lindsey became angry about the channel changing, police said.

She pulled a gun and threatened to shoot the TV. When her son told her to go ahead and shoot, she cursed and shot him.

Lindsey has been charged with first-degree assault and armed criminal action.



Baby doll shocks adult ears

Figs. 5.5-6 The headlines 'Mother Shoots Son ...' and 'Baby Doll Shocks Adult Ears' from tabloid newspapers testify to the unpredictable potential for humans to establish new situations around the constraints on everyday life imposed through electronic objects.

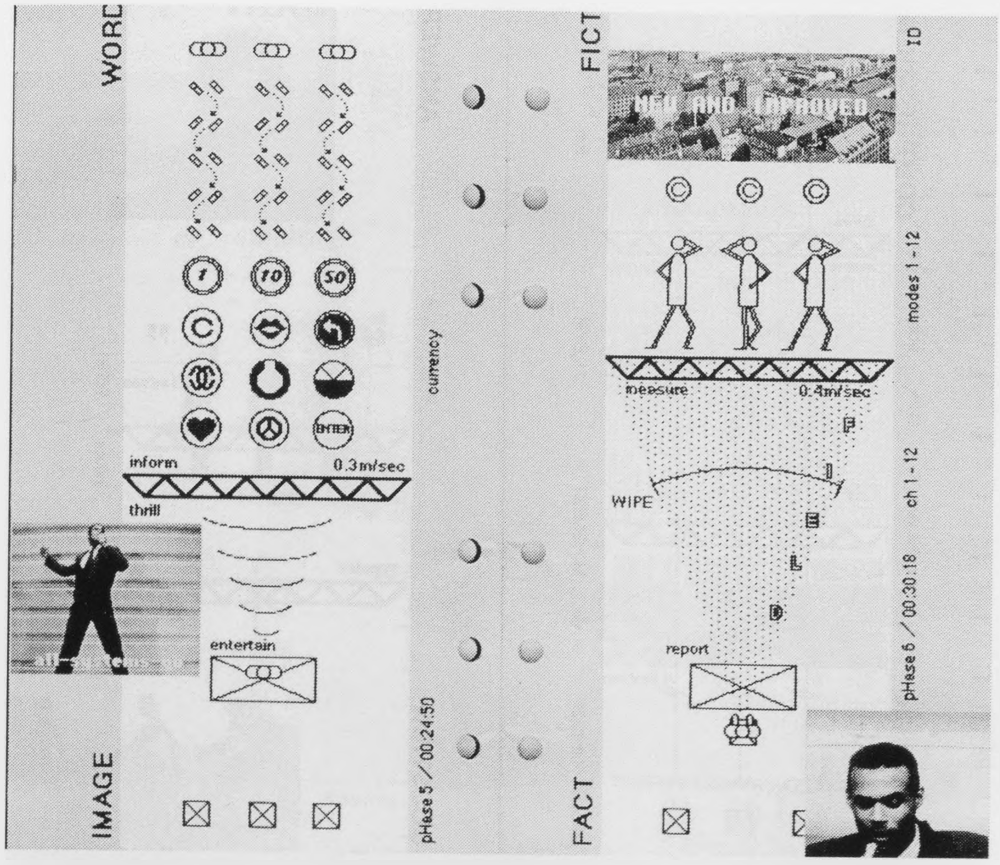


Fig. 5.7 Dumb Type's 'PH' of 1990 is one of several performances they have created in response to the impact of consumer technology, through commodification, on our lives. Their work is different from other techno-art performances where technology is only used to create spectacle. The viewer is exposed to the effects of technology through the performance, an analogue to be engaged with rather than an allegory to be deciphered.

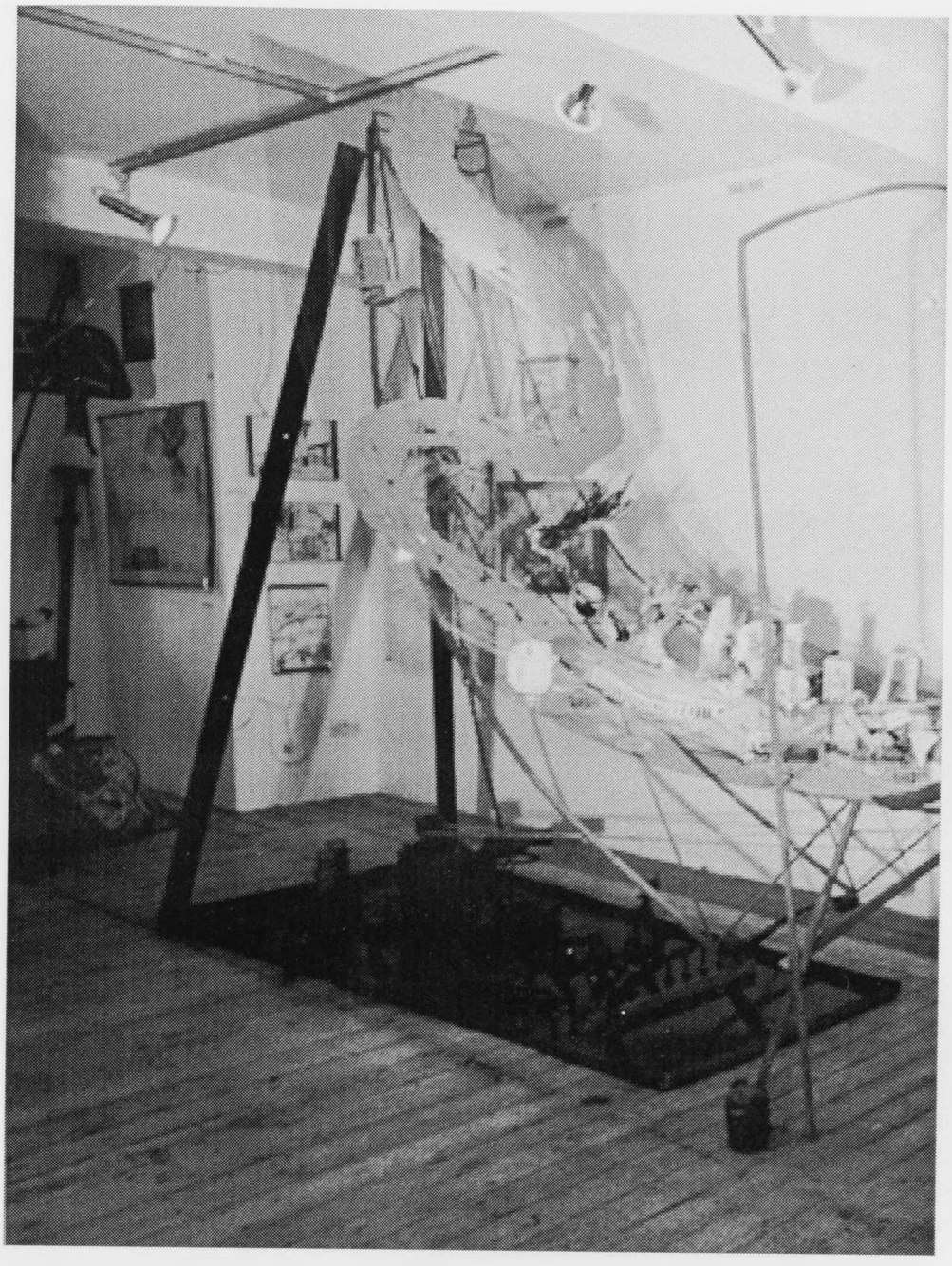


Fig. 5.8 The relation of narrative to space has been thoroughly explored through design proposals and exhibitions such as 'Gamma City' at the Air Gallery, London in the 1980s by Nigel Coates and Narrative Architecture Today.

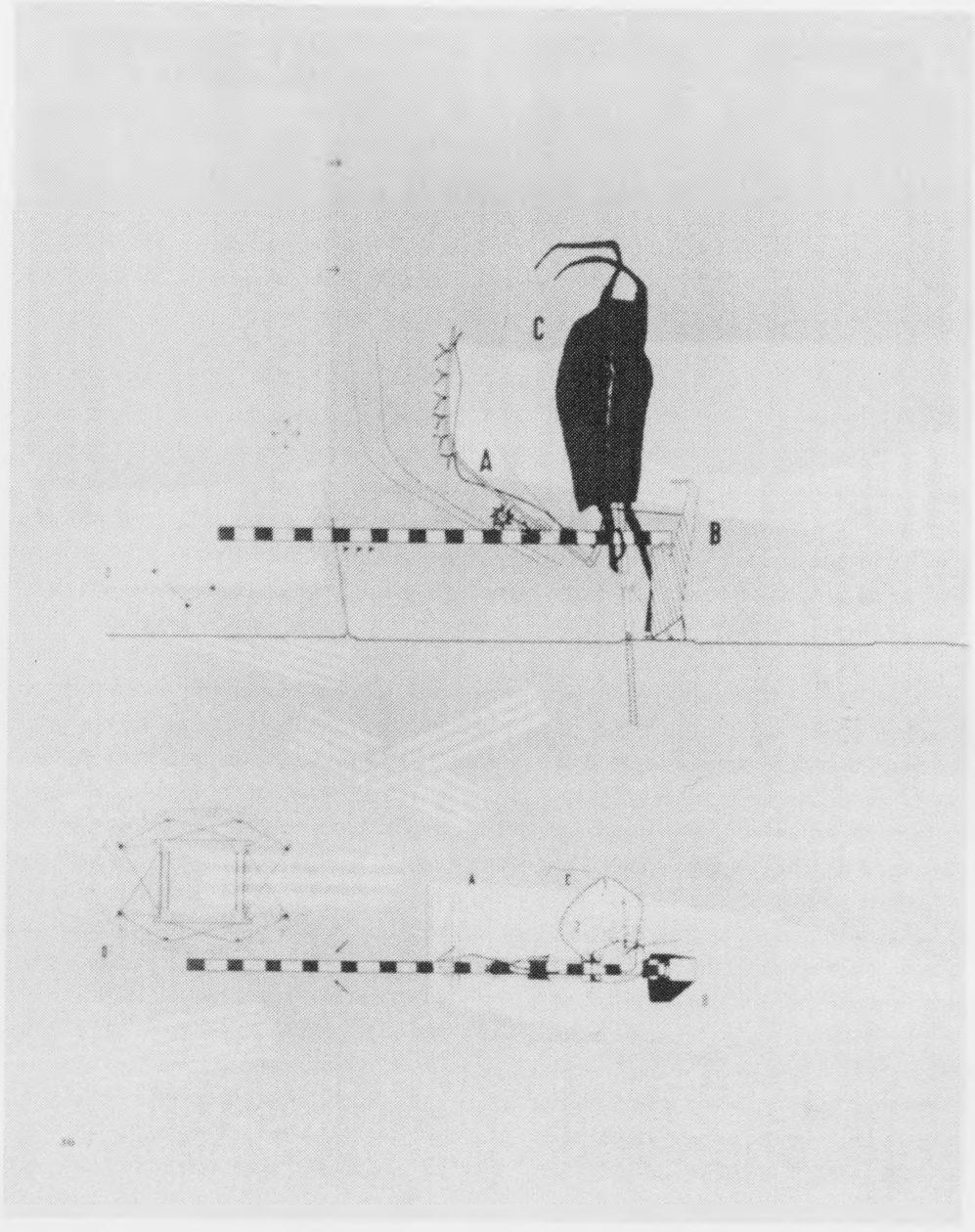


Fig. 5.9 This project by Architektbüro Bolles Wilson of 1986 is an architectural exploration of the poetics of electronically mediated architectural space, in this case urban space. This project uses architectural function to express a lyrical response to electronic media through the design of a retreat from the 'electronic glare' of Tokyo. It is an electronic shadow.

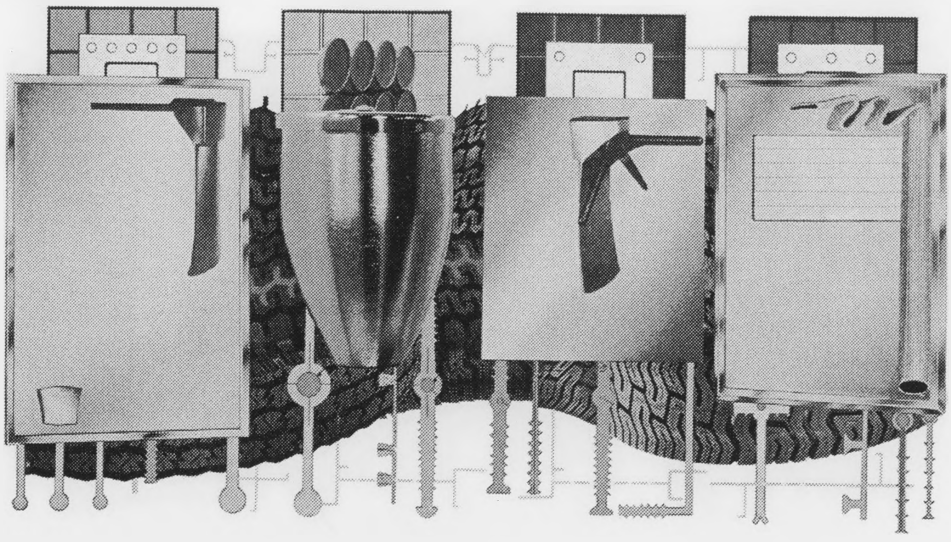


Fig. 5.10 Ben Nicholson's book *Appliance House* of 1990 is an architectural fiction dealing with imaginary psychological narratives derived on one level from the products on offer in a Sears catalogue and on another from the imagined structures built by a kleptomaniac.

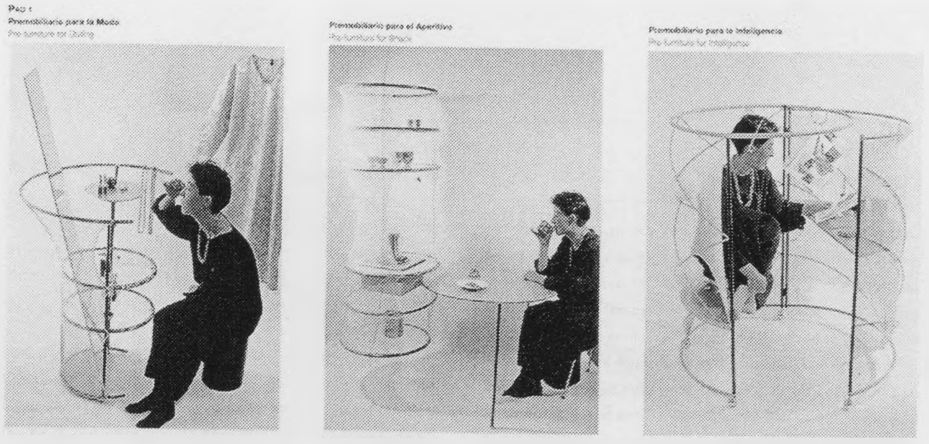
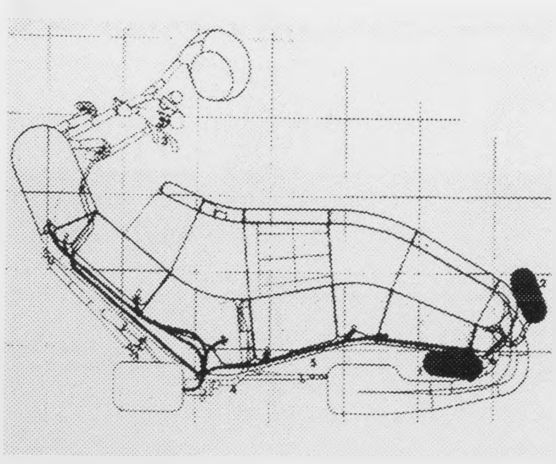
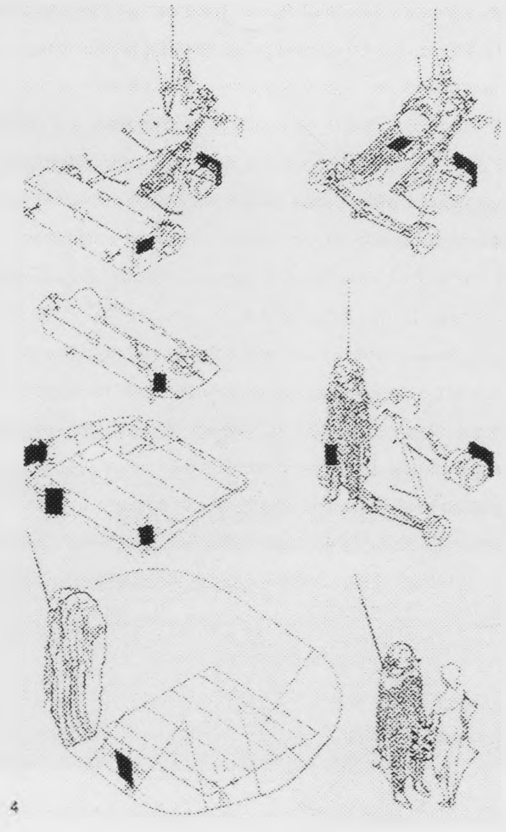


Fig. 5.11 Toyo Ito's 'Dwelling for Tokyo Nomad Woman' of 1985 is an architectural response to consumerism which sets his work apart from many other architects, including those who address technological issues. This project deals with notions of fiction, packaging and private/public experiences of the city, and refers to the psychological and behavioural dimensions of electronics rather than their technical, formal or structural possibilities.





Figs. 5.12-13 Mike Webb's 'Cushicle' and 'Suitaloon' of the 1966-68 see nomads carrying all their belongings with them.

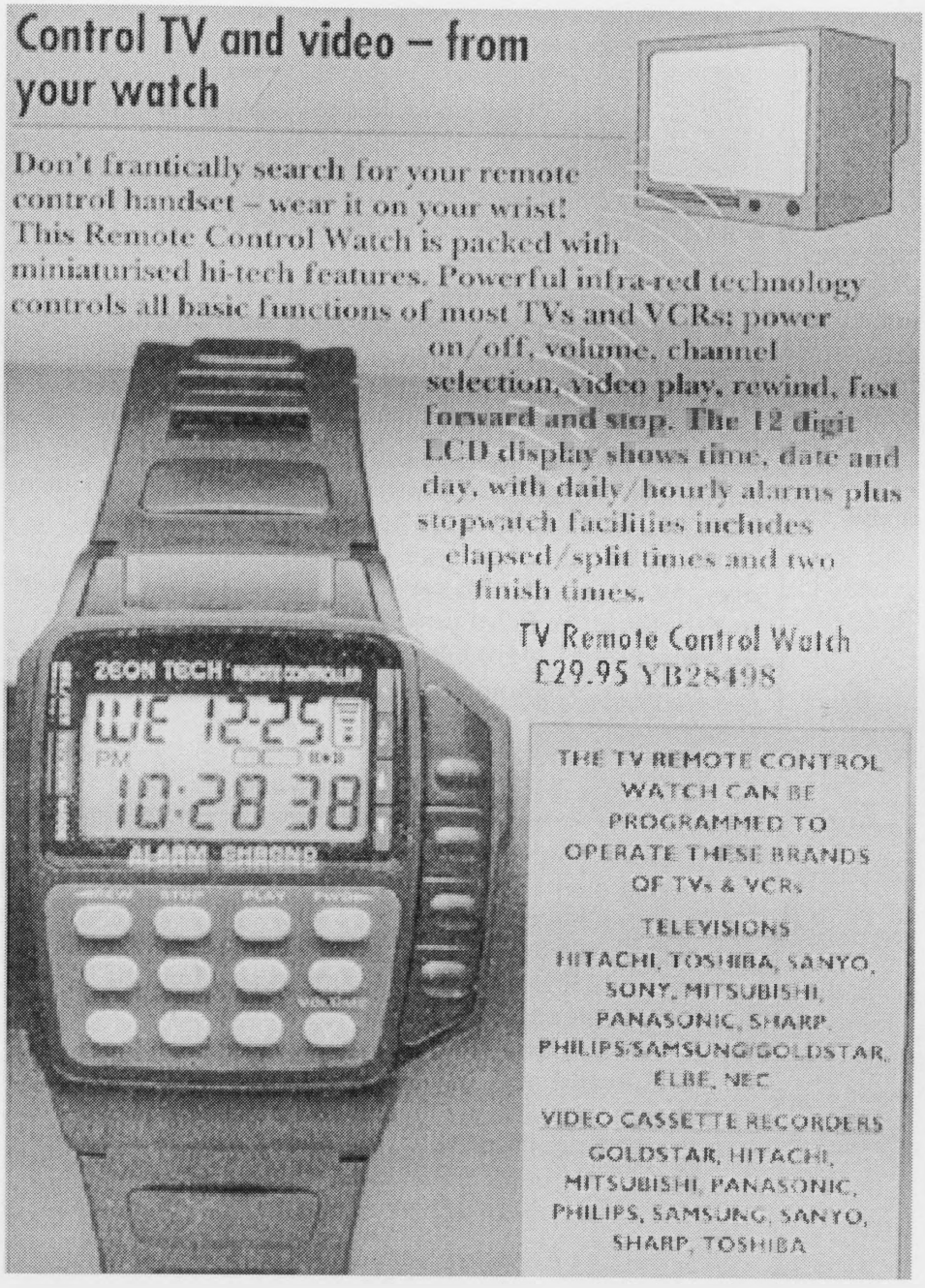


Fig. 5.14 The TV Remote-control Watch by Zeon Tech is a product at the edges of anonymous design where obscure marketing and novel technical possibilities lead unintentionally to objects which, although sometimes gimmicky, offer unusual narrative possibilities. This watch addressing an unlikely psychological obsession, speaks of a sad need to control the plethora of domestic gadgetry in not only one's own home but also those of others.

Fig. 5.15 The 'Truth Phone' of by the Counter Spy Shop, is an example of an object embodying a pathological model of behaviour. It combines a voice-stress-analyser and telephone, allowing the user to tell whether the person at the other end is lying.

HERTZIAN SPACE

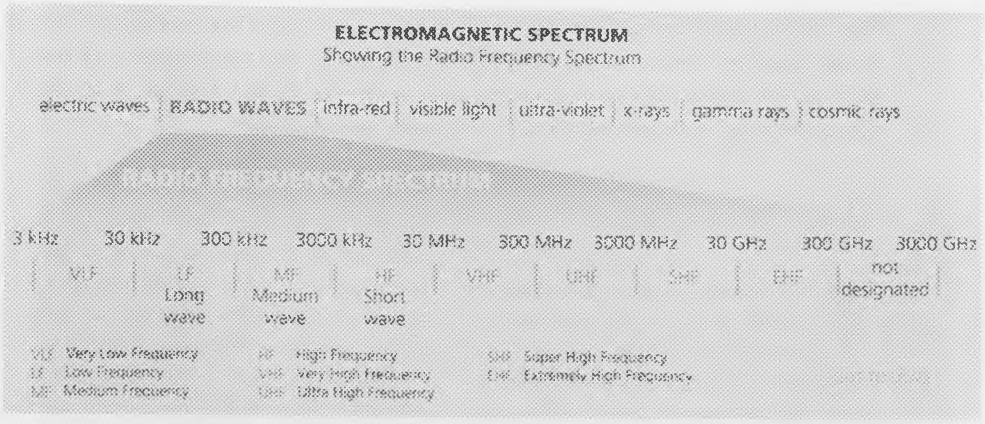


Fig. 6.1 Electromagnetic Spectrum showing the radio Frequency Spectrum.

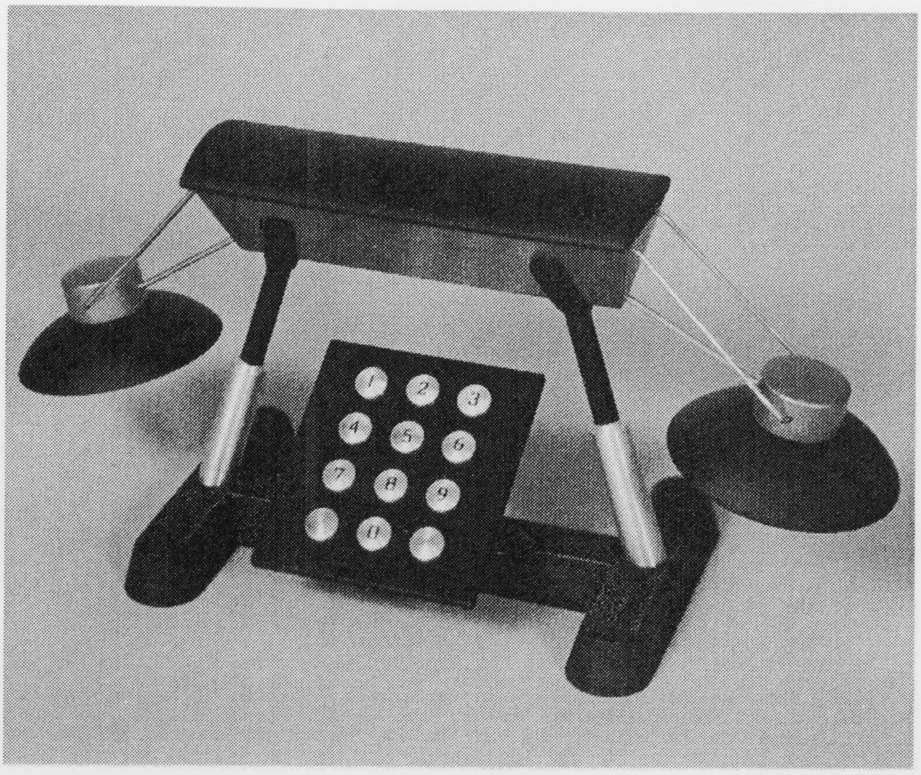
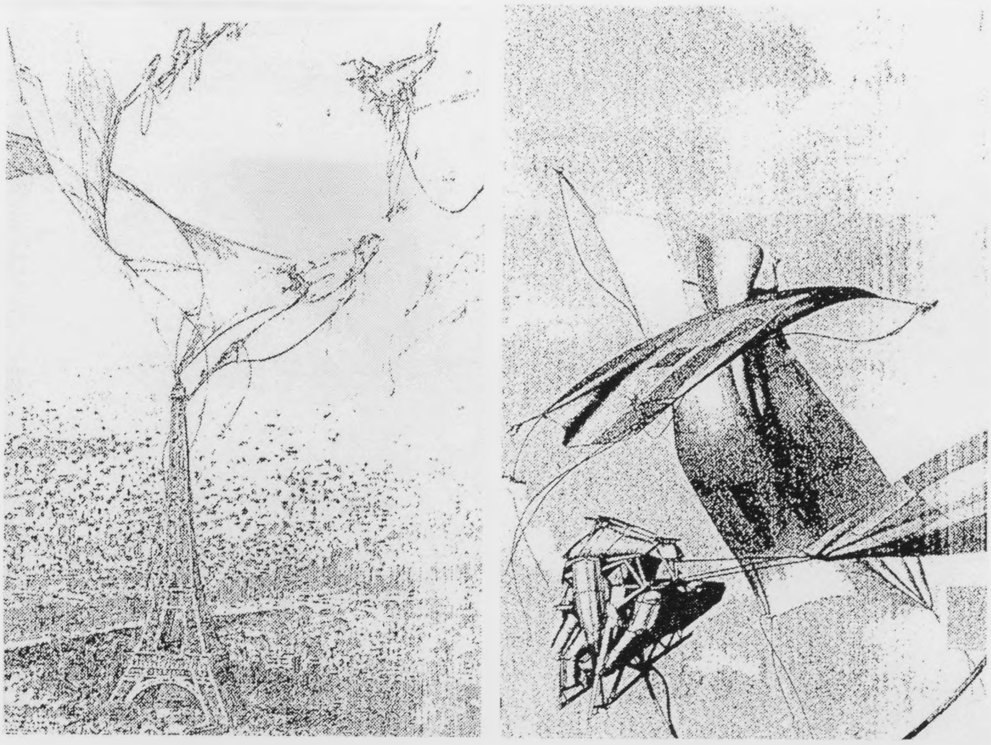


Fig 6.2 The extra-sensory parts of the electromagnetic spectrum form more and more of our artefactual environment, yet designers direct little attention towards the possible sensual and poetic experience of this industrially-produced new materiality. In design, immateriality is often referred to through visual motifs usually in relation to product semantics and representation, but is rarely dealt with directly as a physical phenomenon. This telephone 'reflects the imagery of the microwave communications systems to which it is attached'.



Figs. 6.3-4 In Lebbeus Woods' 'Aerial Paris' of 1989 and 'Aero-Living Laboratories' of 1989, electromagnetism becomes a field which 'binds building to the sky instead of the earth'. Although their concern with the electromagnetic aspects of space is rare in architecture, it is difficult to see exactly what these two projects gain through their association with electromagnetism in terms of architecture or new modes of living.

Fig. 6.5 Laura Kurgan's 'You Are Here: Information Drift' of 1994 uses a GPS navigator to explore the electrosphere created by the network of satellites orbiting the earth. She stands stationary in a gallery for ten minutes recording 311 position records, plots the results on a map of the gallery and its surroundings, compares them with an accurate reference, and thus provides a map of the space that exists between the digital and physical.

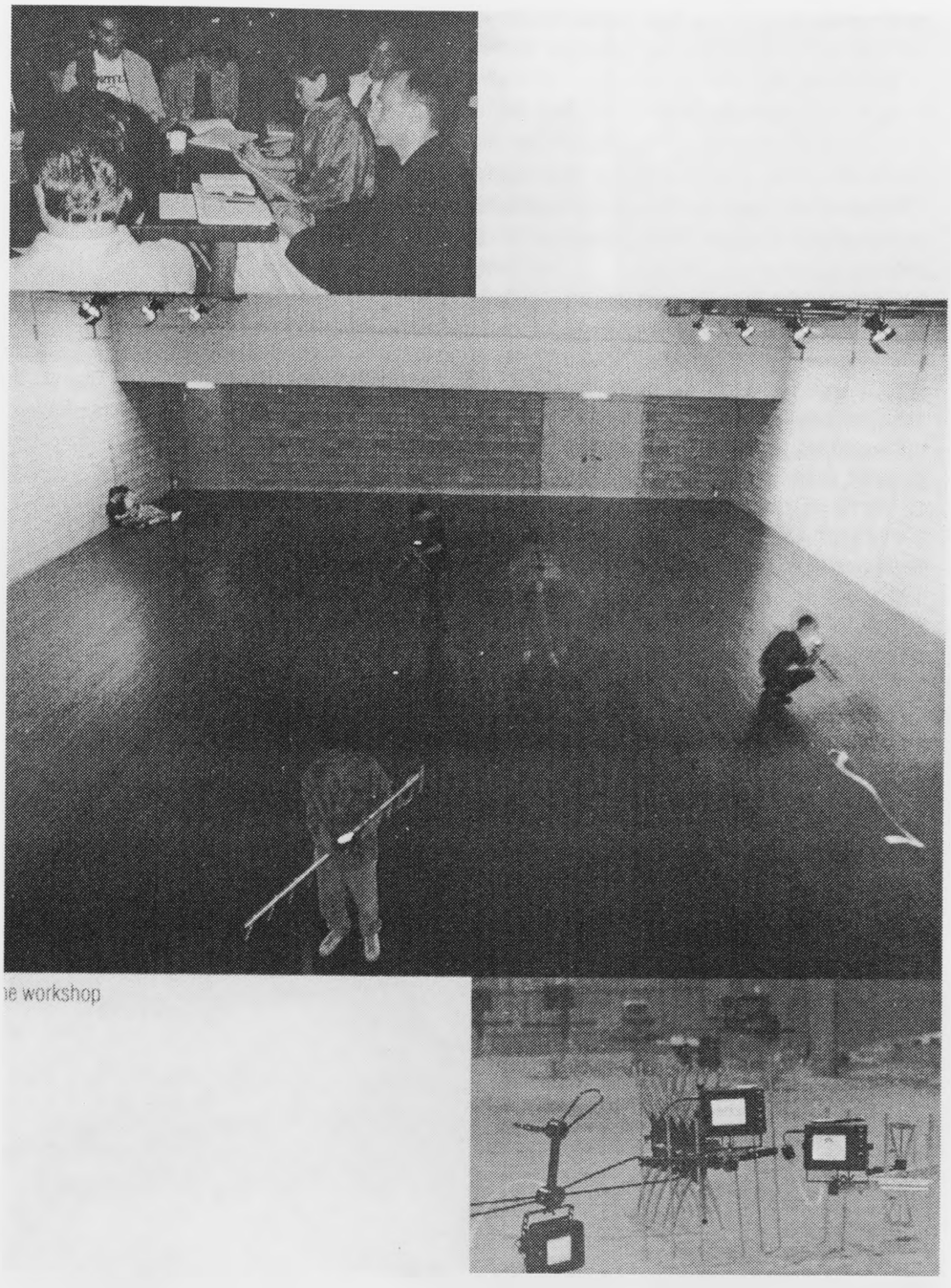


Fig. 6.6 In Ingo Günther's installation, 'Exhibition On Air' of 1992, the visitor enters the P3 gallery in Tokyo and wanders about with a combination of aerial and LCD TV, receiving broadcasts from other antennas sited around the building. The work demonstrates his notion of 'sitecasting', where the TV signal does not travel to where you are: you have to go where it is; you have to hunt for it.

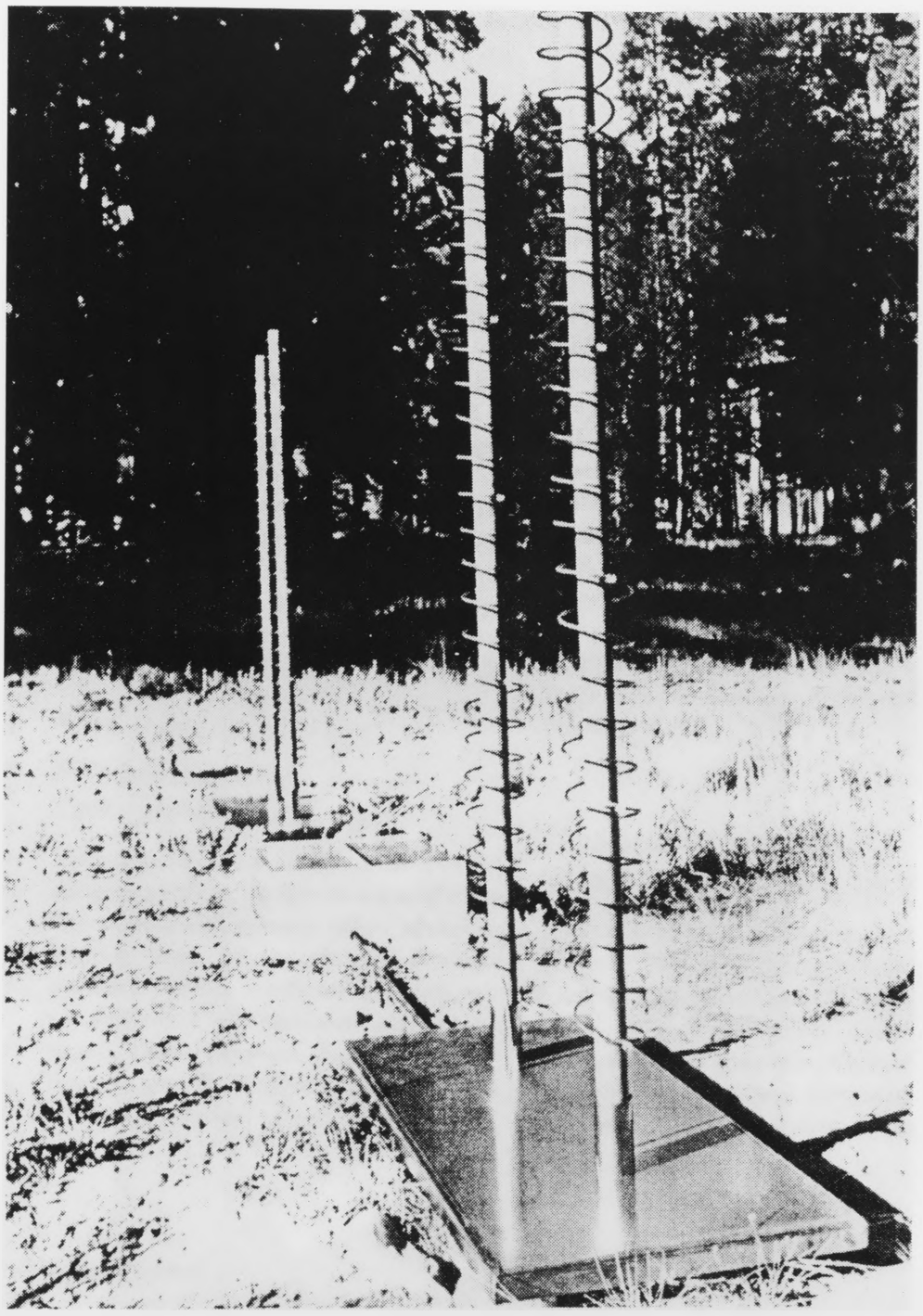
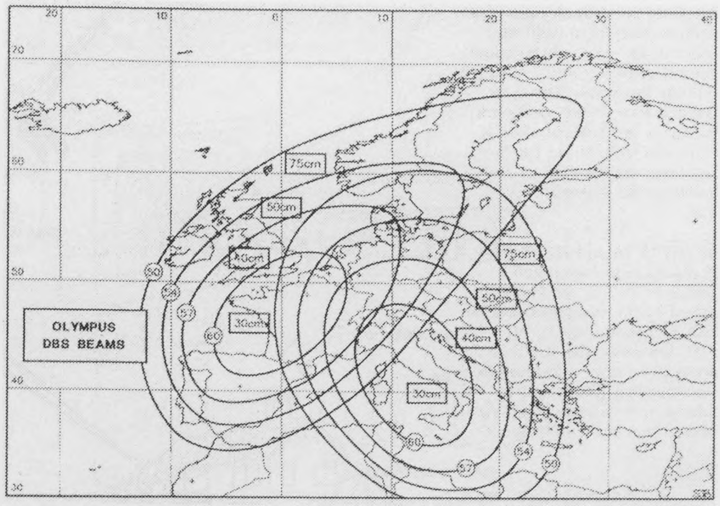
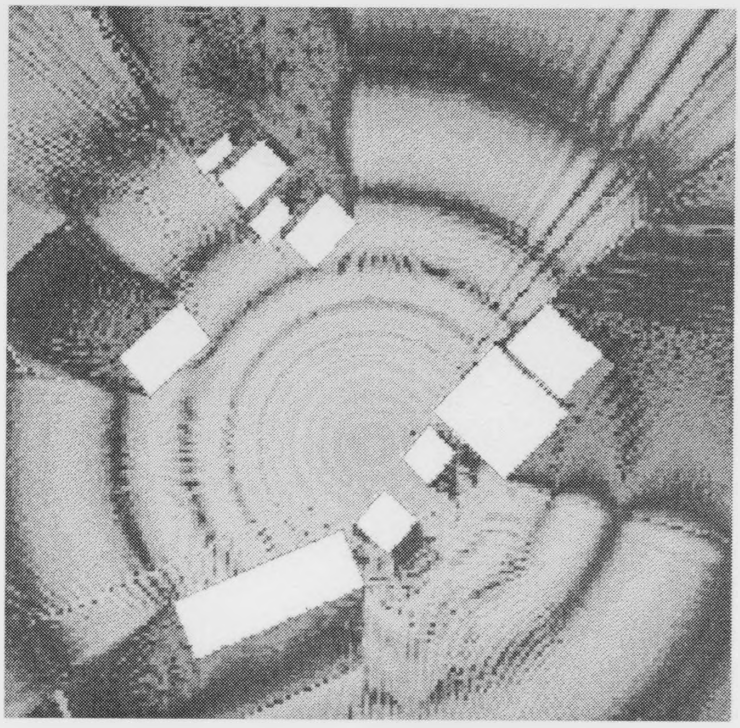


Fig. 6.7 In 'Space Between the Real and the Imagined: Microwave Sculpture In Deep Space' of 1985 Michael Heivly and Michael Reed write about how a microwave form, detectable yet unavailable to the senses, represents simultaneously the idea of the real and the imagined. Heivly's work translates landscapes into musical sound compositions transmitted as microwaves into deep space.





Figs. 6.8-9 Maps showing the field strength and 'footprint' of TV and radio transmissions in relation to the surface of the earth, and computer generated models showing radio propagation in relation to urban environments, reveal that hertzian space is not isotropic but has an 'electroclimate' defined by wavelength, frequency and field strength arising from interaction with the natural and artificial landscape.

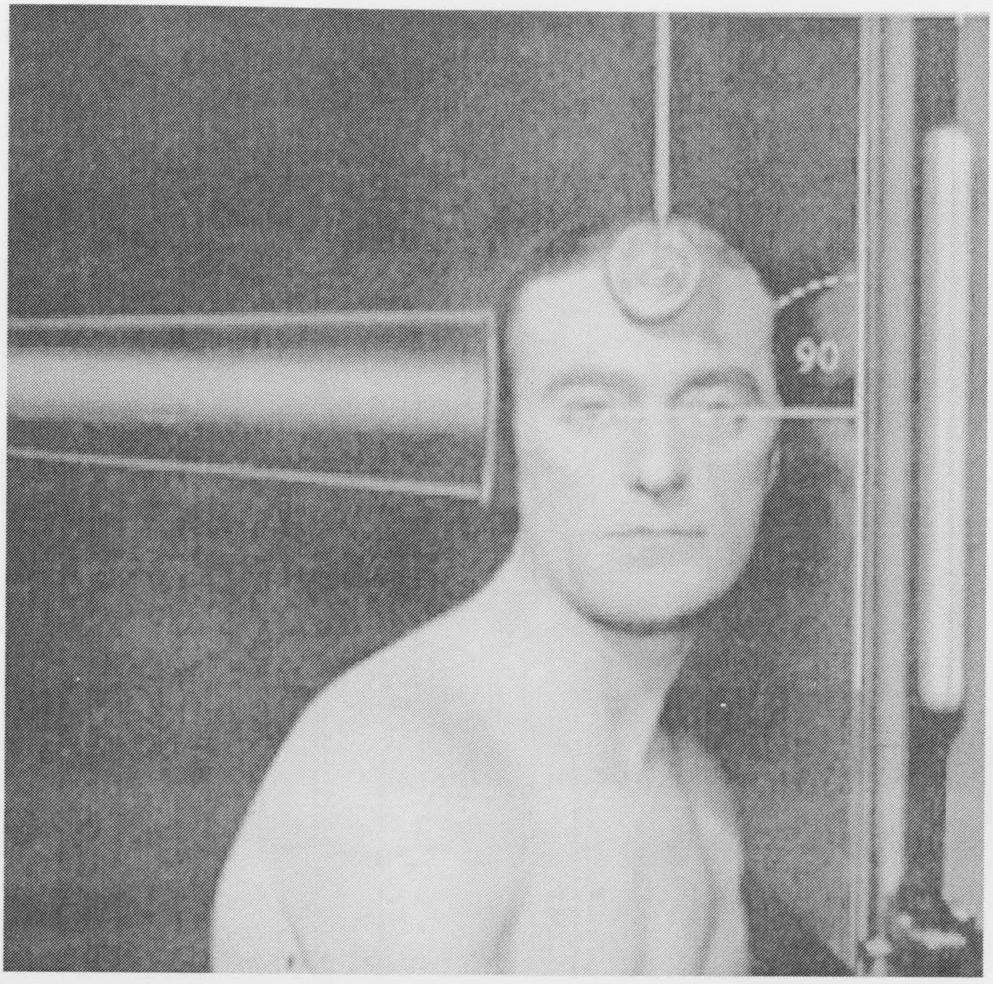


Fig. 6.10 An Ilford manual for x-ray machines contains images of radiographic actors and props that illustrate the use of the body as a radio medium. The devices support a sort of radio perspective, revealing concealing and exposing hidden organs and views, and creating a 'radio theatre' of the hidden body. The body is configured in relation to an unusual conception of space as an electromagnetic medium.

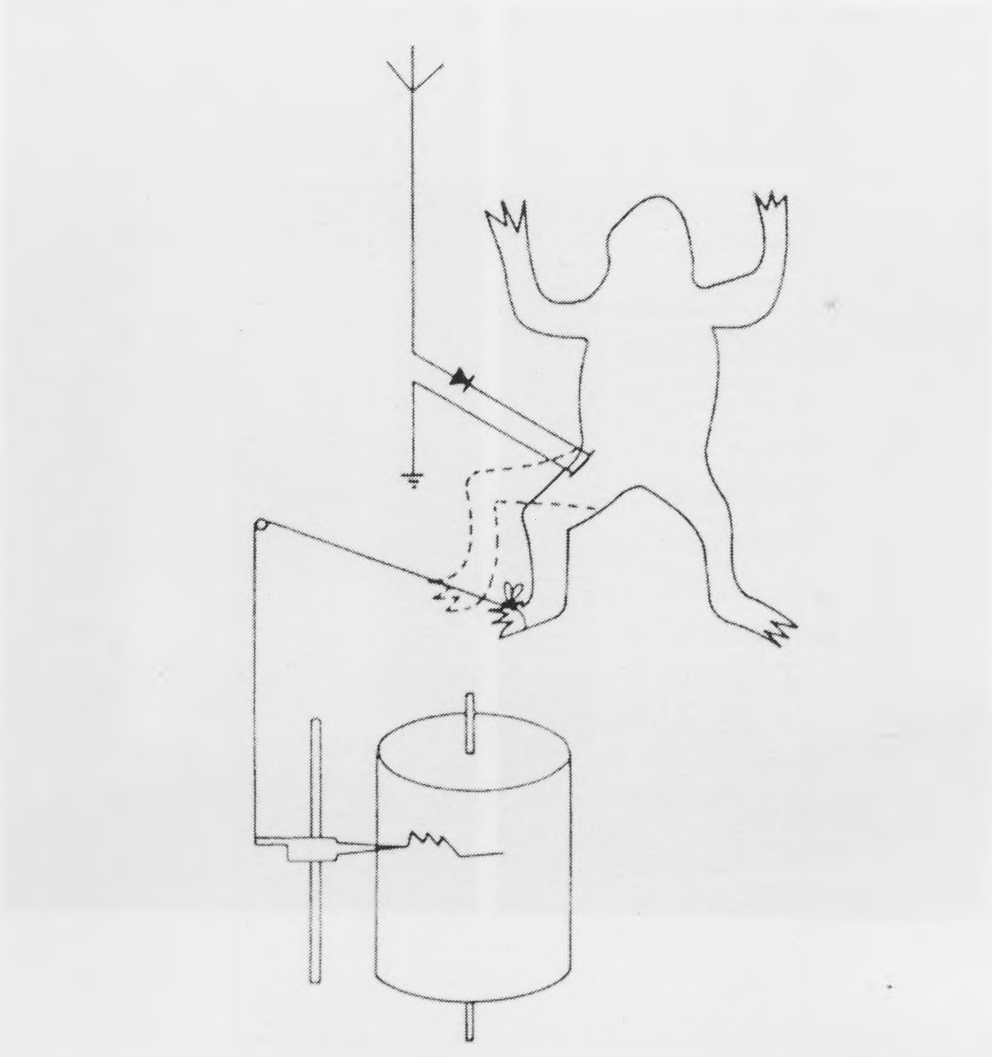


Fig. 6.11 Long before radio energy was used to carry an acoustic signal, many ingenious devices were invented to detect radio energy. Lefeuvre's 'Physiological' receiver, for instance, uses the electrical sensitivity of a frog's leg. These objects share characteristics with early meteorological equipment used to make visible atmospheric phenomena otherwise too subtle for our bodies to sense.

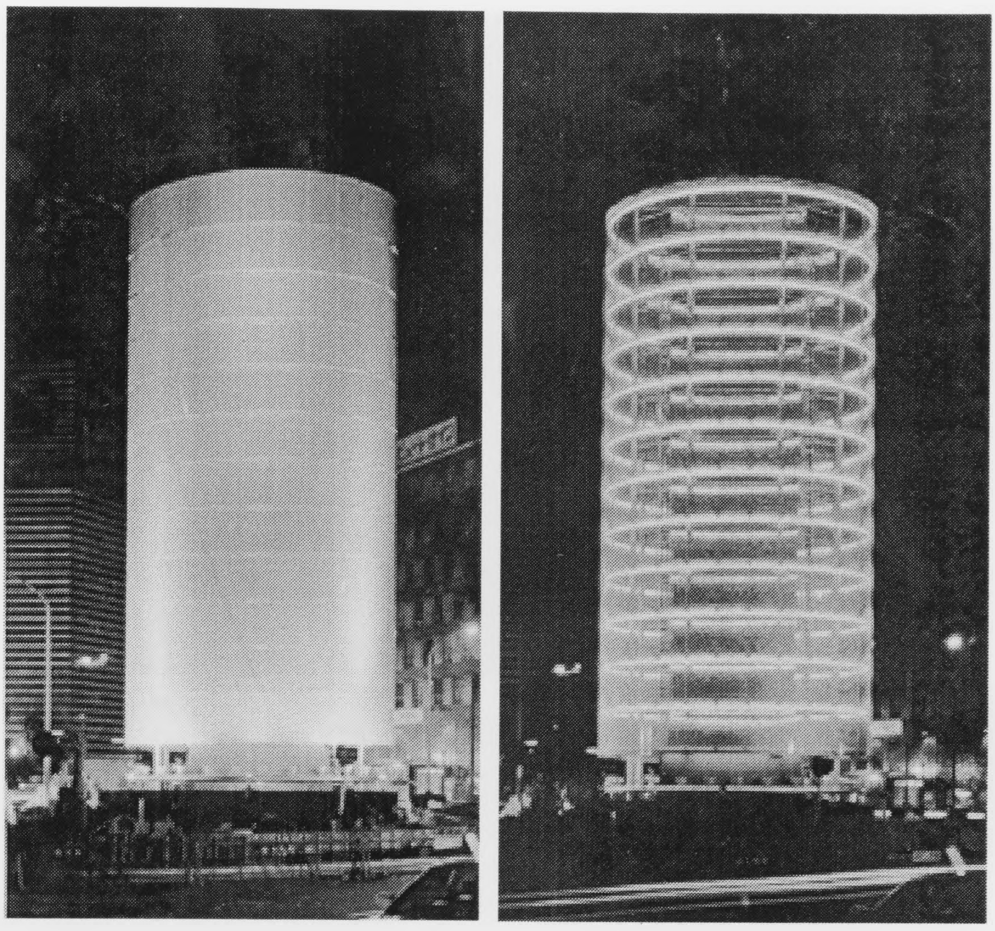


Fig. 6.12 Several of Ito's works attempt to evoke this implied sensuality. In his 'Tower of Winds' - realised in 1986 in the middle of a neon downtown, in front of Yokohama station - he wanted the 'air itself to be converted into light'. The tower appears to dematerialise at a particular moment, re-appearing in response to ambient noise levels.

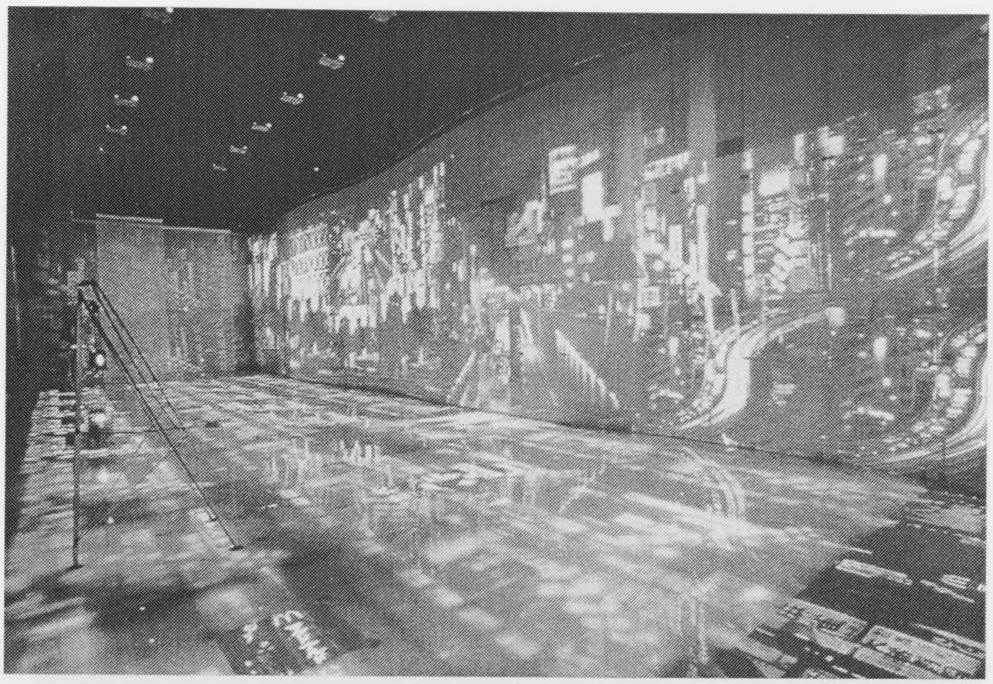


Fig. 6.13 Toyo Ito's 'Dreams' room of 1991-92 for the 'Visions of Japan' exhibition at the Victoria and Albert Museum in London, tries to evoke the immaterial sensuality of the new information environment by combining an information-saturated environment of projected imagery with specially commissioned interface objects intended to reinforce, at an intimate scale, what is communicated at the scale of architecture.

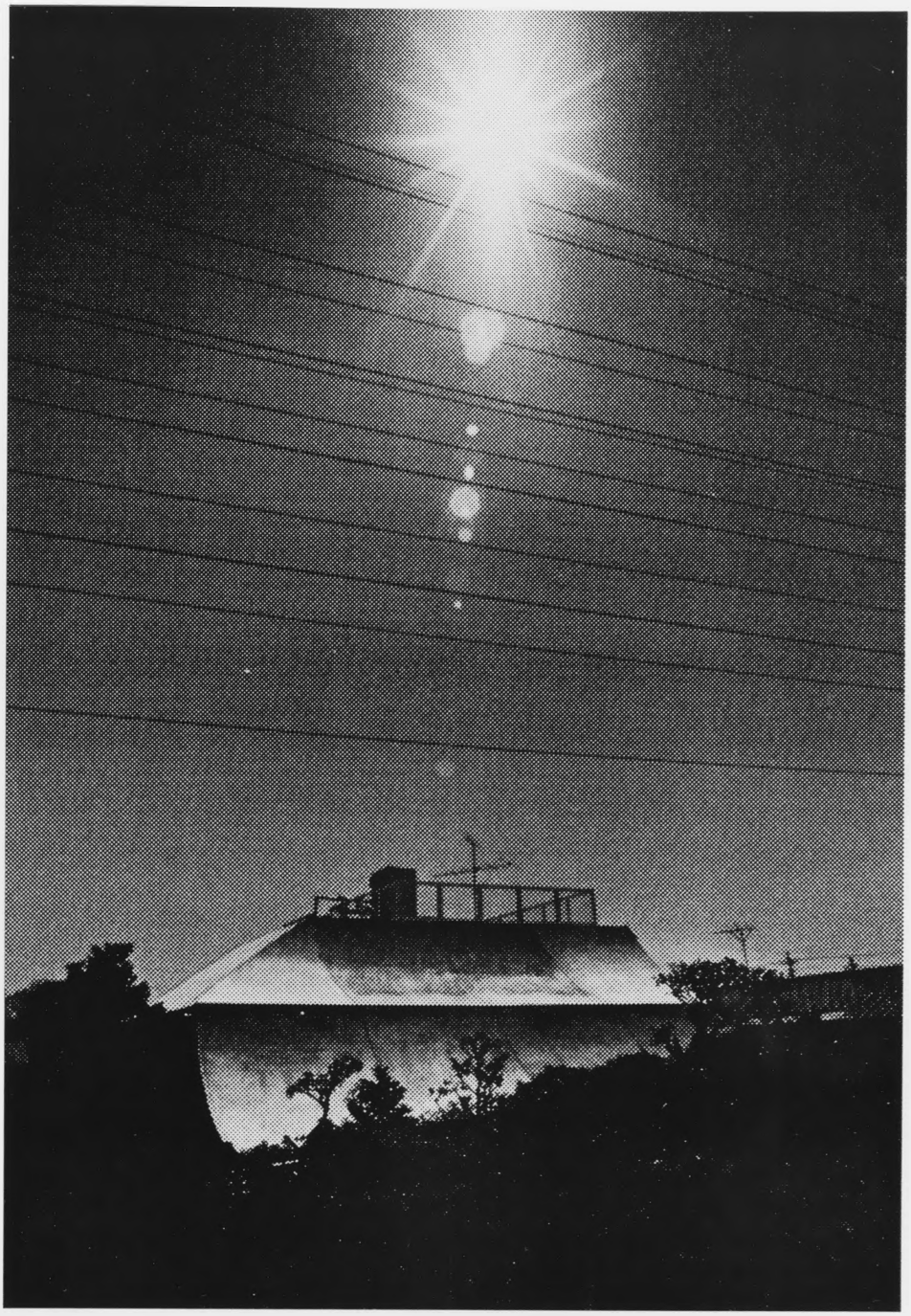


Fig. 6.15 Kazuo Shinohara's 'House Under High Voltage Lines' of 1981 provides a conceptually eloquent response to the new technological situation brought about by electromagnetic space. The site is beneath high voltage powerlines. Strict regulations determine the safe distance from these lines, and the roof of the house defines this zone for two cables, creating an interface between a possibly pathogenic electromagnetic field and a sculpted interior space.

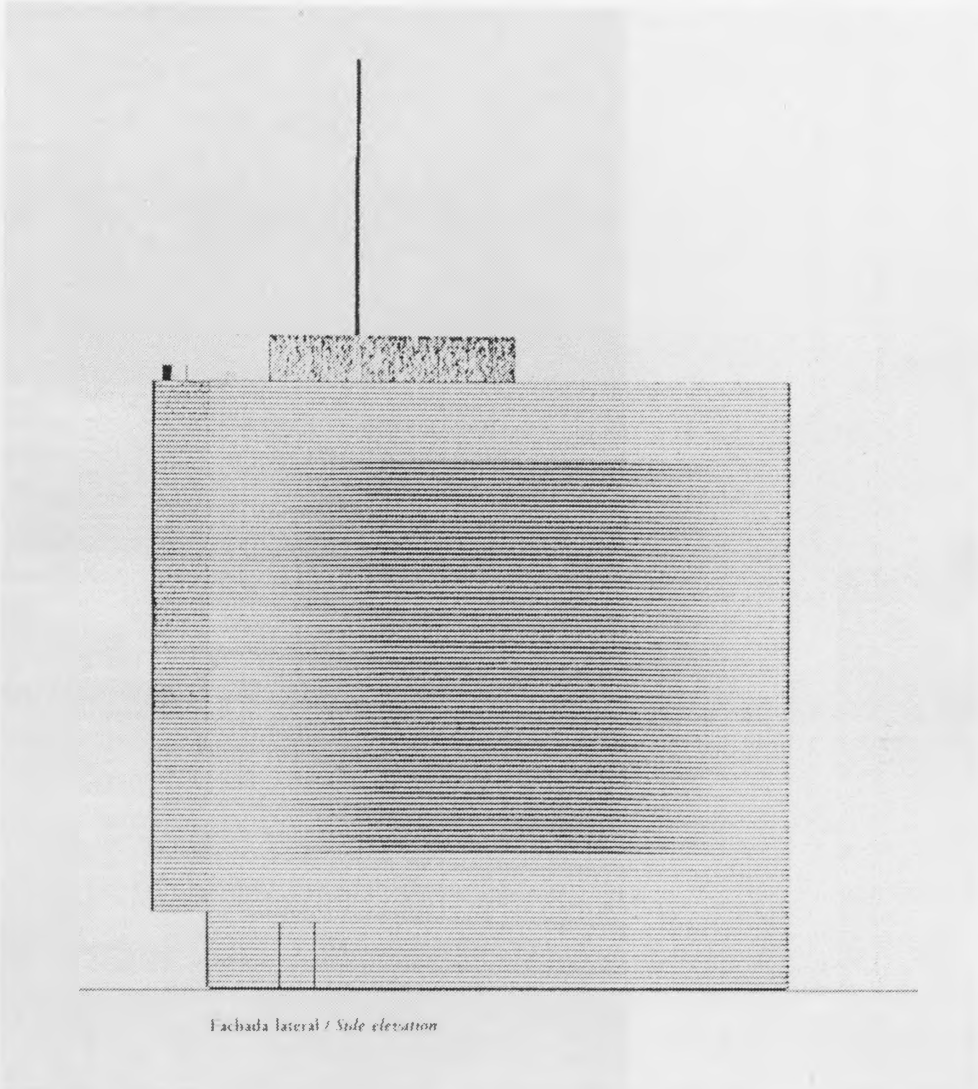


Fig. 6.16 Herzog & De Meuron's 'Signal Box' of 1988-95 is a modernist response to an electromagnetic context. The building houses sensitive electronic equipment and needs to be protected from sudden bursts of electromagnetic radiation. The building is an example of how sensual material responses to immaterial electromagnetic fields can lead to new aesthetic possibilities for architecture situated within hertzian space.

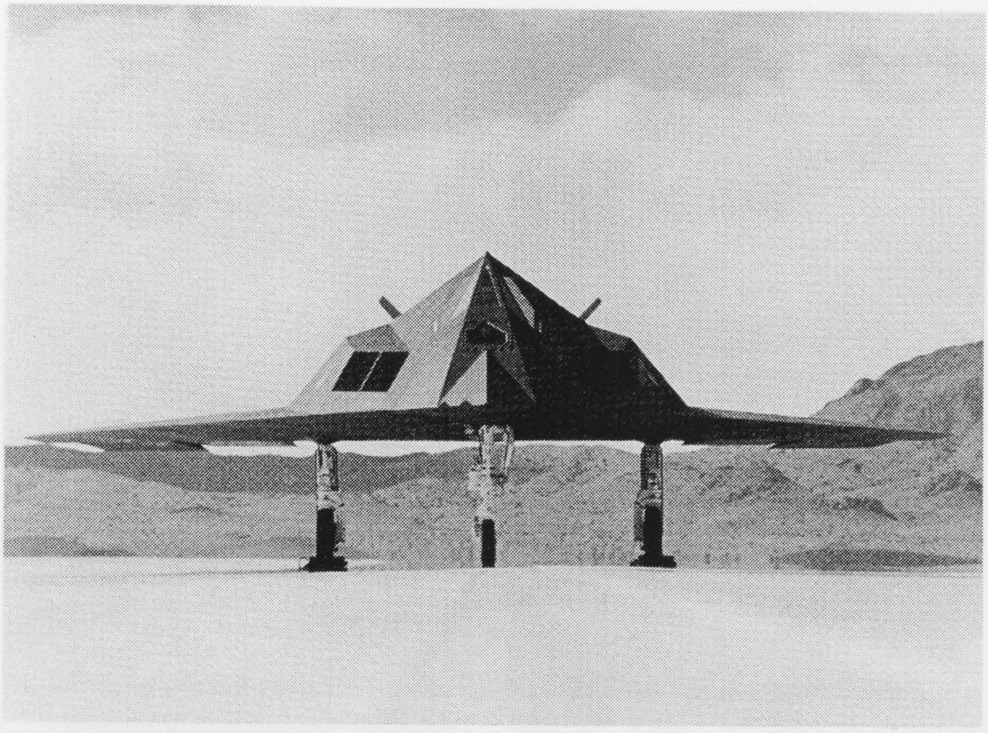
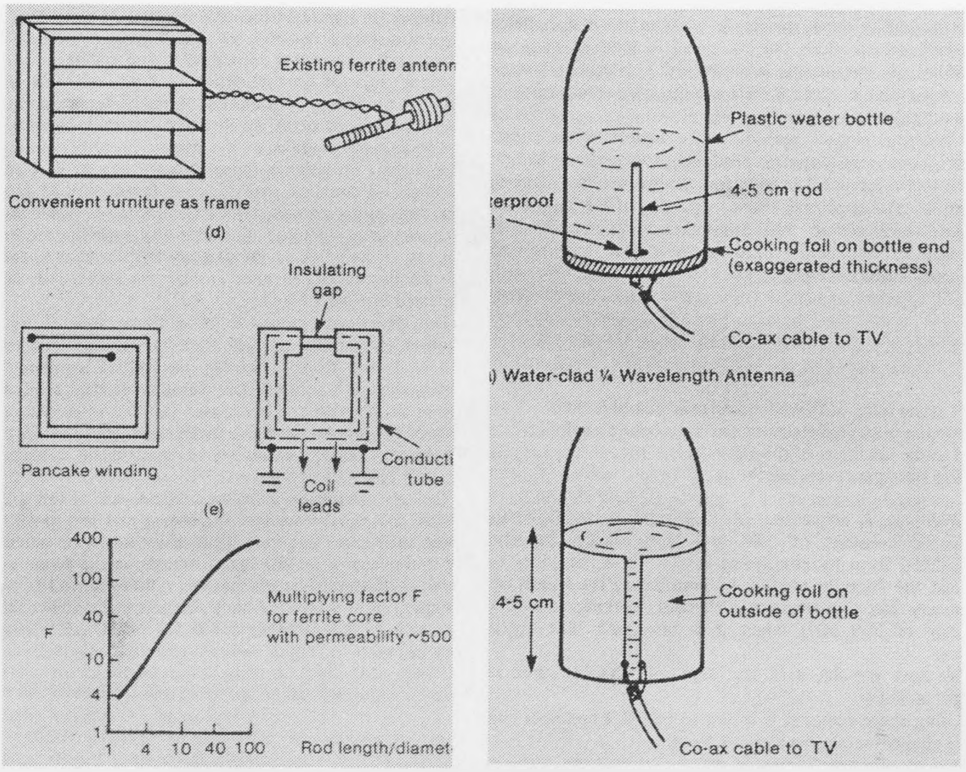


Fig 6.17 The F-117 is an object designed to straddle the worlds of electromagnetism and materiality. It is 'tele-dynamic', designed to fly undetected through fields of radar-frequency radiation. But tele-dynamic forms are not necessarily aerodynamic and to remain airborne their outline needs to be constantly adjusted by a computer. These planes refer to fusions of abstract digital, hertzian and atmospheric spaces.



Figs. 6.18-19 The (Shelf) Loop and Frame Antenna and (Bottle) Dielectric Clad Aantenna are examples from DIY books on antenna theory. They generate the kind of pleasure associated with making do and getting by and people's ability to subvert object types and act in new ways on the environment.

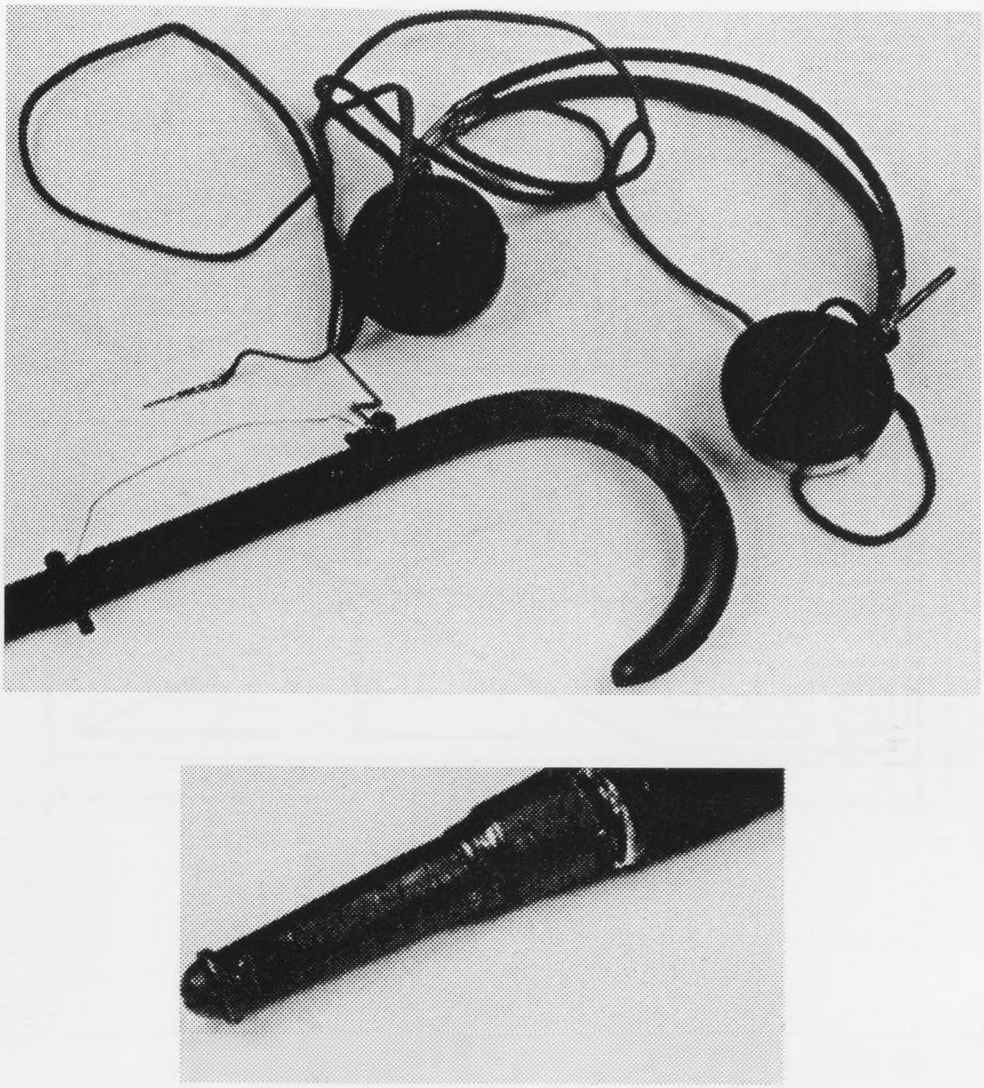


Fig. 6.20 Droz-Georget's Bobbin Cane was made for listening to the forbidden French transmitter on the Eiffel Rower during World War One. A hook passing through the hole of the ferrule was attached to a low overhead telephone line connected to a shooting range: this became the antenna. The wavelength was selected by moving two sliding rings over the copper thread wound around the shaft, and the receiver was carried in his pocket.

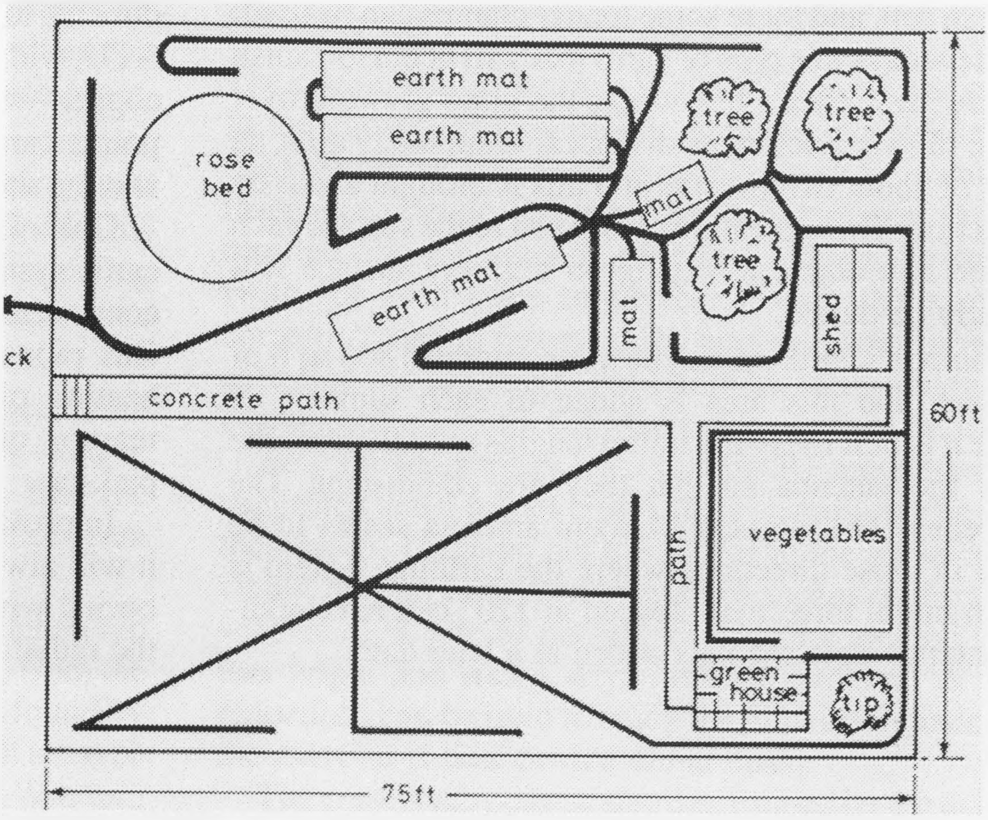


Fig. 6.21 Design layout for a garden allowing for the inoffensive integration of an antenna with vegetables and paths.

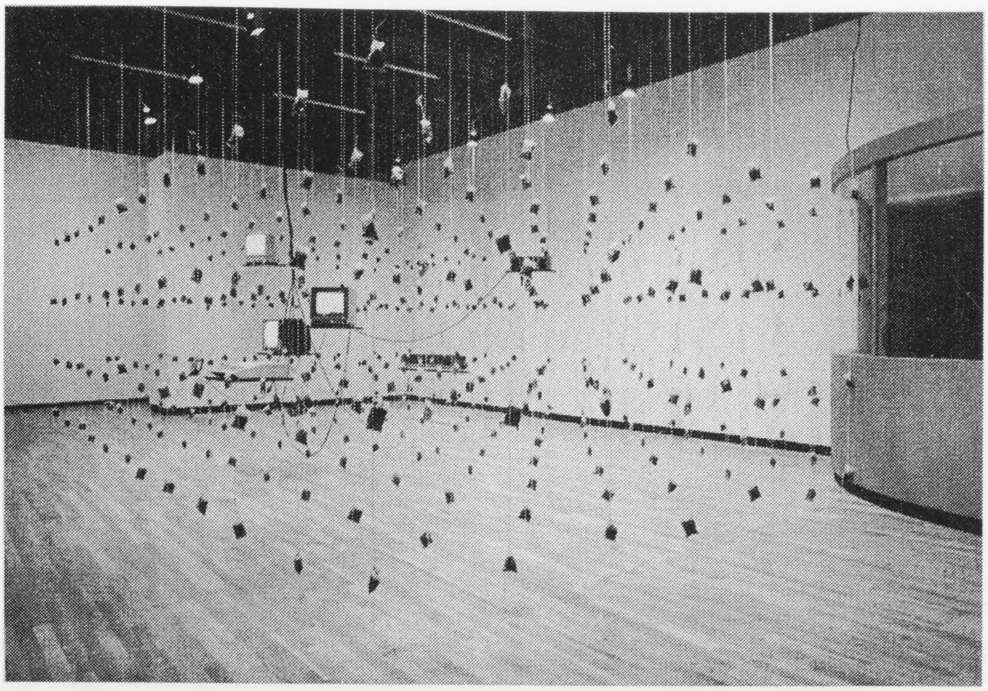
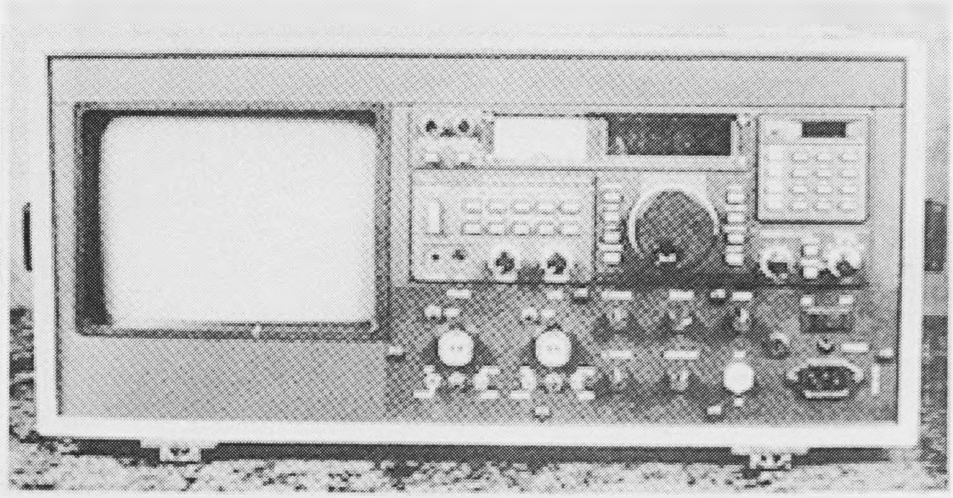


Fig. 6.22 Patrick Ready's 'Radio and Beans' of 1992 drew attention to the harmful effects of EMF (electromagnetic fields) generated by domestic appliances such as TVs, radios, and microwaves. It consisted of electrical devices suspended on wooden shelves from the ceiling of the gallery. Around them were hung small paper bags containing mung beans in soil arranged at equal intervals in a three-dimensional grid, and watered three times a day. In this piece the artist is a radio biologist investigating the interaction between radiant energy and biological systems.

COMPUTER INTERCEPT SYSTEM

Without entering the premises, electromagnetic energy radiating from unshielded computer screens and ancillary equipment can be intercepted from a remote location.

The Computer Intercept System's highly sensitive receiver logs all radiating signals into its 100 channel memory. These emissions are then stabilized, processed and reassembled into a clear reproduction of the intercepted data onto its built-in monitor.



SISTEMA INTERCEPTOR DE COMPUTADORA

Sin necesidad de entrar al lugar, la irradiación de energía electromagnética de una pantalla de computadora sin protección y el equipo auxiliar puede ser interceptada desde un lugar remoto. El Sistema de Intercepción de computadora con receptor altamente sensitivo capta las señales que irradia la computadora dentro de su memoria de 100 canales. Estas emisiones son estabilizadas, procesadas y reproducidas claramente dentro del monitor incorporado.

Fig. 6.23 'Without entering the premises, electromagnetic radiating from unshielded computer screens and ancillary equipment can be intercepted from a remote location. The Computer Intercept System's highly sensitive receiver logs all radiating signals into its 100 channel memory. These emissions are then stabilised, processed and reassembled into clear reproduction of the intercepted data onto its built-in monitor'.

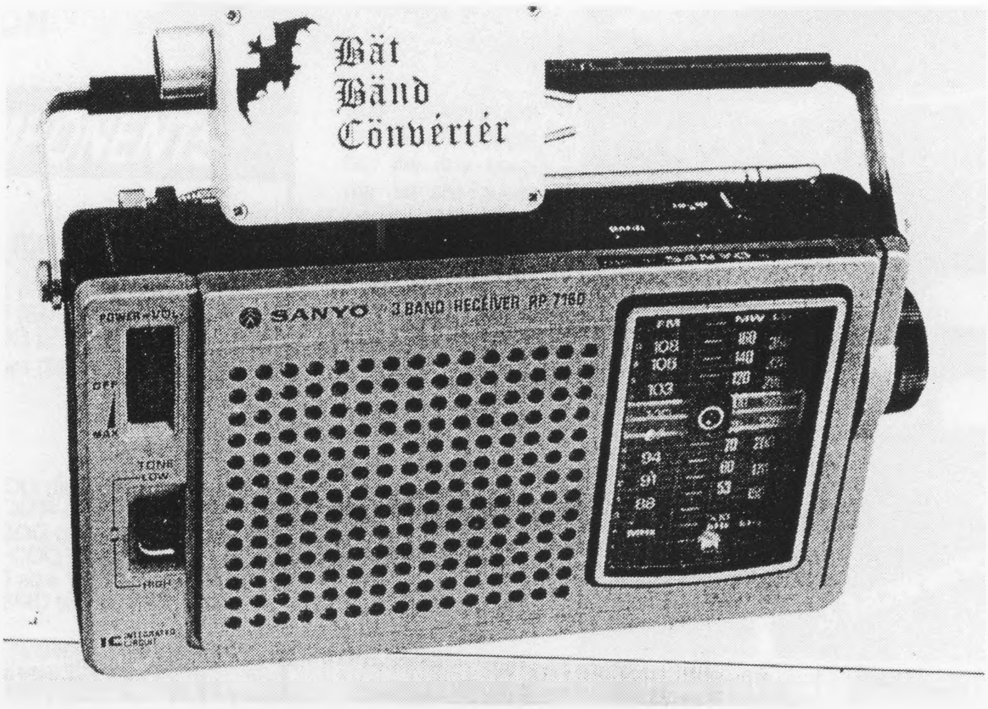


Fig. 6.24 The 'Bat Band Cconverter' from Everyday Practical Electronics is a parasitical device that allows you to 'use your AM portable radio and this novel design to tune-in to the secret world of bats. It is part of a culture where practical skills are turned towards poetic ends, and tuning into bats, hair, fizzy drinks, crinkly plastic bags and pins dropping is regarded as a sane everyday activity. The device converts the non-electromagnetic ultrasonic signals of the bats into radio signals which are transmitted/leaked to the host radio.

REAL-FICTION

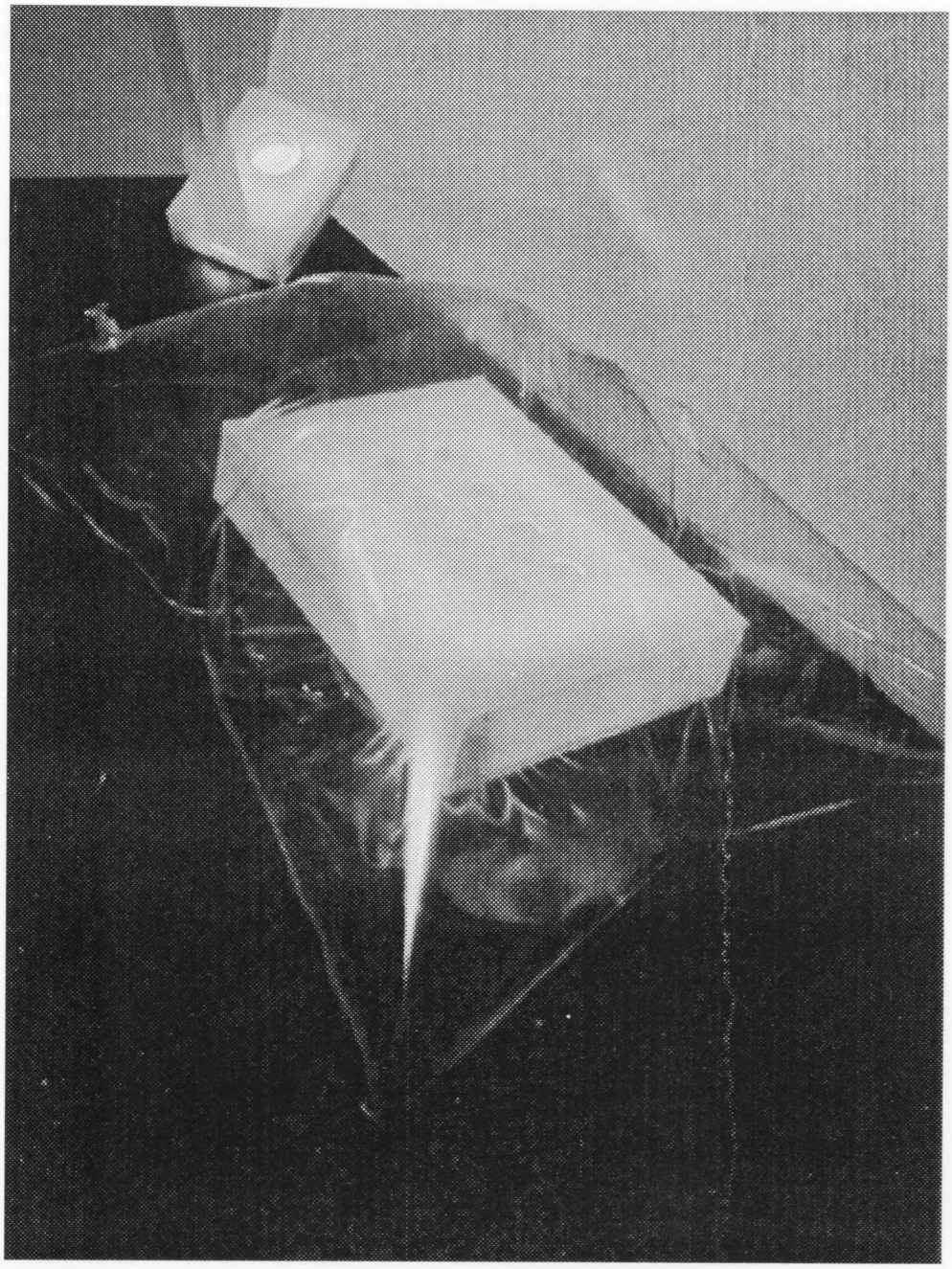


Fig. 7.1 In my contribution to the 'Monitor as Material' exhibition at the RCA in 1996, many visitors to the space found the work itself beautiful as spectacle, but concerns with more fictive, social and aesthetic aspects that linked the work to everyday life, even if only through the imaginary, were lost.

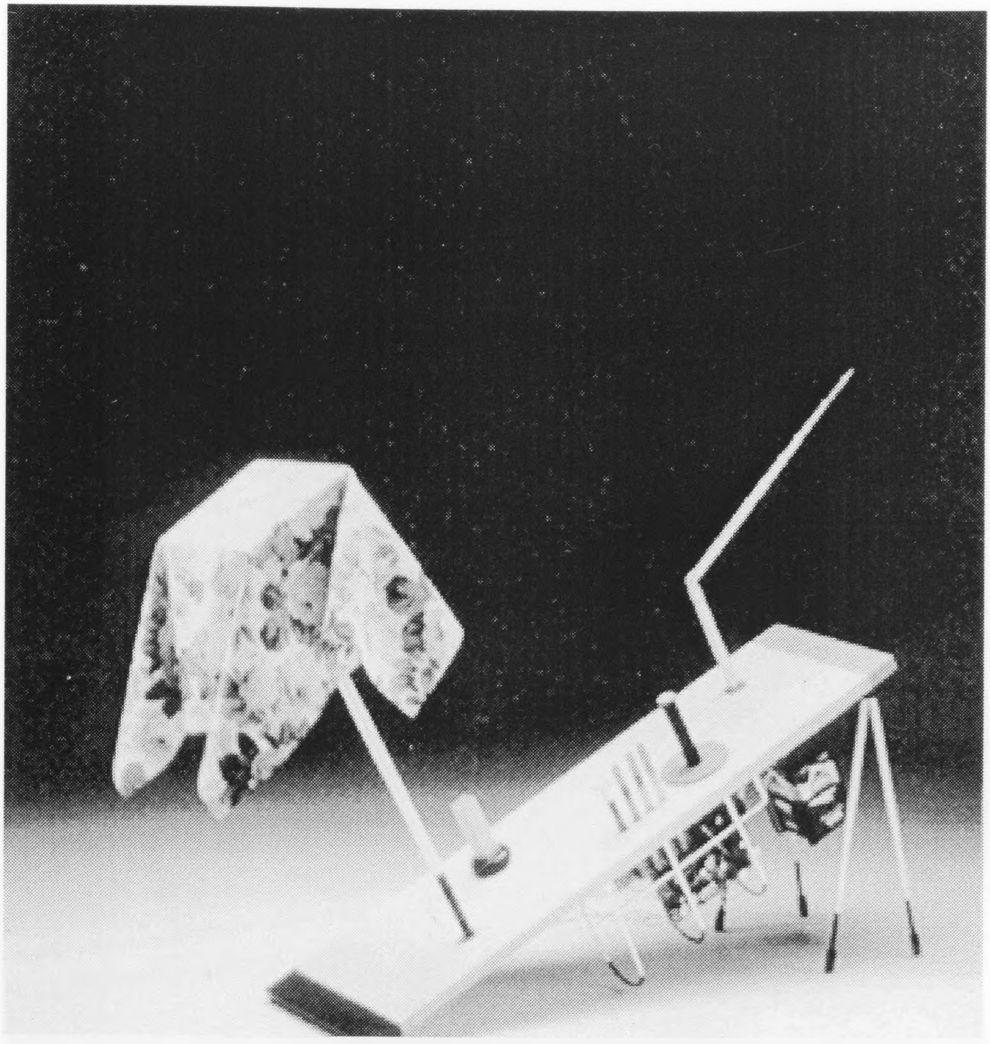


Fig. 7.2 The electronic objects of Daniel Weil focused on the conceptual relationship between the person and the electronic object. They are re-interpretations of existing products such as radios, digital clocks and calculators. The gallery becomes a specialist shop selling state-of-the art material culture, trading in the shock-of-the-new based on re-interpretations of familiar objects.

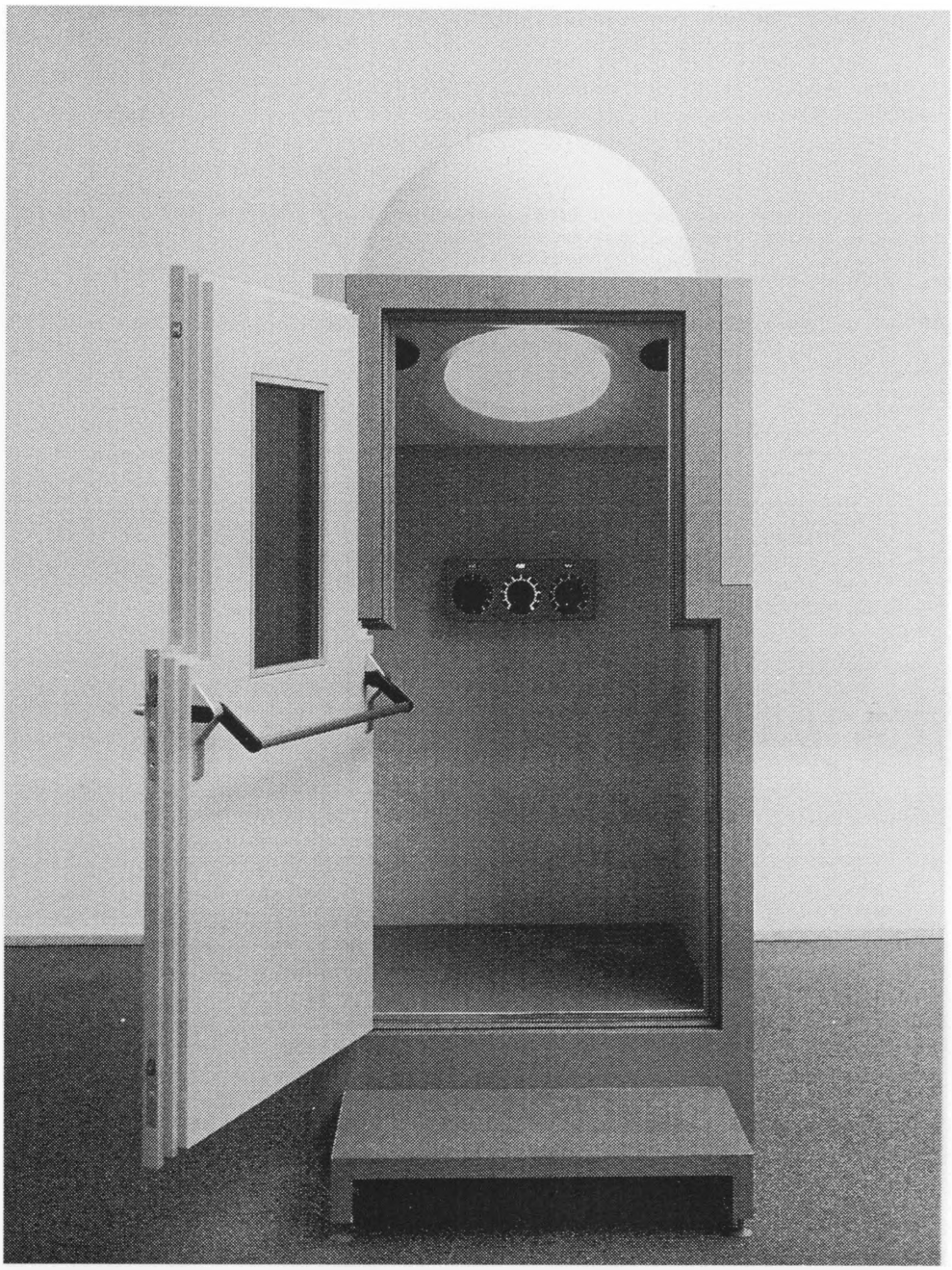


Fig. 7.3 James Turrell's 'Perceptual Cells' of 1992 consists of a booth-like structure, a bit like a telephone box inside a gallery. Once inside, visitors are presented with a controls to vary the colour of light in a hemisphere surrounding their heads. Humorous and quirky, it invites comparison with other street furniture and public utilities, and their association with mass-consumption, state ownership and industrial production. One begins to wonder what it would be like to use one of these machines on the street.

Fig. 7.4 Krzysztof Wodiczko's 'Alien Staff' of 1992-, using simple electronic technologies and emphasising invention and social content, is a rare example of how 'product design' and the 'electronic object' can fuse into design as criticism. The prototype draws attention to the boundaries of normal behaviour and thought in everyday situations.

Fig. 7.5 Gregory Green's 'Nuclear Device no. 2 15 kilotons, plutonium 239' of 1995 is a model, a technological object that looks as though it works but does not. Although it could be made to work, its interest stems from the fact that the knowledge embodied in these objects is widely available and very destructive. Its technical uselessness becomes part of its value, shifting attention to its role as a conceptual machine that engages the imagination and draws the viewer into a reflective and critical space.

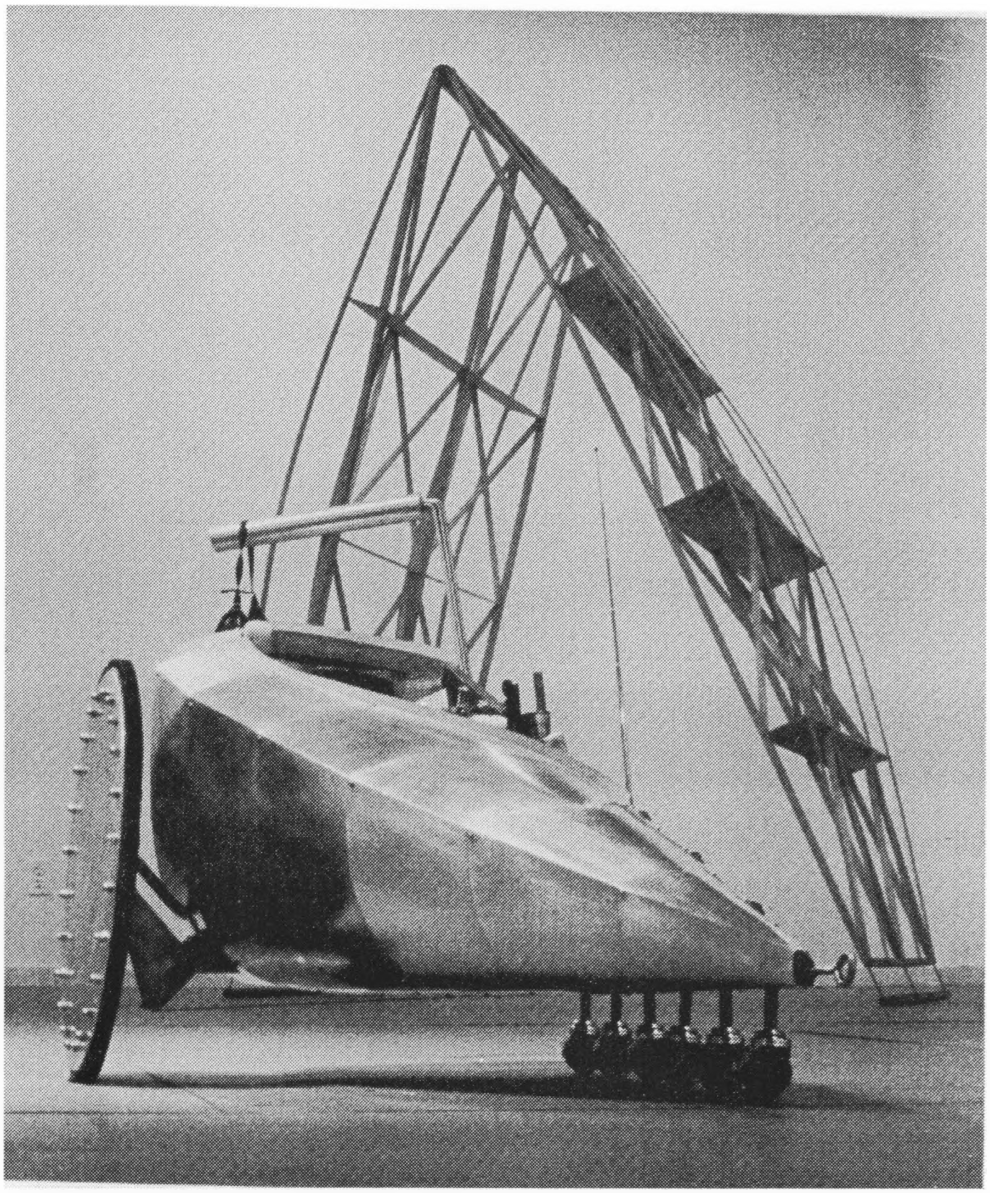


Fig. 7.6 K/K Research's (with Scholz) 'Crib-batic' of 1986 is an imaginative alternative to a pushchair. Real in the sense that it could be built, it is also fiction as it is unlikely to be built. This fictiveness enables it to function critically by highlighting the boundaries that limit everyday experience. It celebrates the complex ambiguity of the object as both part and not part of the society from which it emerged.

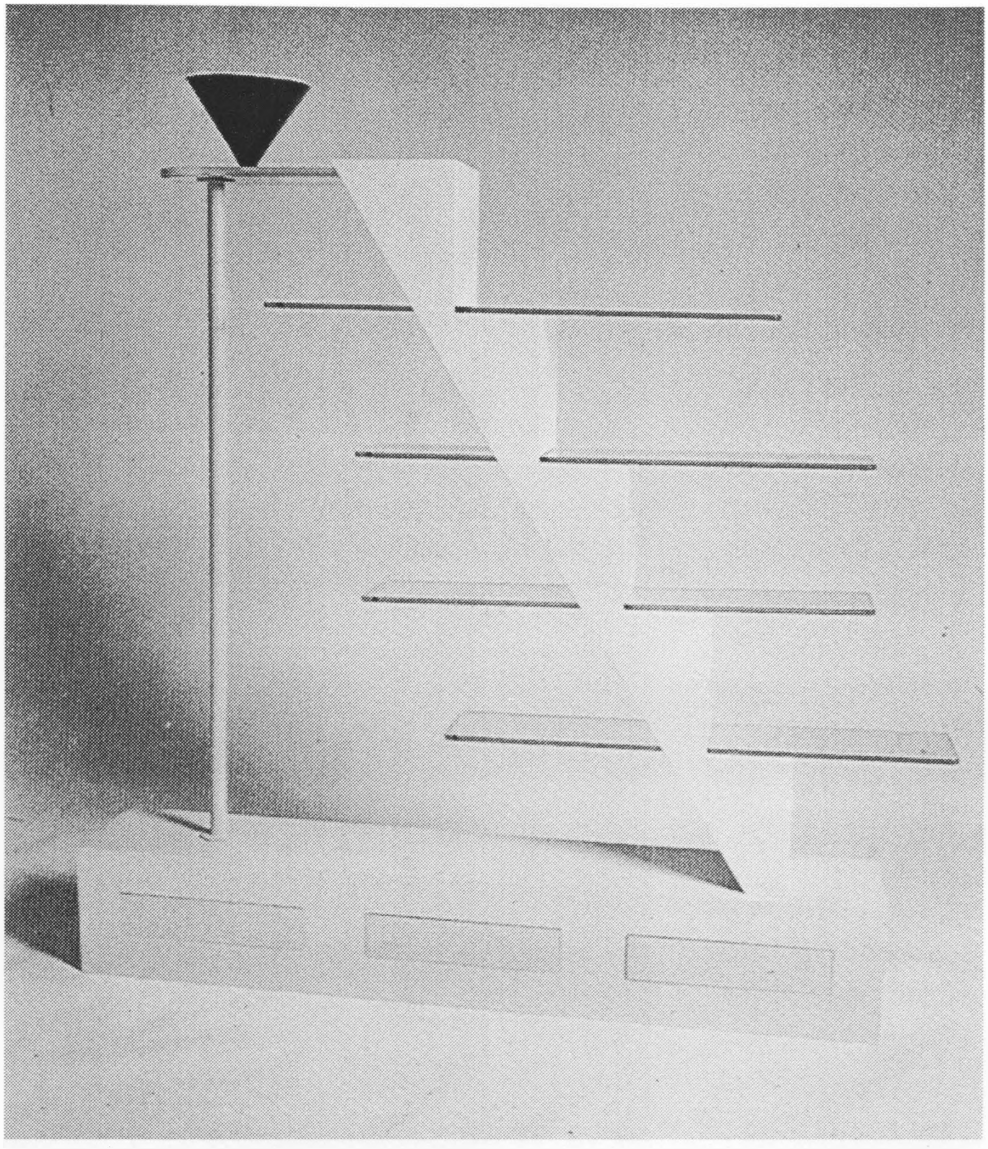


Fig. 7.7 Andrea Branzi's 'A. Libera' bookcase of 1979 for Studio Alchymia does not simulate how it would be if mass-produced, but takes a form appropriate for exhibition and consumption as one- or two-offs. The craft object is seen as a stage in the development of an idea that might eventually be mass-produced.

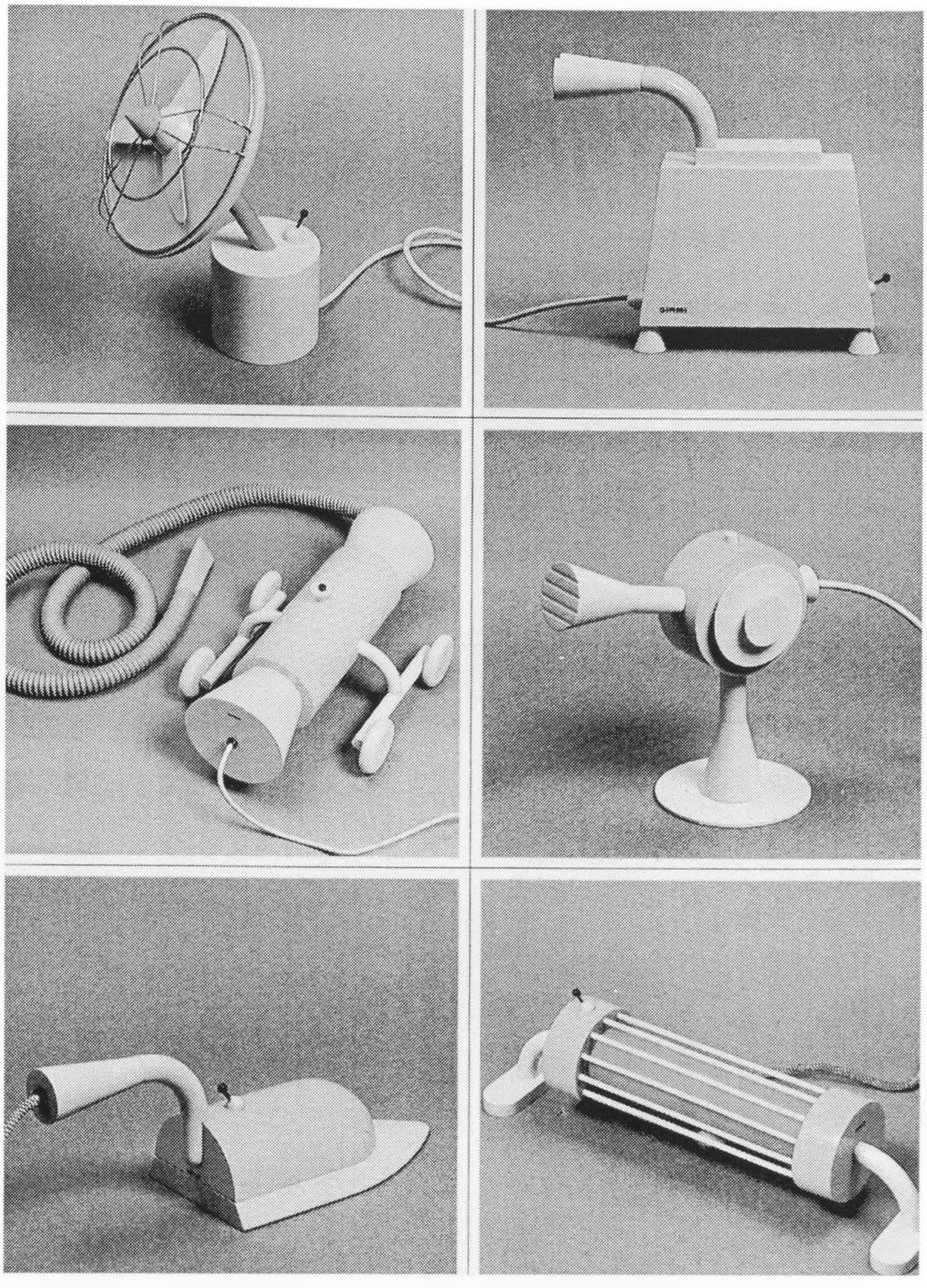
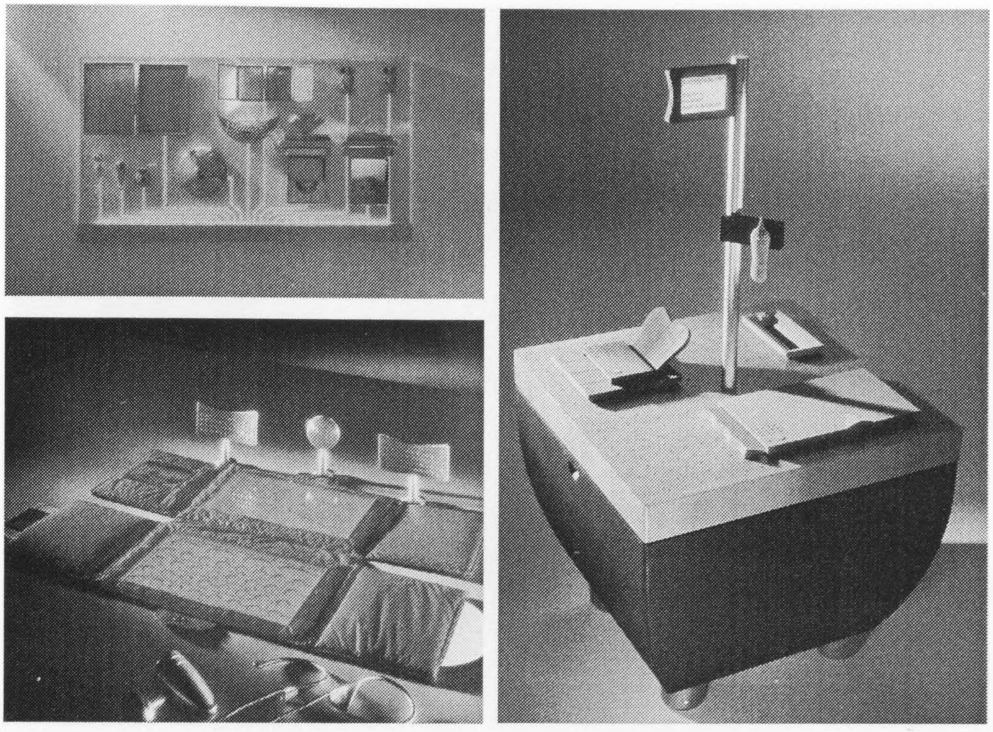


Fig. 7.8 Michele De Lucchi's 'Appliances' for the 1979 Milan Triennale do not mimic reality; they are clearly representations, 'models' comfortable with their unreality. In this sense they are more real than simulations as they become part of reality through the category of real objects called 'model'. They are things in themselves rather than shadows of yet to be realised products.



Figs. 7.9-11 Philips/Olivetti's 'Tech Survival Kit', 'Docking Office', and 'Tool Panel' of 1994 set out to explore the new office landscape, to formulate a new vision of the workplace, and propose new tools to support it. But they only reinforce stereotypes of the future office. They draw from what we already know about people and so weave new ideas into existing realities. These scenarios affirm pre-existent reality and extend it into the future.

Fig. 7.12 Apple's 'Knowledge Navigator' project of 1987 is the first use of video narration to present a 'cultural project'. Marco Susani claims it was neither a promotional tool, nor simply a projection of technological evolution, but a study of how we could coexist with new technological artefacts.

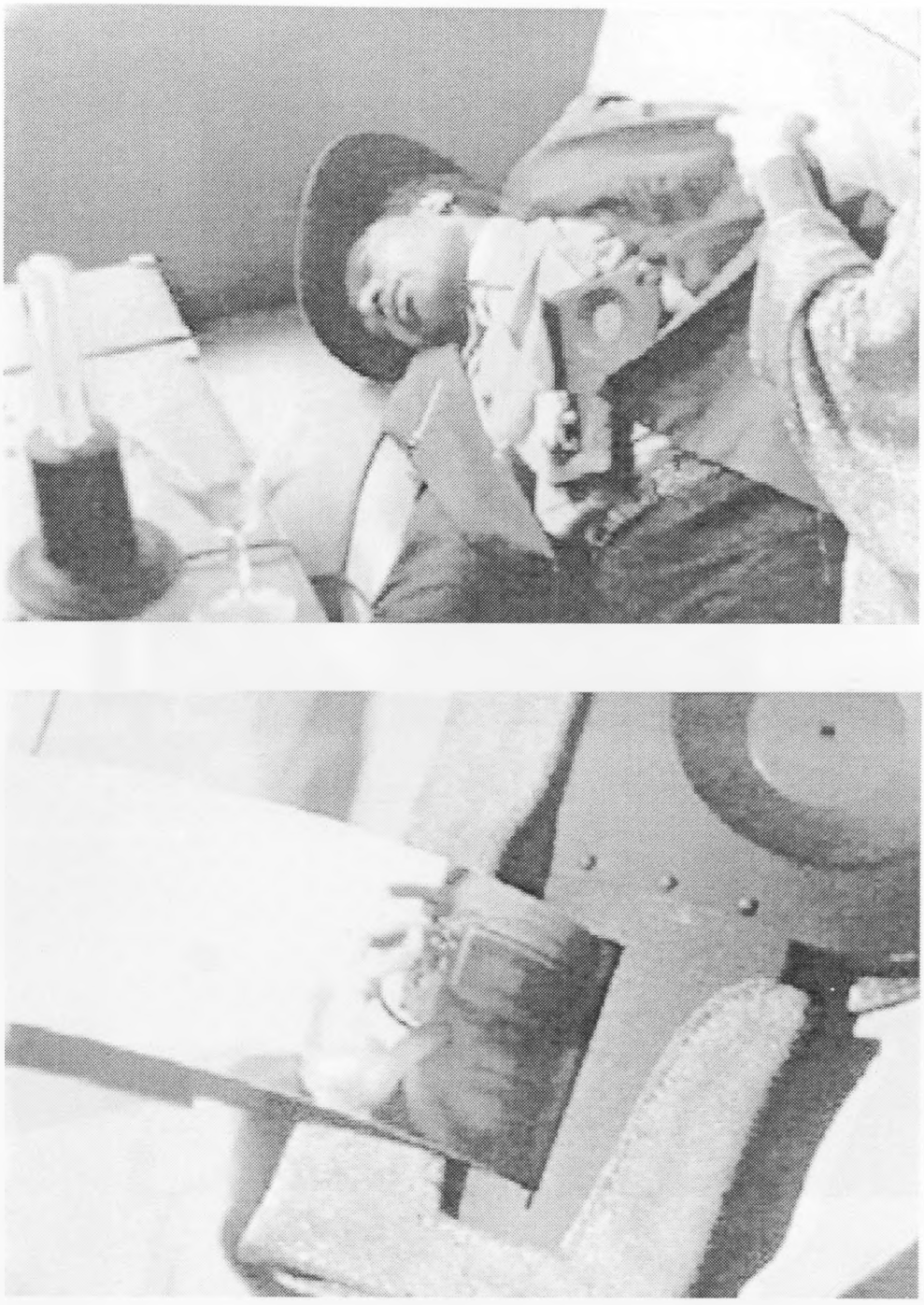


Fig. 7.13 Wim Wenders' film 'Until The End of The World' is a more stimulating and useful project for a 'telephone scenario' than many design projects for telephones of the future proposed by mainstream design. It offers a degree of estrangement through the behaviour of fictional characters who do not have to conform to existing personality types, occupations or motivations.

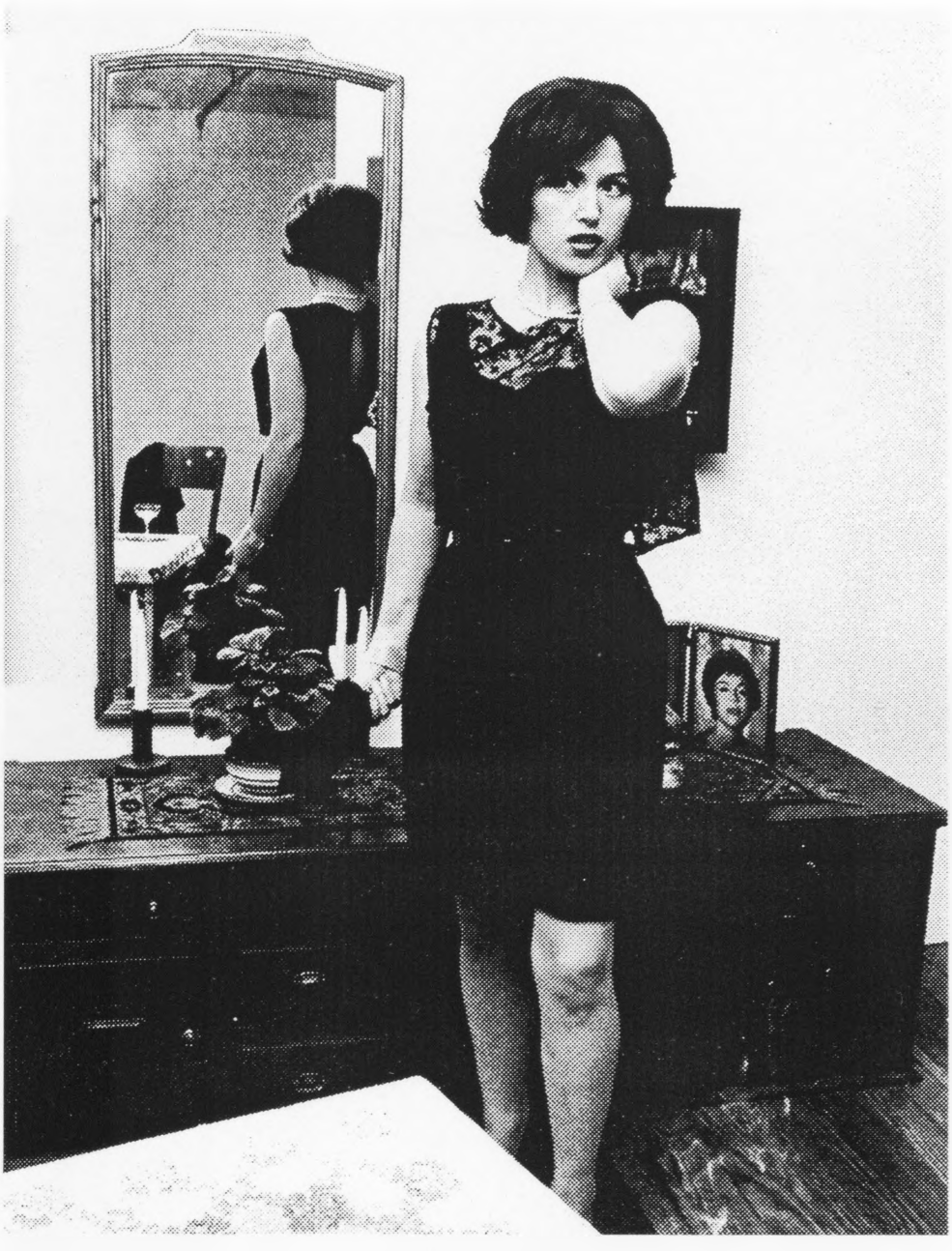


Fig. 7.14 Cindy Sherman's photos from her 'Untitled Film Stills' series of 1977-80 portray banal moments of apparently little significance. The viewer is drawn into speculation on the psychology of the protagonists and their state of mind. These photos show how powerful stills are when compared to video or film. They shift the viewer's imagination towards the fictional possibilities of the portrayed moment. The furnishings and incidental objects in these photographs encourage an allegorical reading that further engages the viewer.

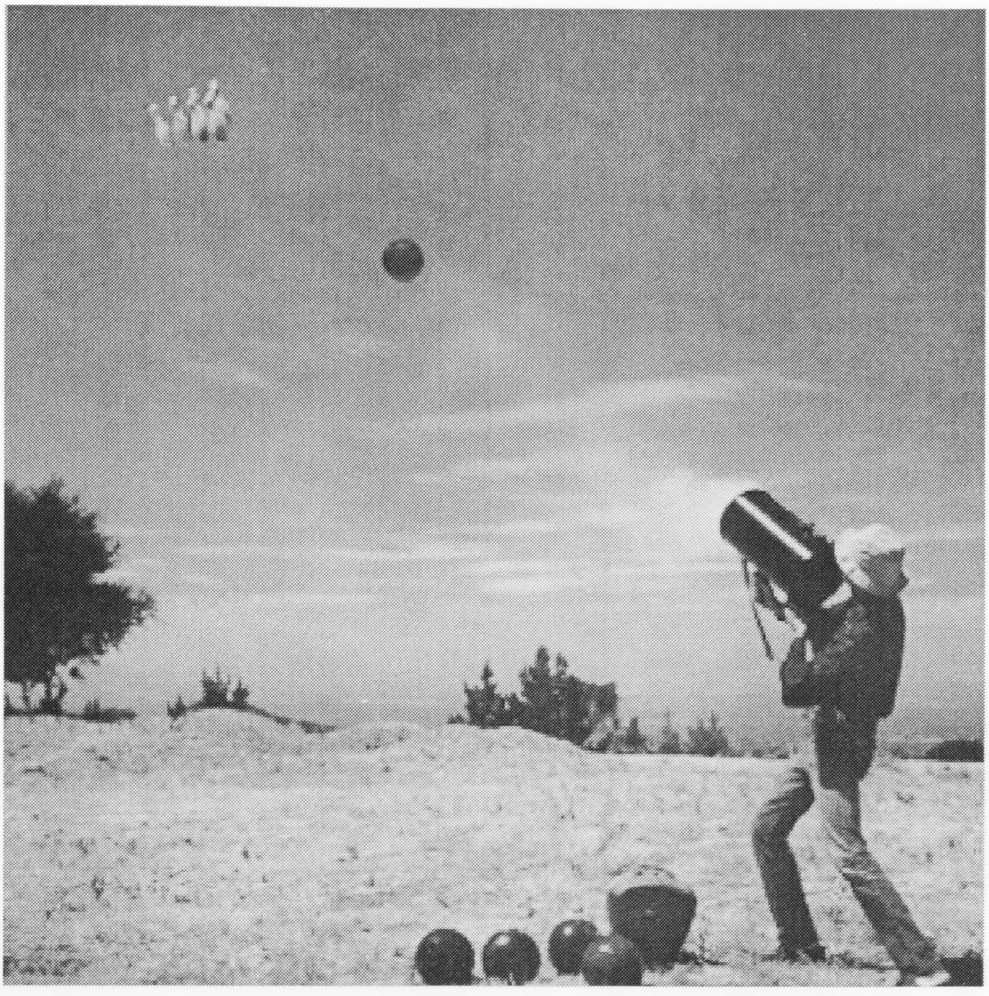


Fig 7.15 Philip Garner's 'Utopia or Bust' of 1985 consist of photographs of conceptual design objects, and of scenes that present unusual narratives that arise from interaction with and through the objects portrayed. They could be seen as a critique of consumer society, but their dependence on comic absurdity renders the project too whimsical. This approach is a form of irony, which offers no positive or constructive suggestions.

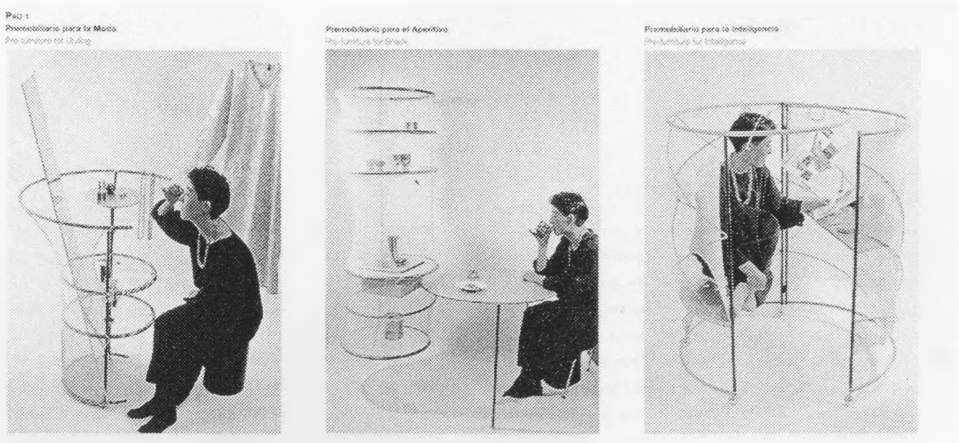


Fig. 7.16 Toyo Ito's 'Dwelling for Tokyo Nomad Woman', an architectural fiction conveyed through photographs, portrays a familiar system of production and consumption used to make alternative values real and concrete, values that are not futuristic or utopian, but instead are uncomfortably close to our own.

Fig 7.17 The style of Philippe Ramette's images is deliberately straightforward, and the use of his devices, which usually resemble nineteenth century scientific instruments are easy to understand. The viewer wonders at the strangeness of this man's behaviour, trying to imagine why somebody would behave like this, what his pleasure is, and what prevents such objects being widely disseminated and the values they embody gaining general acceptance.

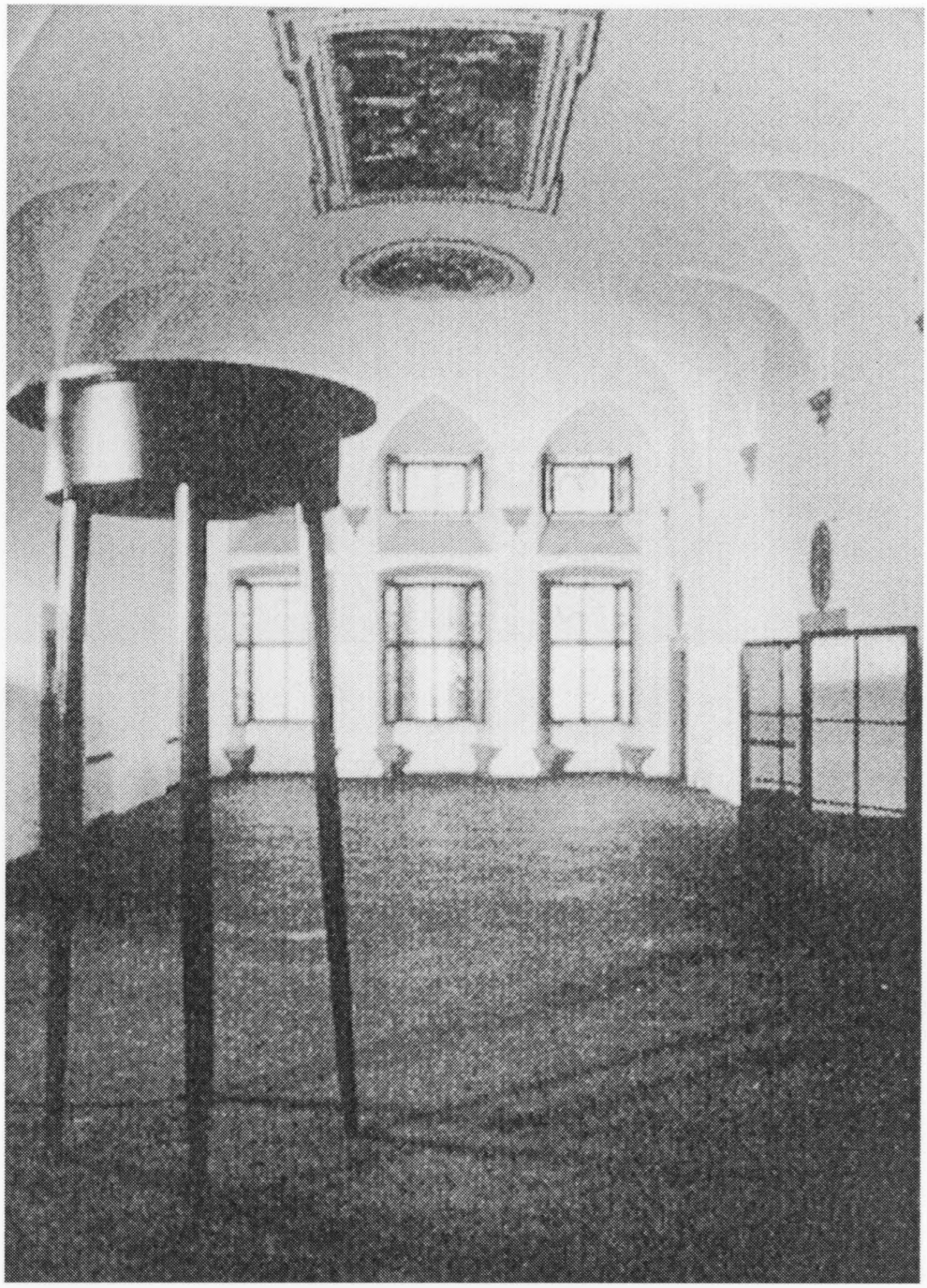


Fig. 7.18 In Rebecca Horn's film, 'La Ferdinanda' of 1981, her sculptures appear in the background of different scenes. They are never explained, but the viewer is drawn into a strange world which objects such as these inhabit nonchalantly. They seem set in the present, but the integration of such strange objects into everyday life implies a completely different set of cultural and aesthetic values highlighted by their familiar settings.

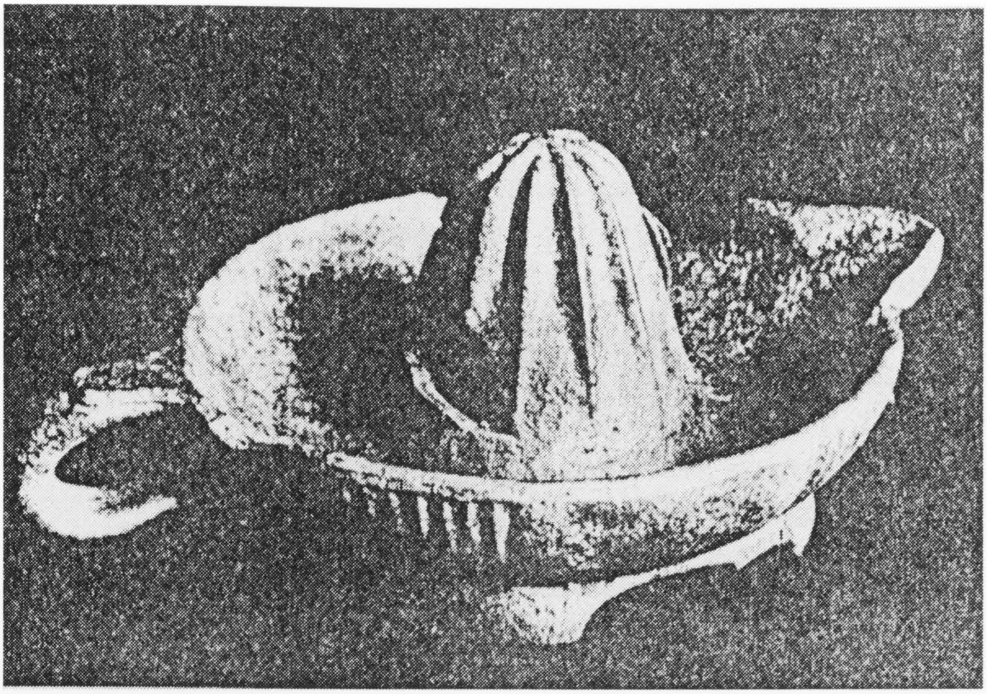


Fig. 7.19 Norman Daly's 'The Lost Civilisation of Llhuros' is an exhibition of artefacts from a fictional culture, each of which is accompanied by a caption explaining what is supposedly known about it and other fictional data. The exhibition blurs the boundaries between imaginary spaces and the here-and-now of the gallery. It invites the visitor to speculate, as an anthropologist of material culture might, on how values come to be embodied in artefacts.

HERTZIAN TALES AND SUBLIME GADGETS

THIEF OF AFFECTIONS

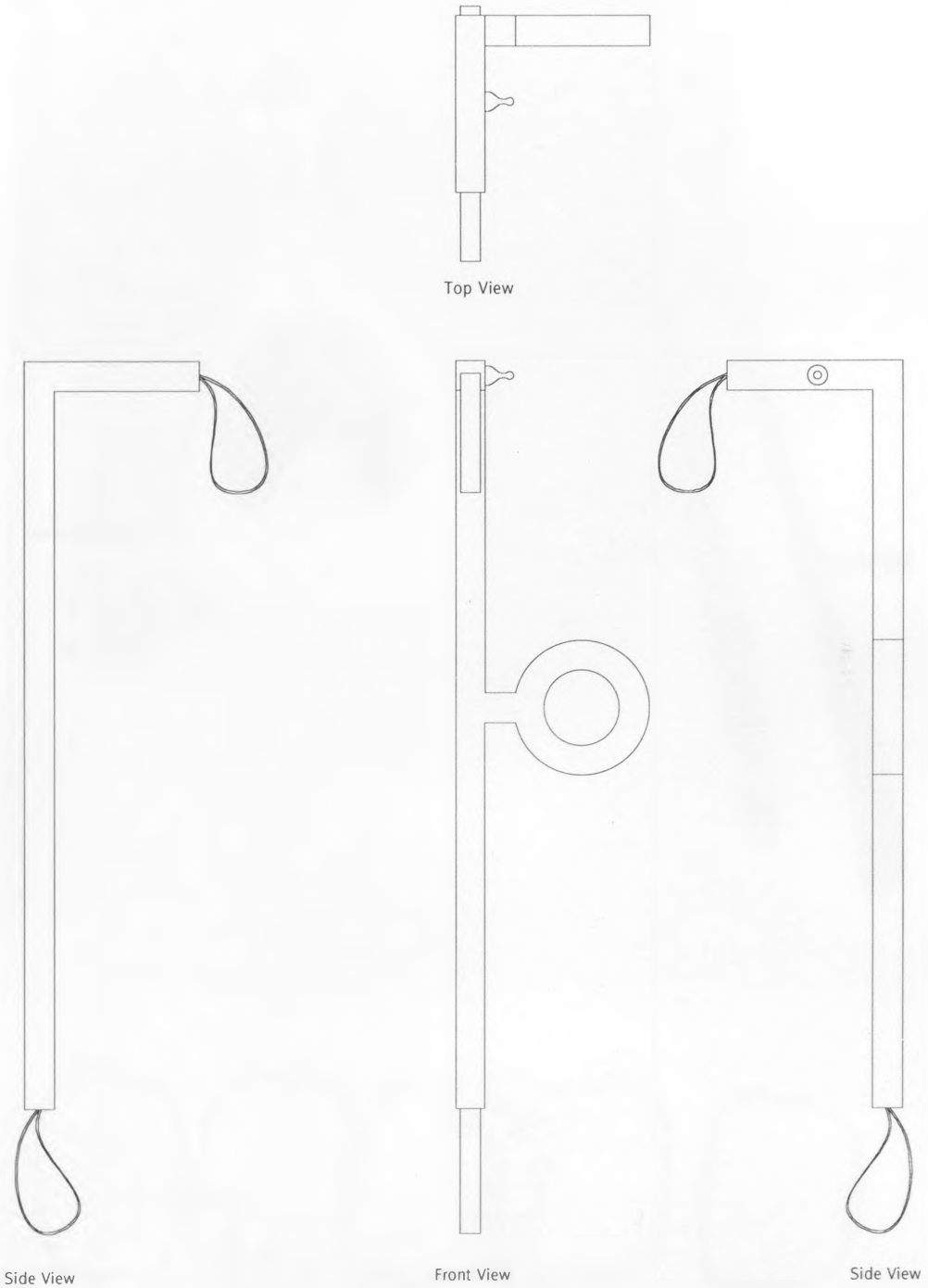
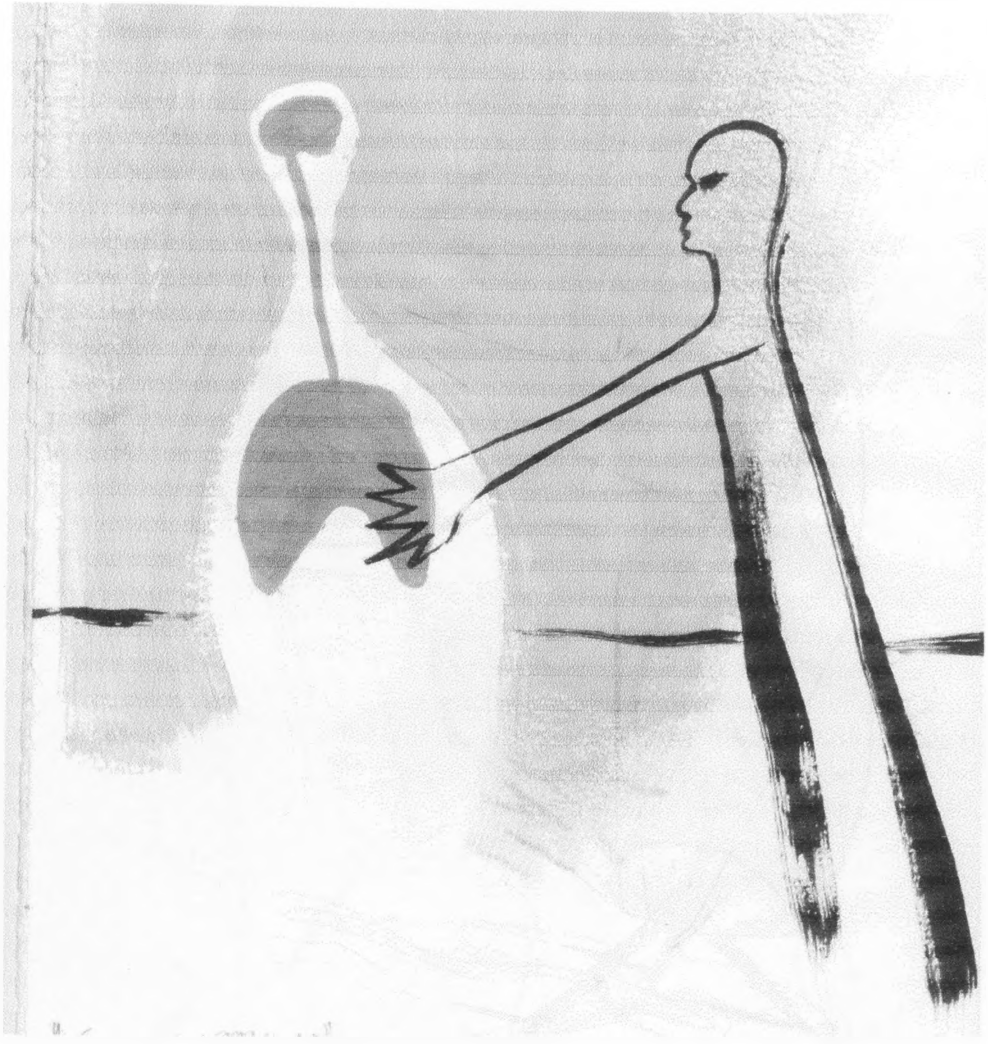


Fig. 8.1 Outline drawing of final design
900H x 190W x 200D mm



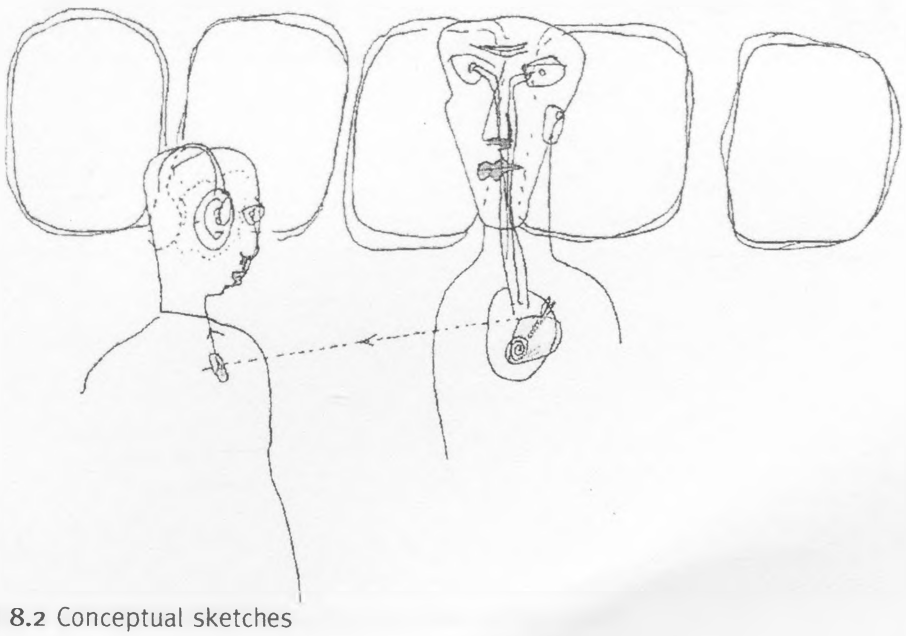


Fig 8.2 Conceptual sketches

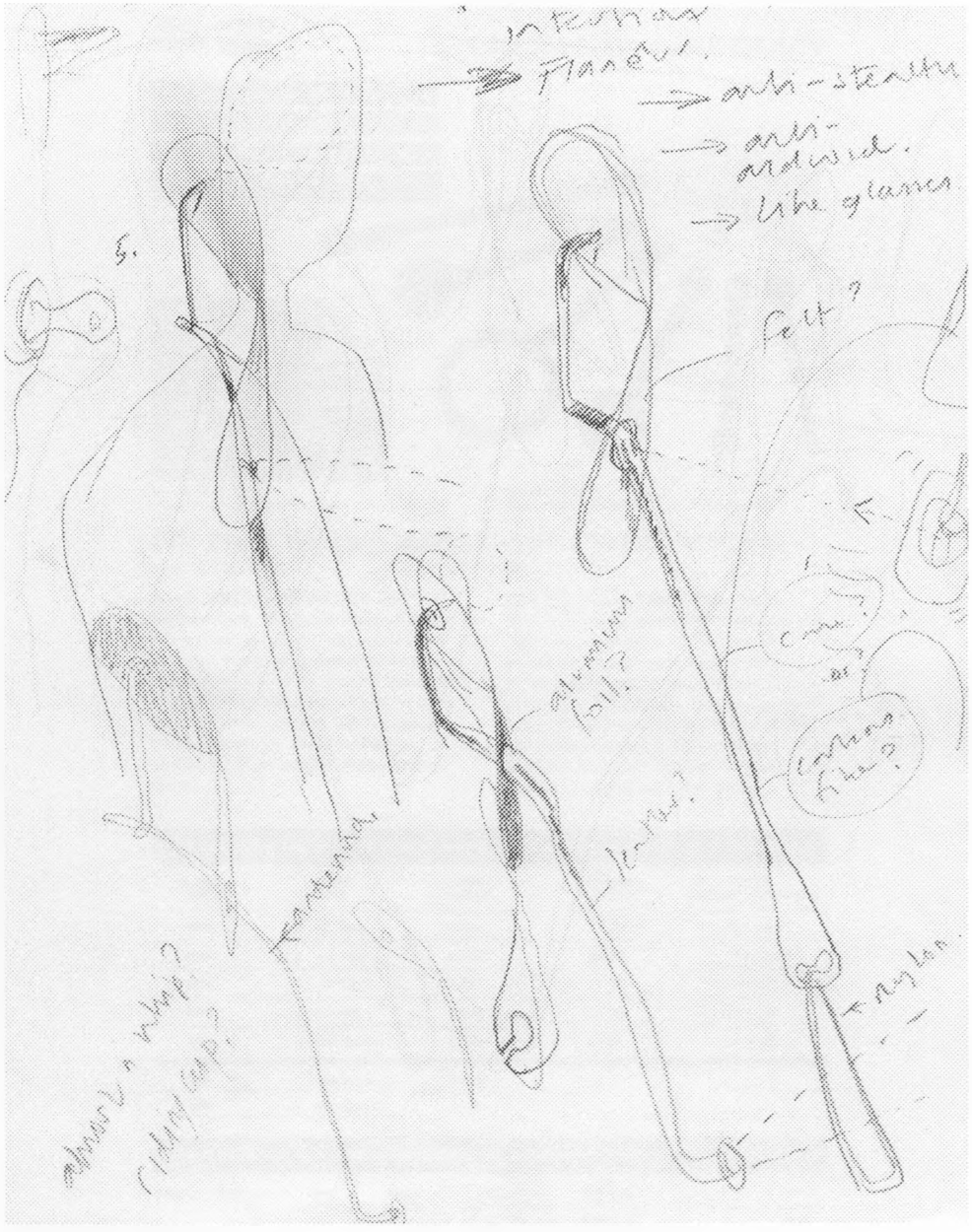


Fig. 8.3 Early sketches exploring physical configuration.

Fig. 8.4 EMCO's Model 7405 Probe Set

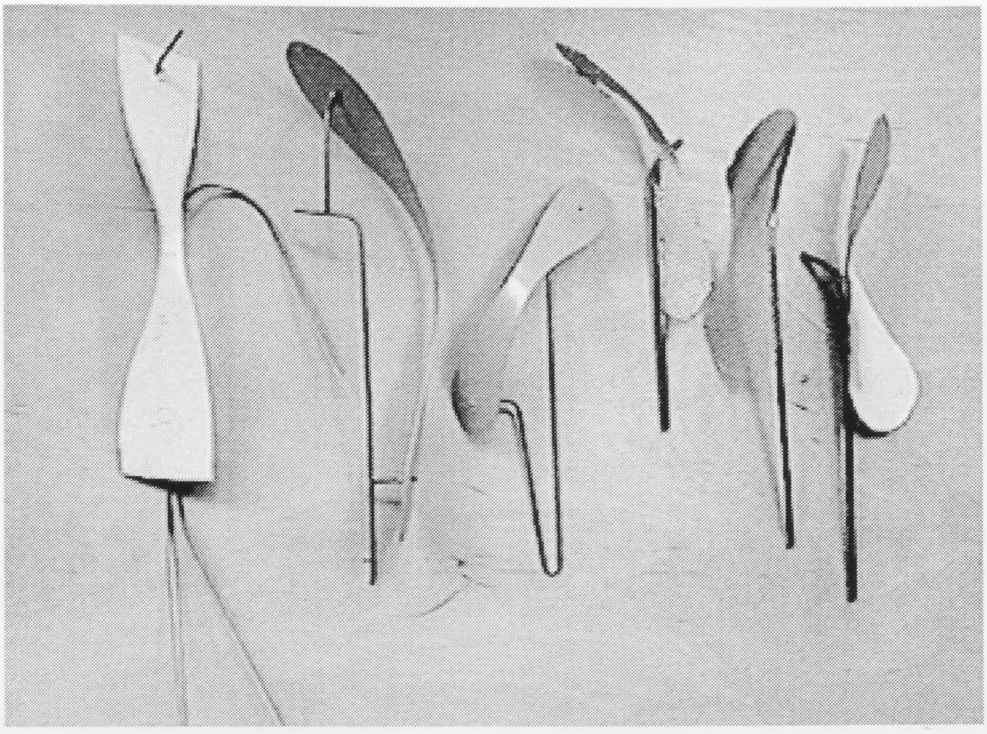


Fig. 8.5 Sketch models

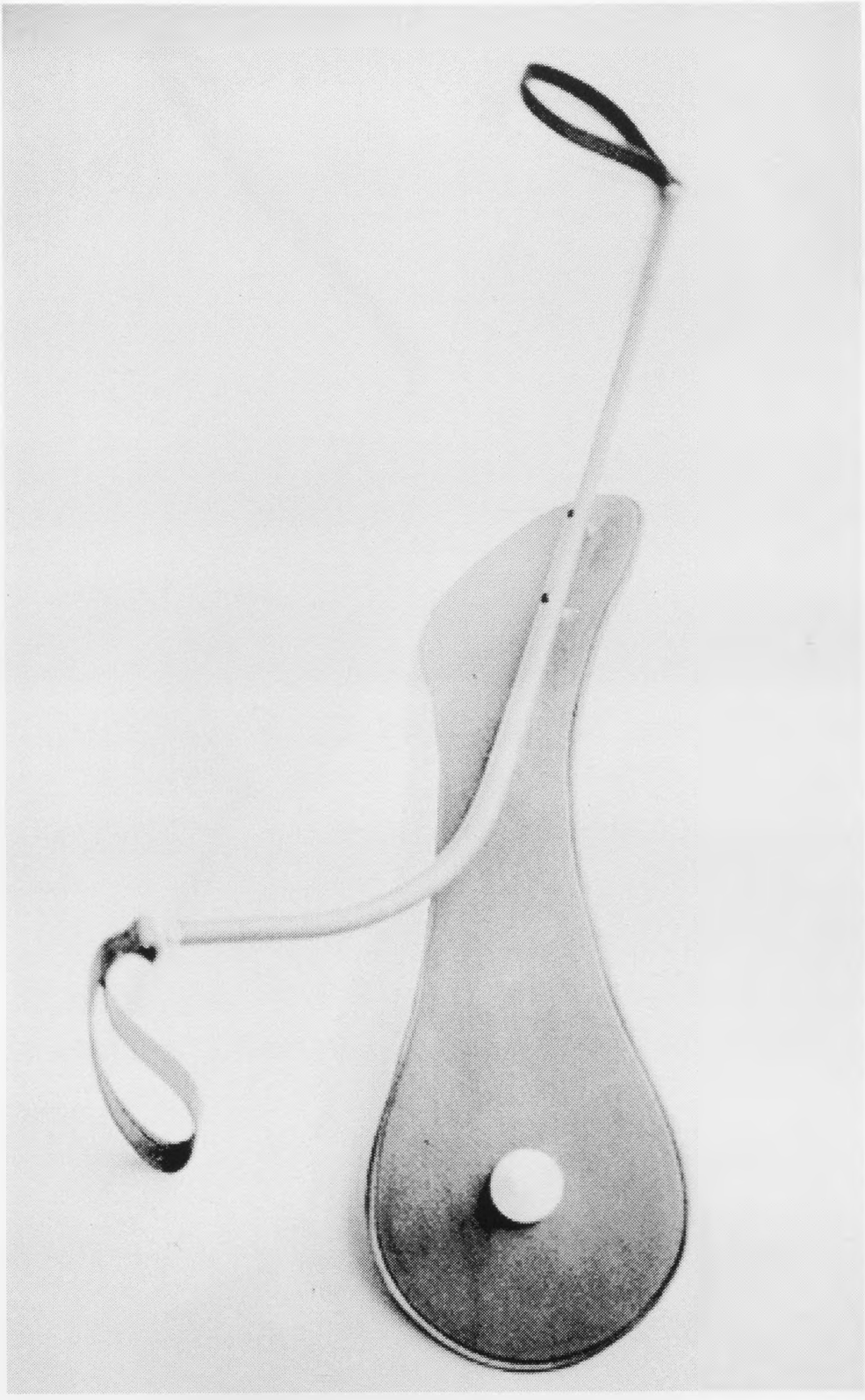


Fig. 8.6 Leather version

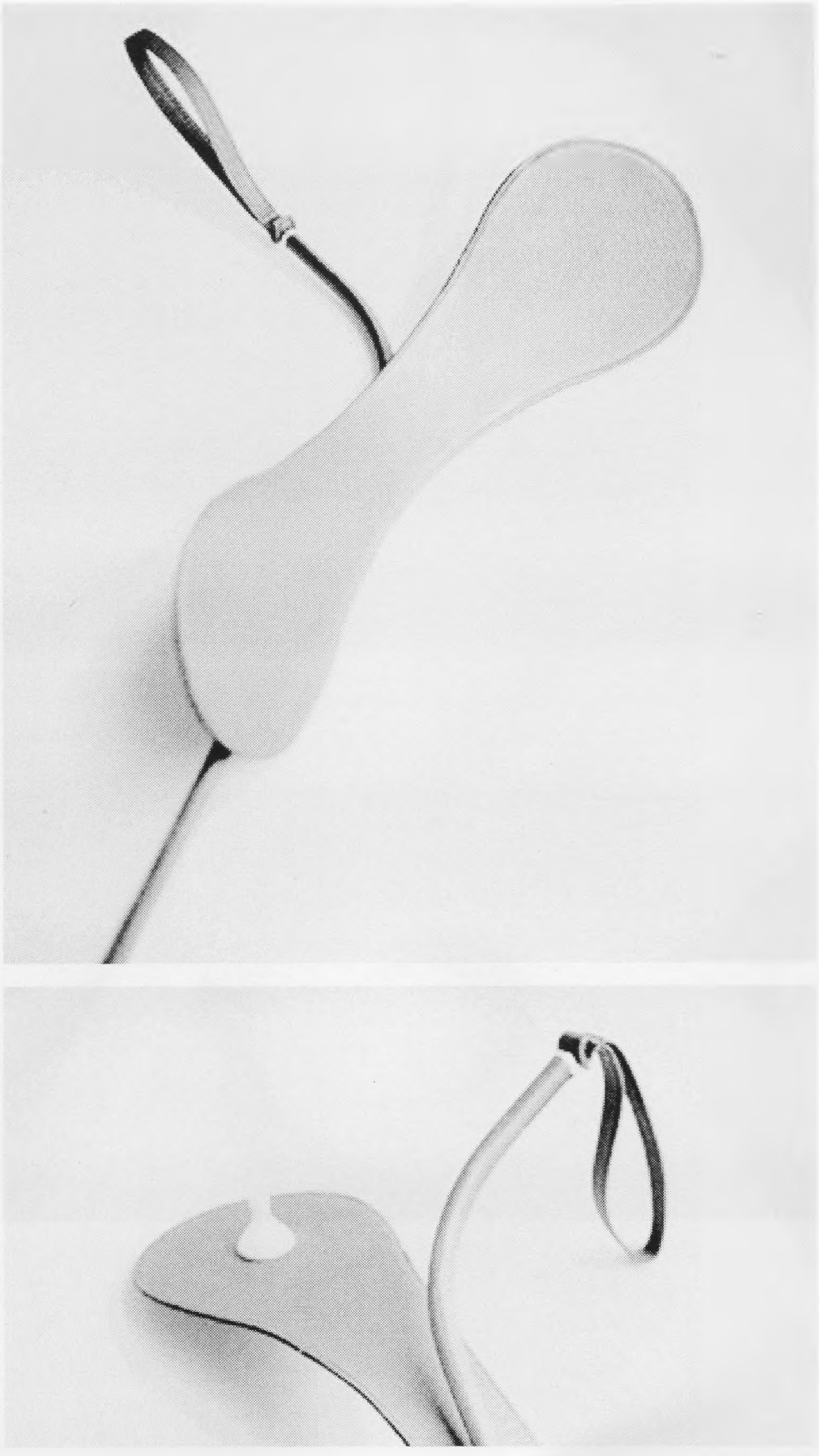


Fig. 8.7 Leather version

Fig. 8.8 Padded version

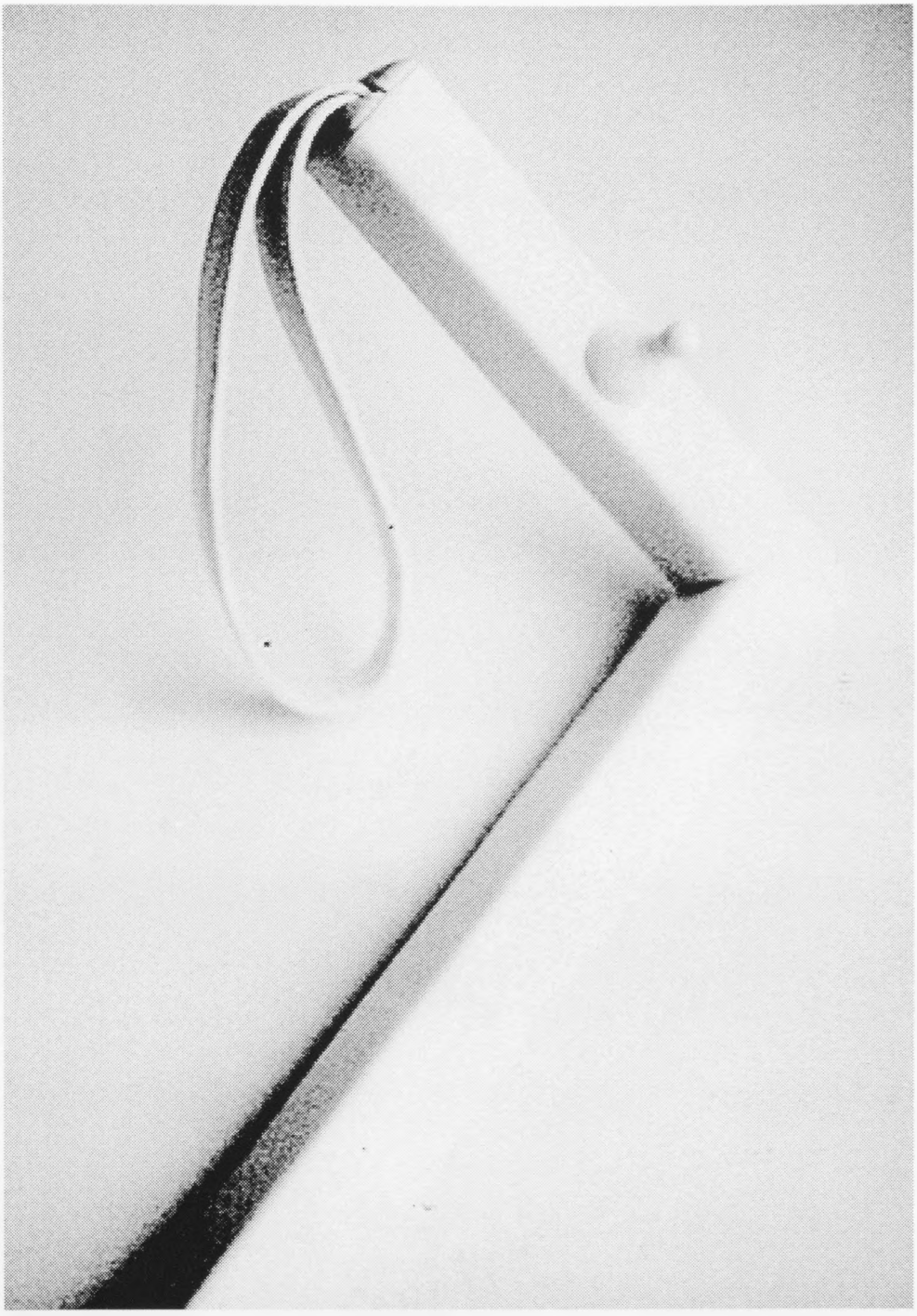


Fig. 8.9 Strap and ear-nipple

Fig. 8.10 The object would be presented in a 'shoe box'

Fig. 8.11 The device rests on the shoulder during use

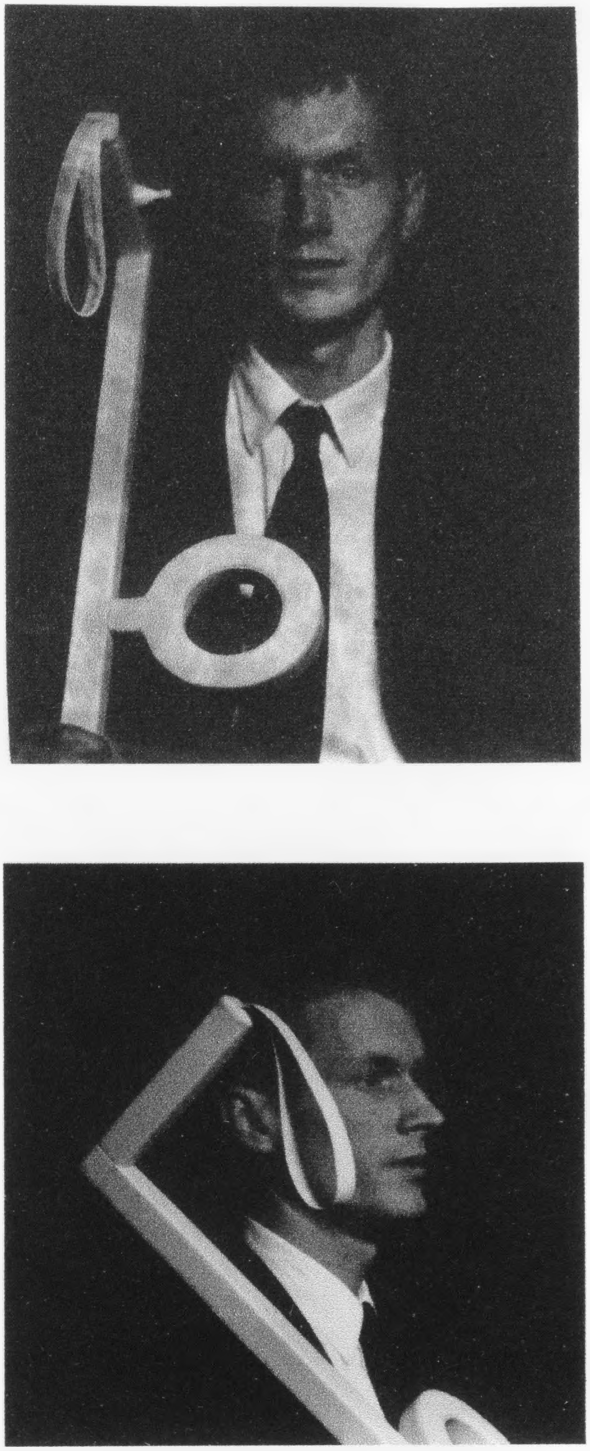


Fig. 8.12 Preliminary study for a portrait of a 'Thief of Affections'.

ELECTROCLIMATES

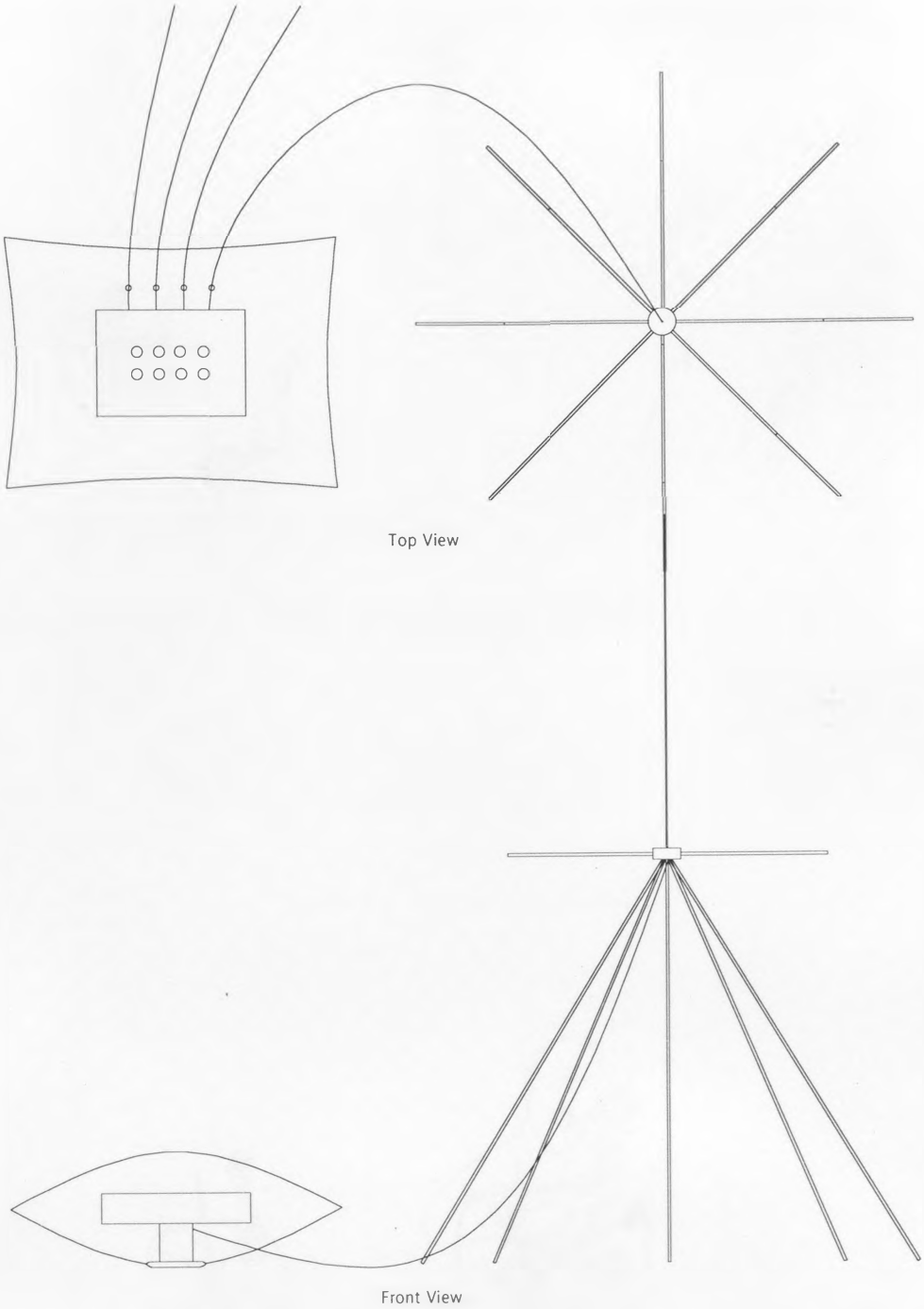


Fig. 8.13 Outline drawing of final design
Pillow: 200H x 600W x 450D mm
Aerial: 1350H x 900Dia m

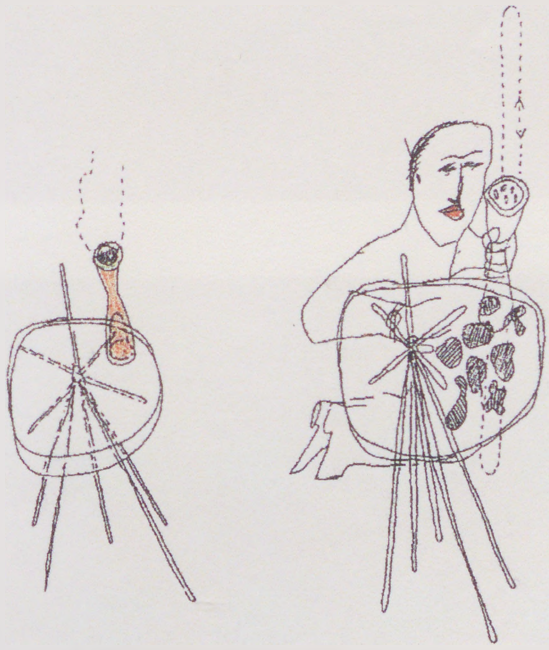


Fig. 8.14 Concept sketches

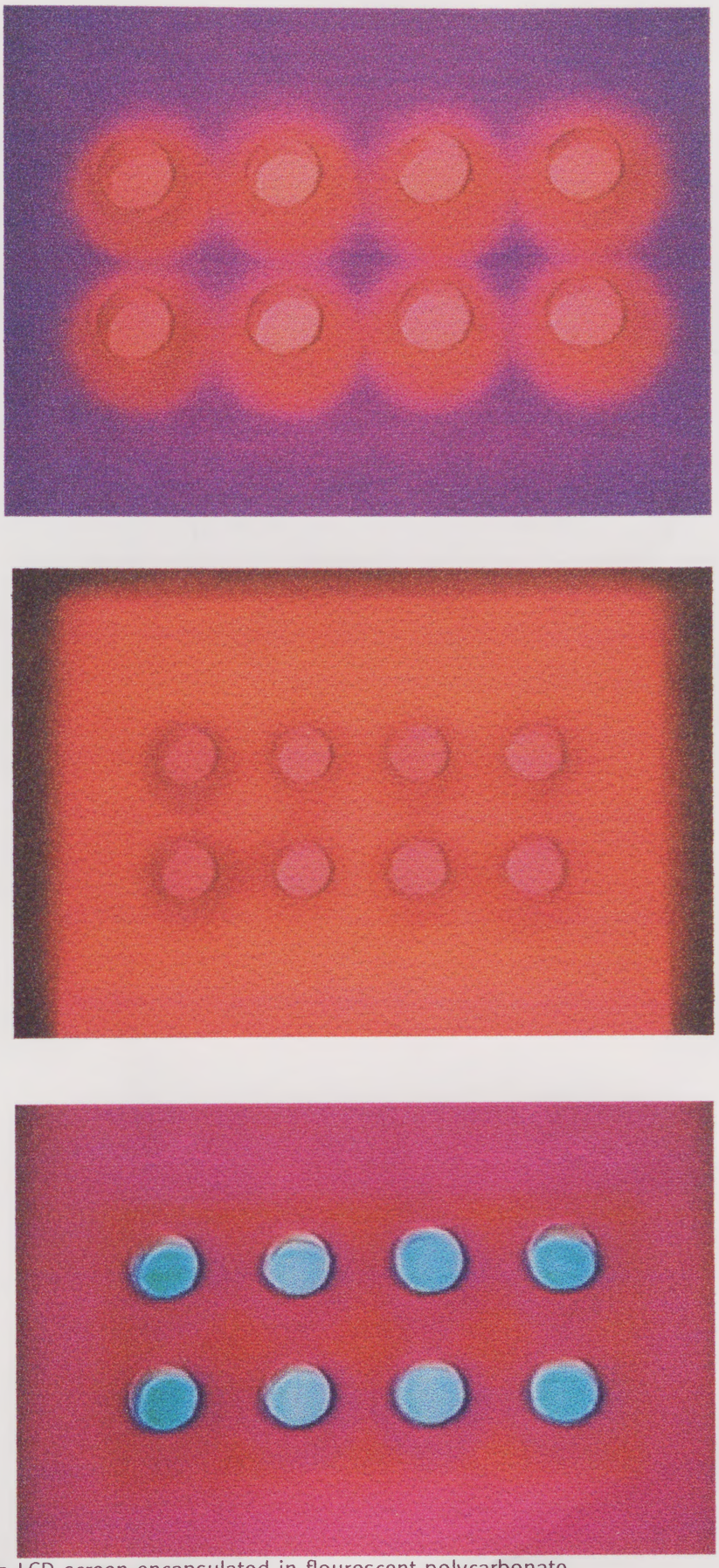
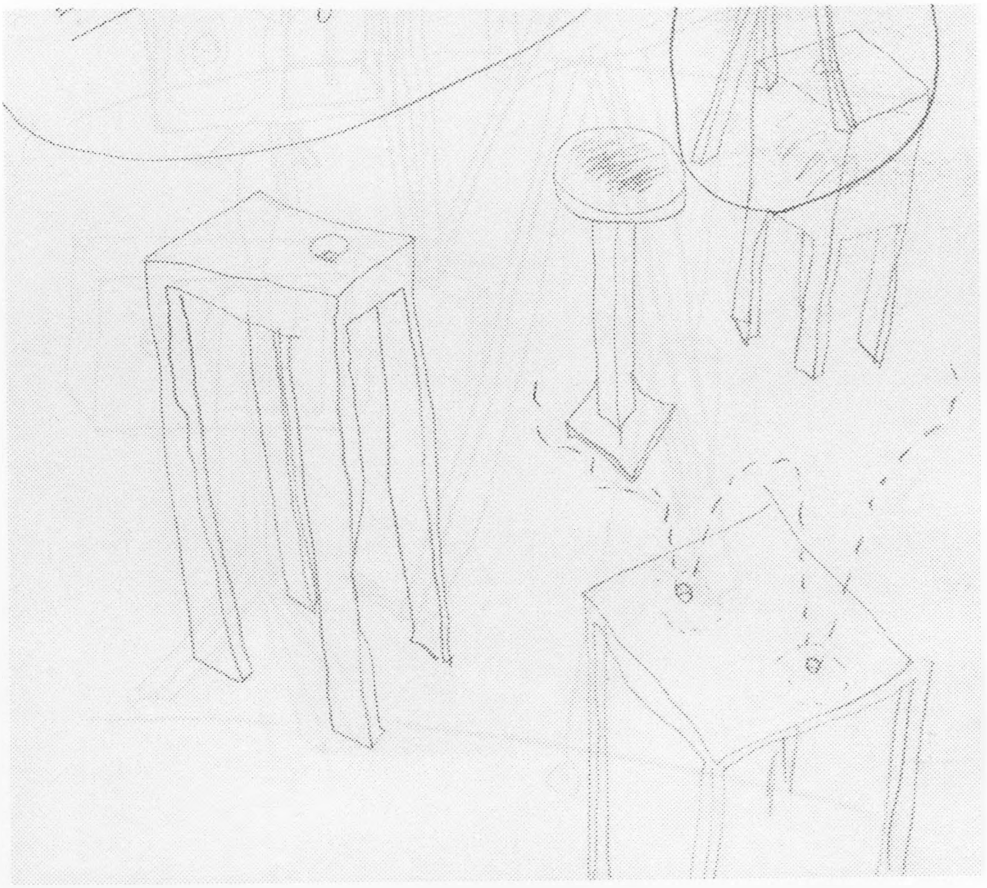


Fig 8.15 LCD screen encapsulated in flourescent polycarbonate



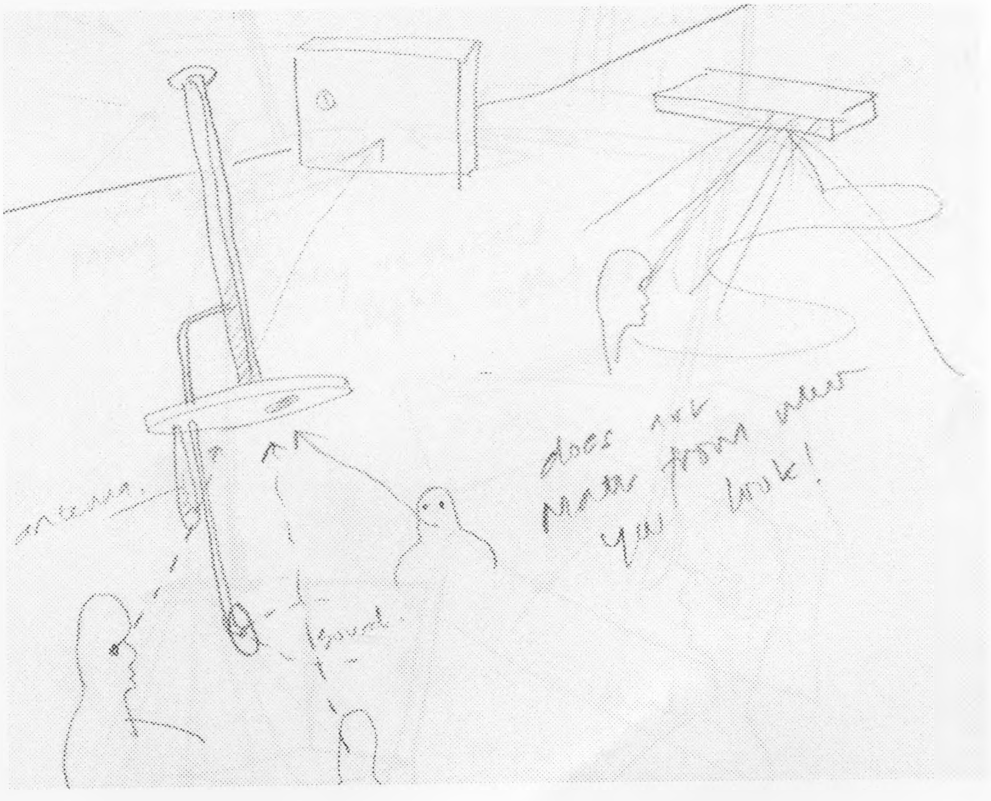


Fig. 8.16 Early sketches

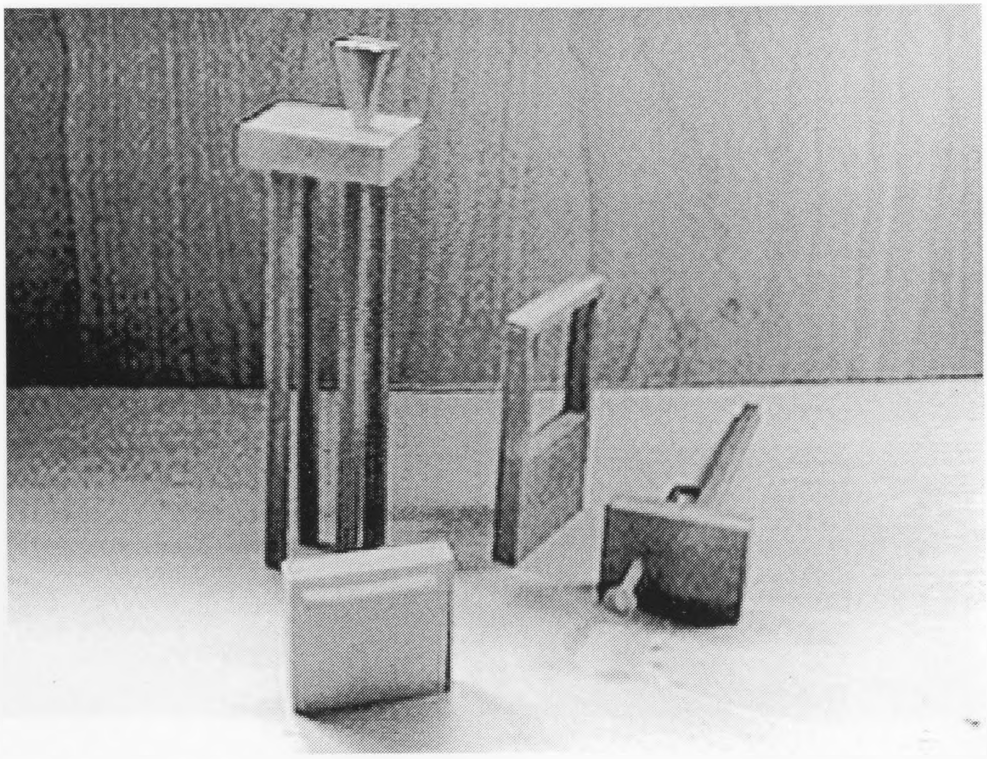


Fig. 8.17 Sketch models

Fig. 8.18 Close up of final design object

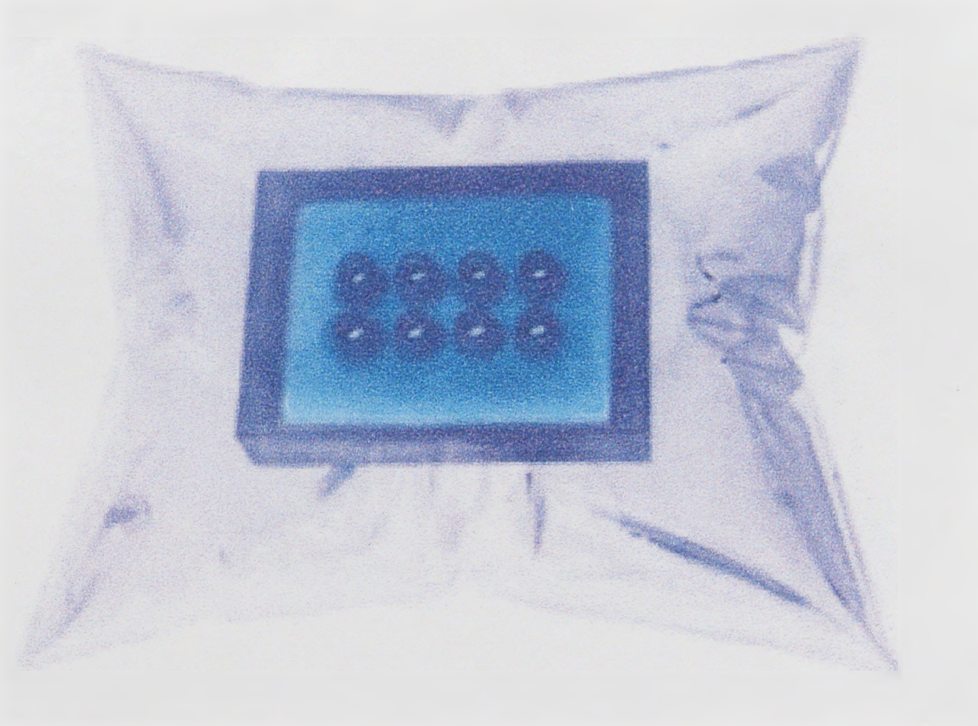


Fig 8.19 Final design

Fig. 8.20 Video stills from 'Pillow talk'

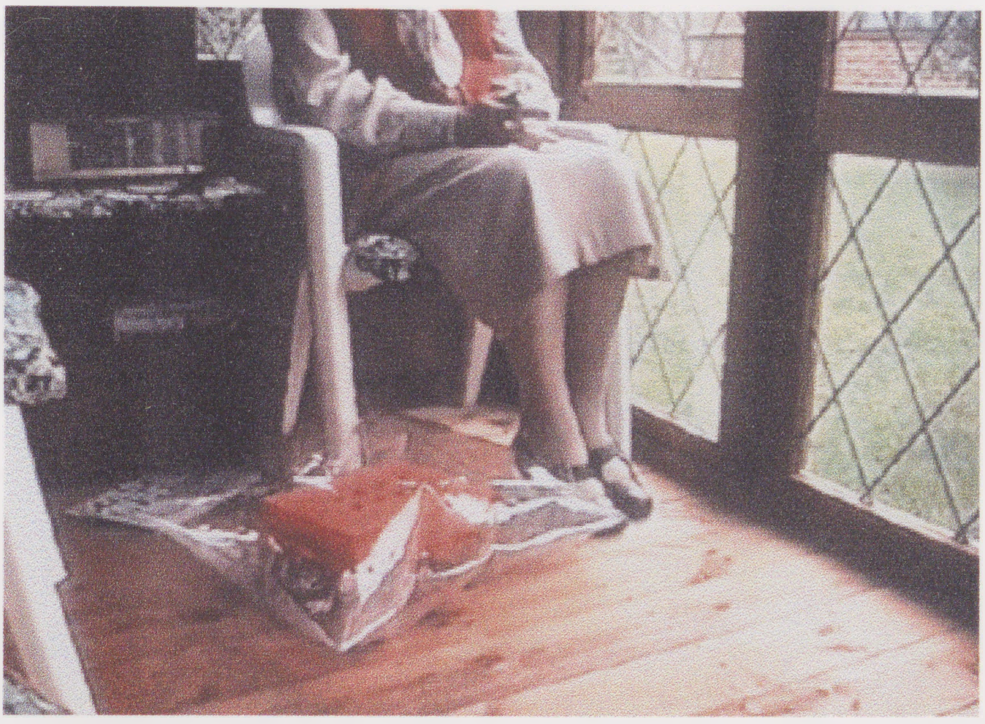
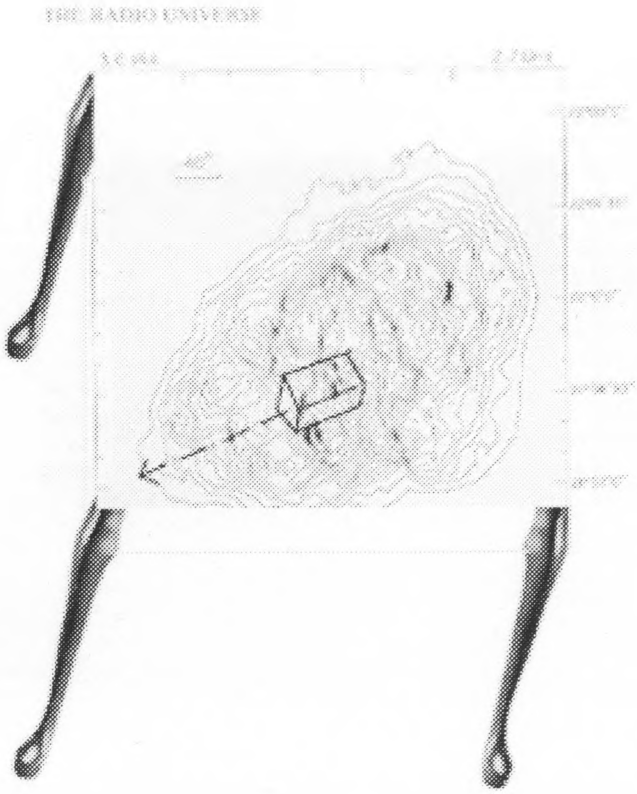
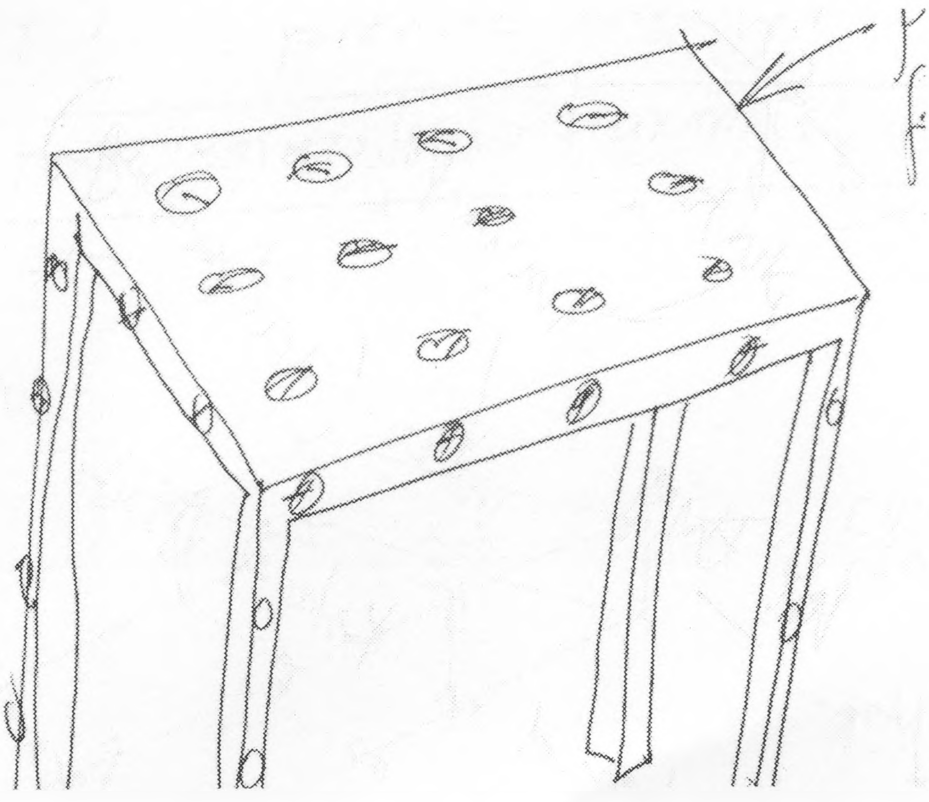


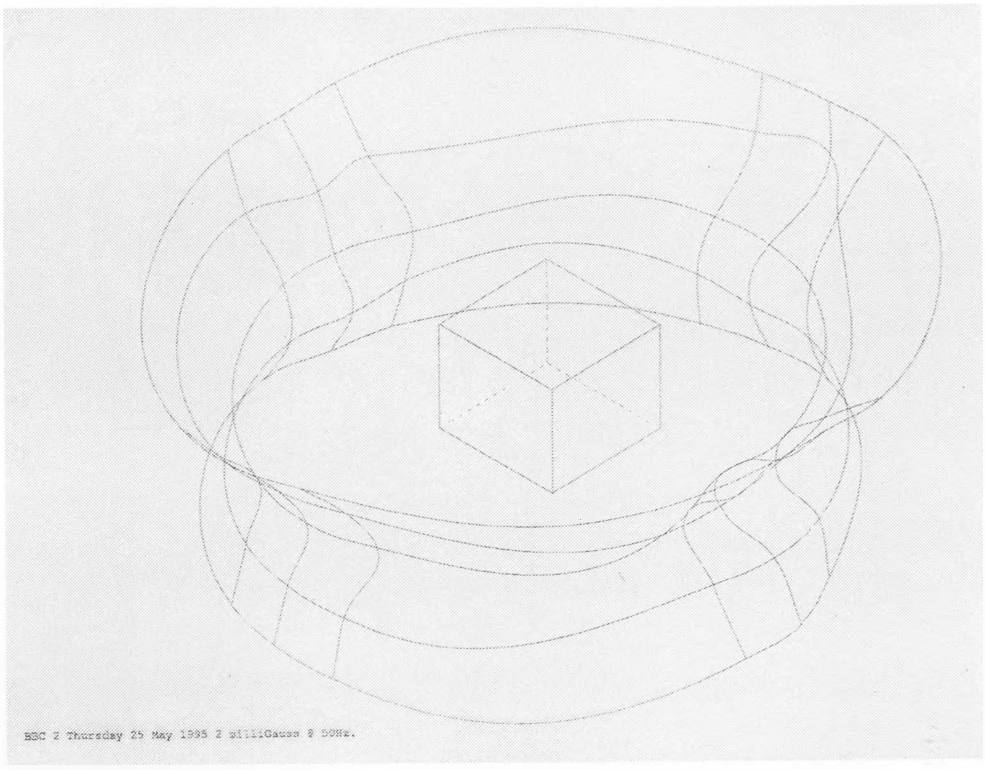
Fig 8.21 Video still from 'Pillow talk'

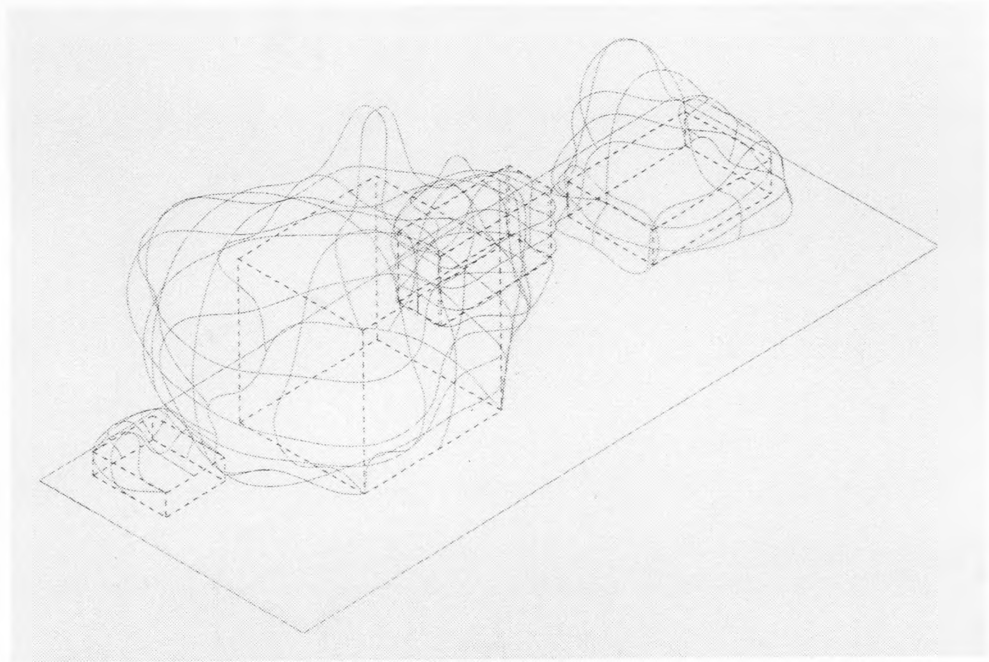
WHEN OBJECTS DREAM...



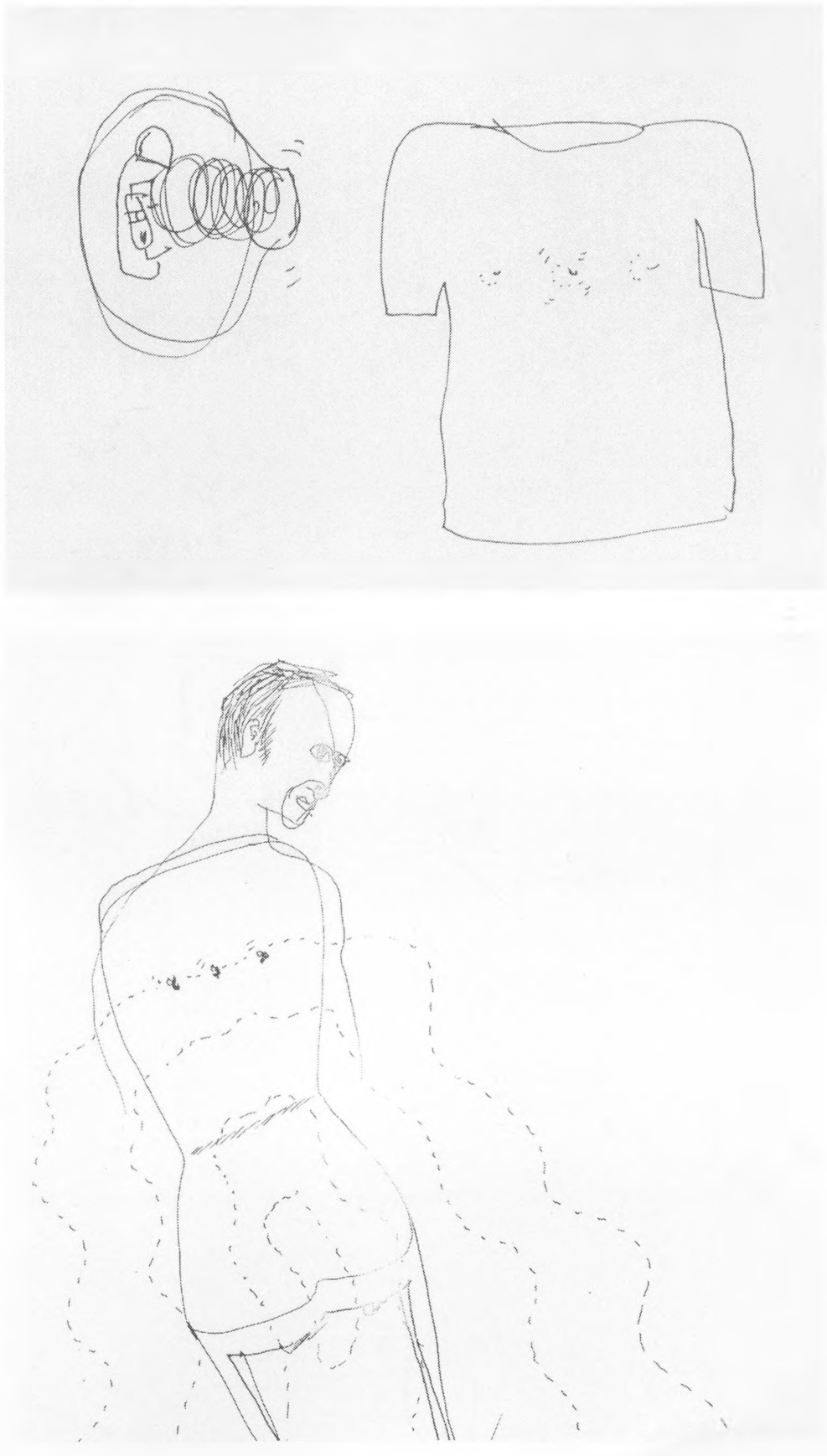


Figs 8.22-23 Concept sketches





Figs 8.24-25 Drawings of fields from a TV and other domestic objects



Figs 8.26-27 EMF sensitive vibrating nipples and seat back

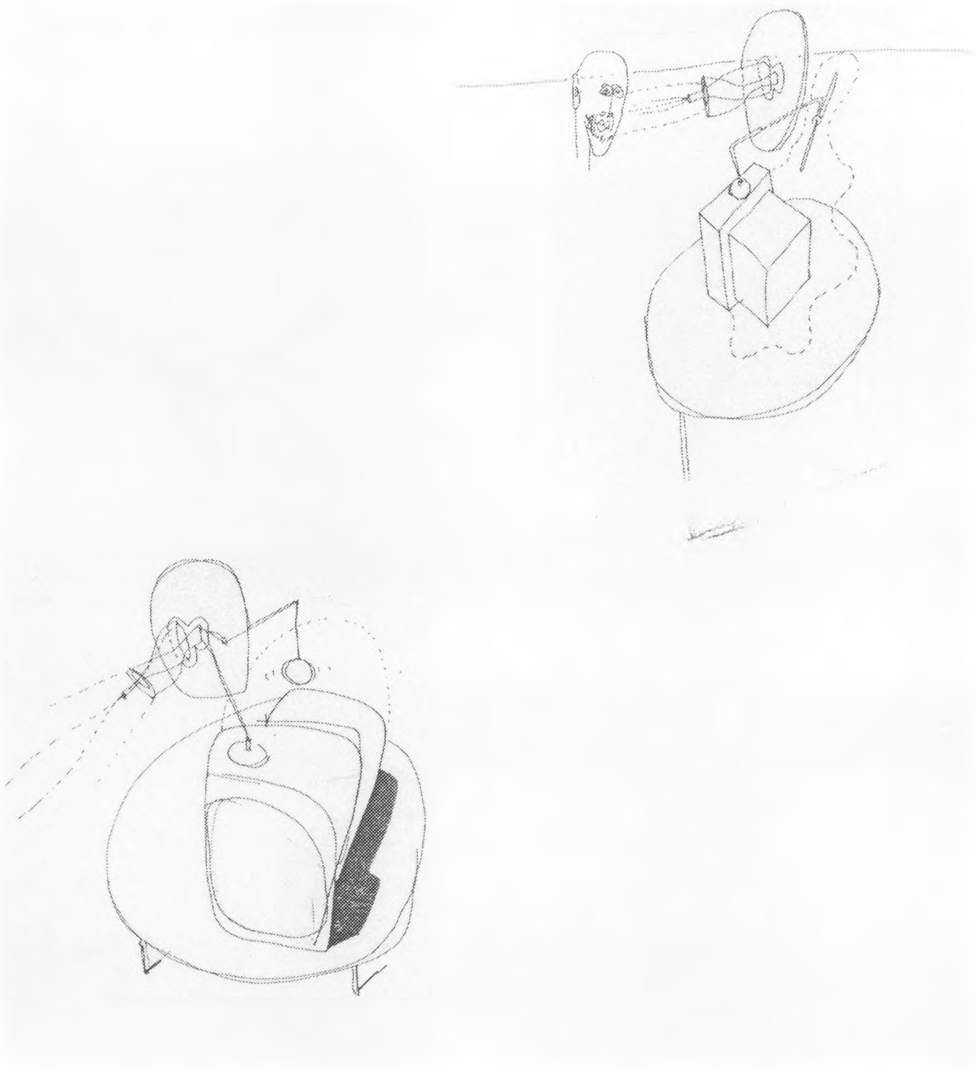
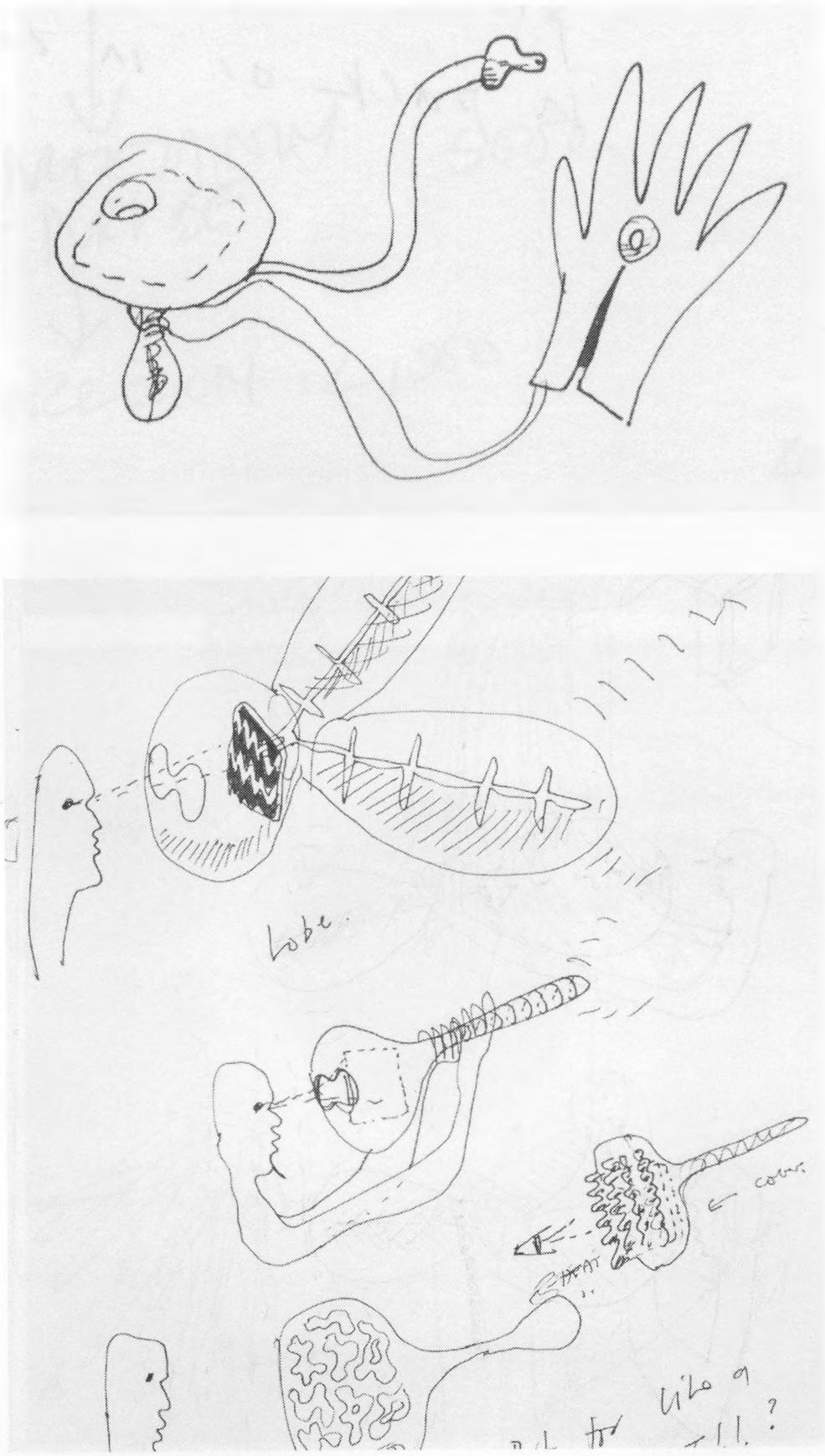


Fig 8.28 Parasitical light



Figs 29-30 Field sensitive glove and field probe

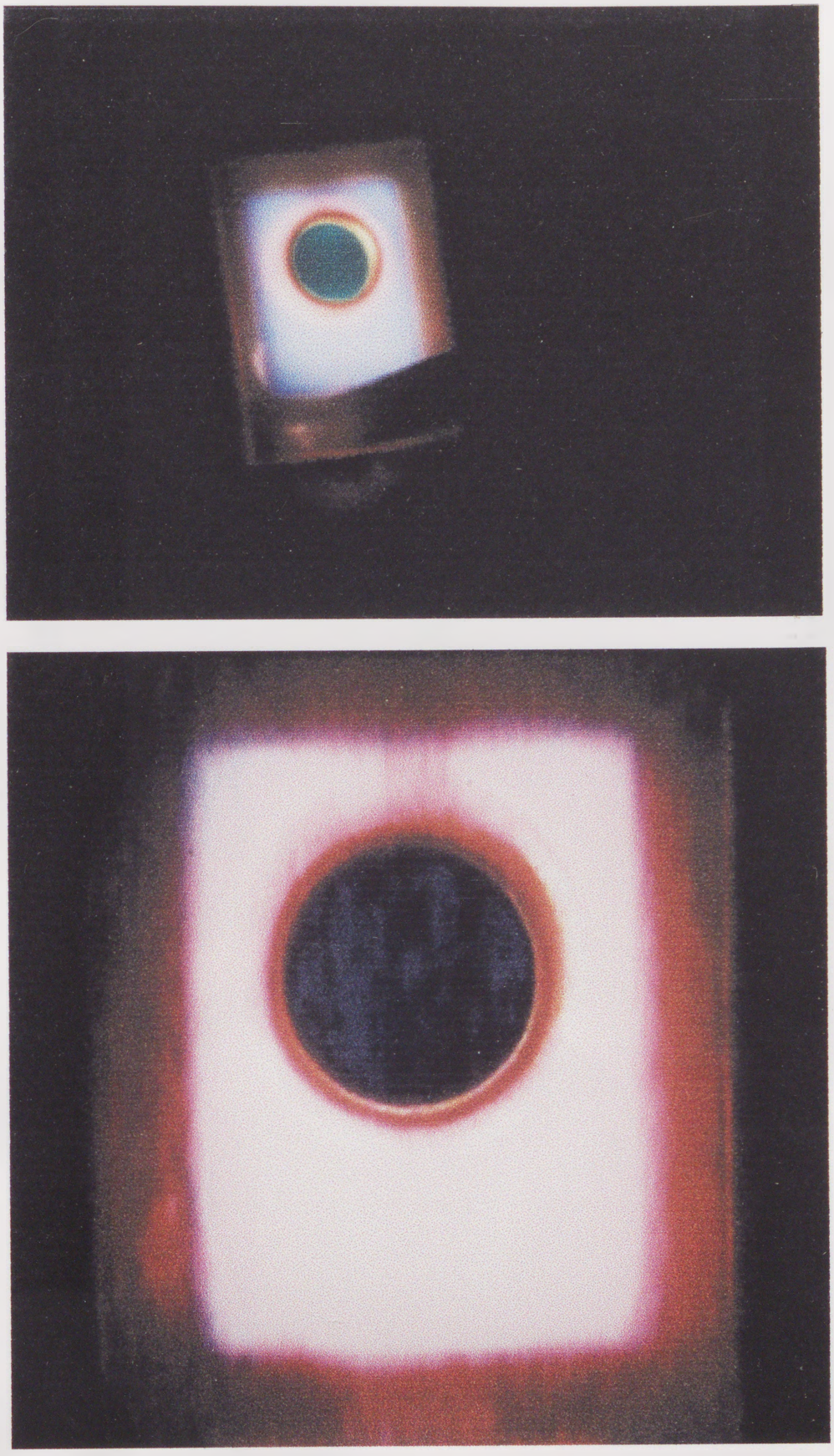
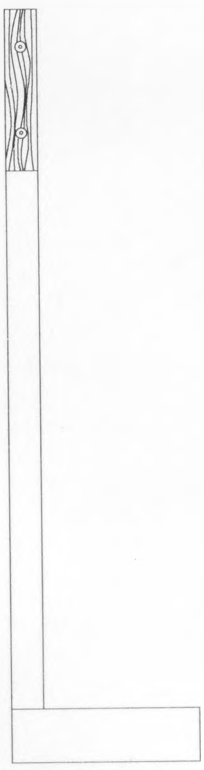
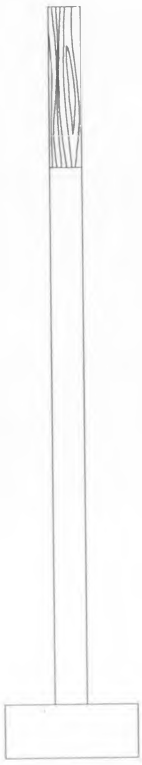


Fig. 8.31 LCD screen encapsulated in flourescent polycarbonate

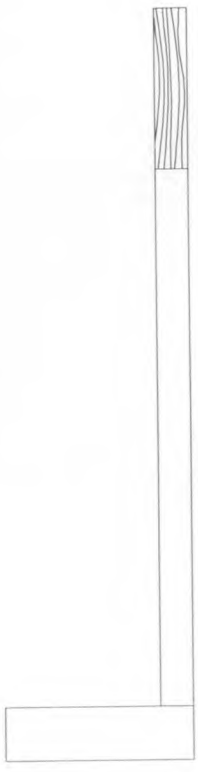
Top View



Side View



Front View



Side View

Fig. 8.32 Outline drawing of final design
700H x 125W x 175D mm

TUNABLE CITIES

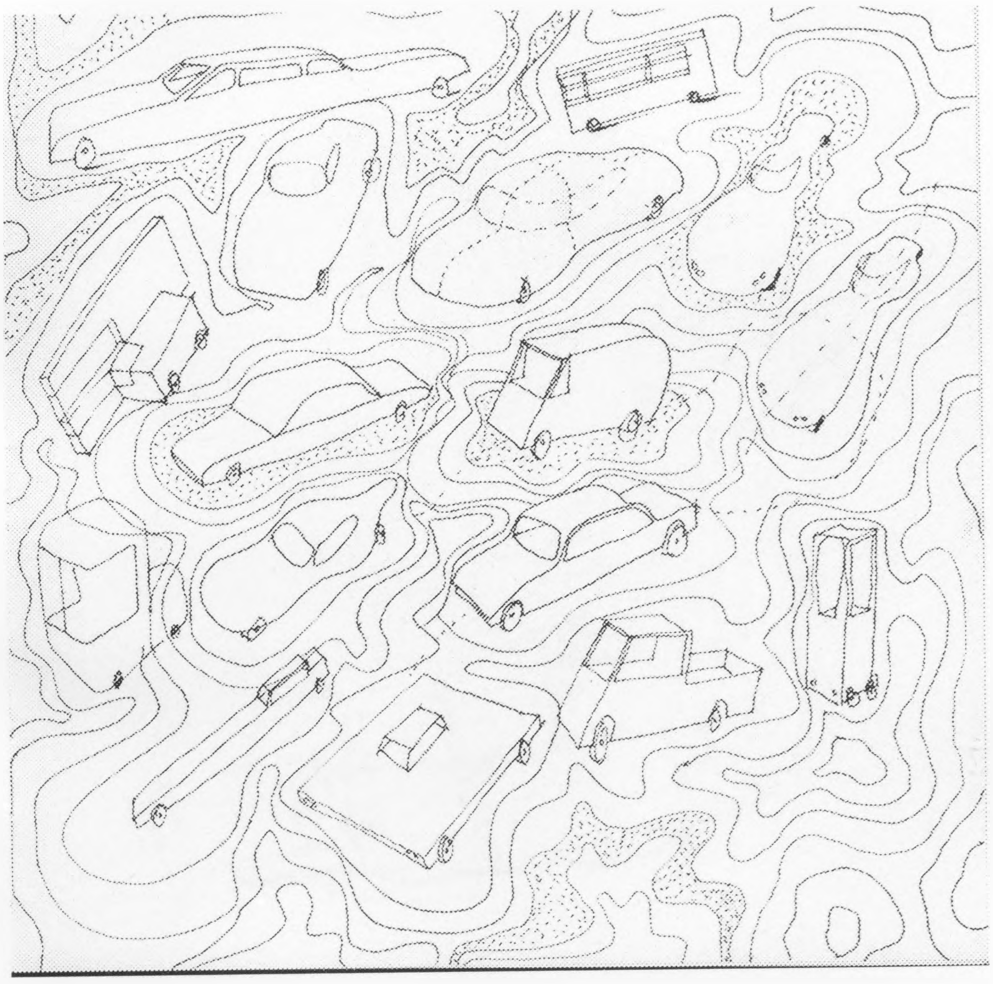


Fig. 8.33 Concept sketch

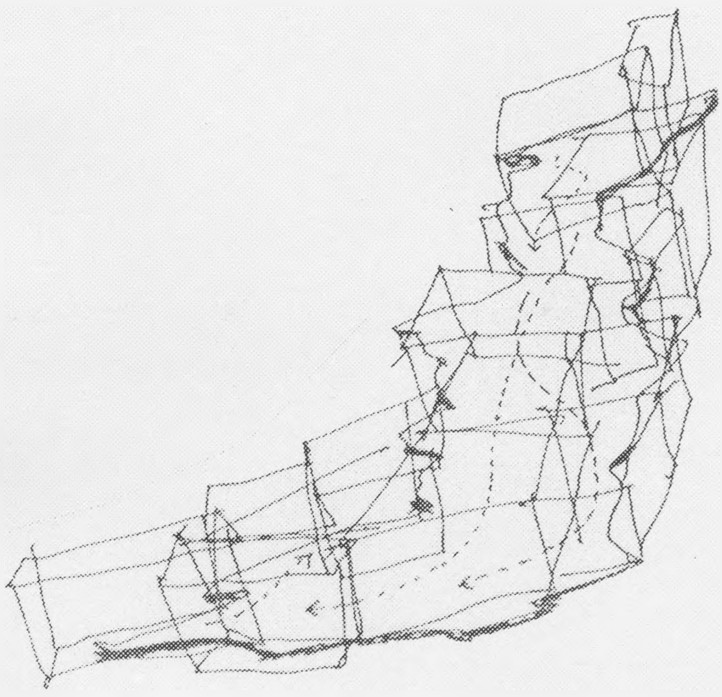


Fig. 8.34 Concept sketch

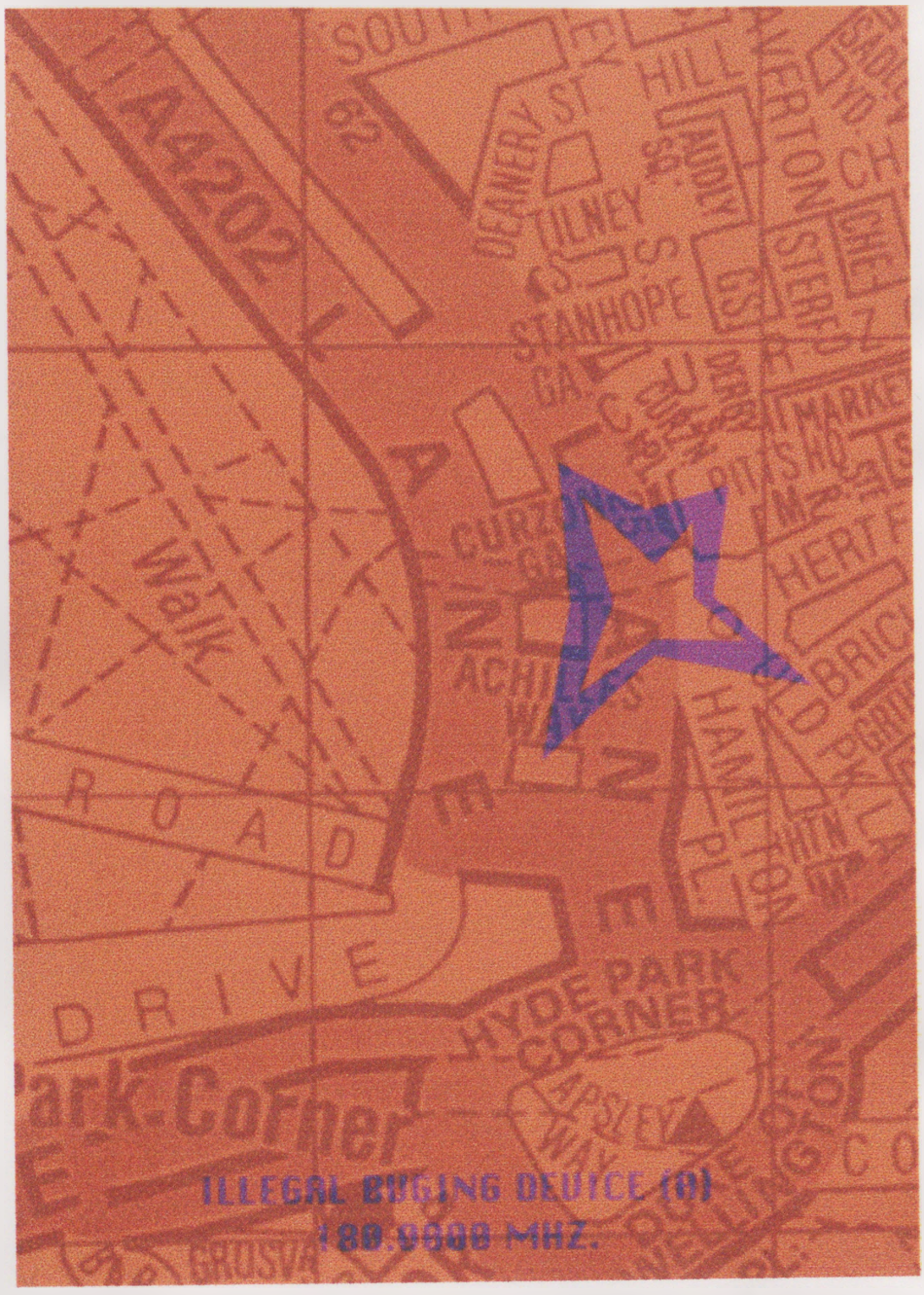


Fig. 8.35 Suspicious click in Parklane

Fig. 8.36 Illegal bugging device in Mayfair

Fig. 8.37 Leaky Babycoms in Chiswick

Figs. 8.38-39 Stills from Mayfair and Chiswick videos

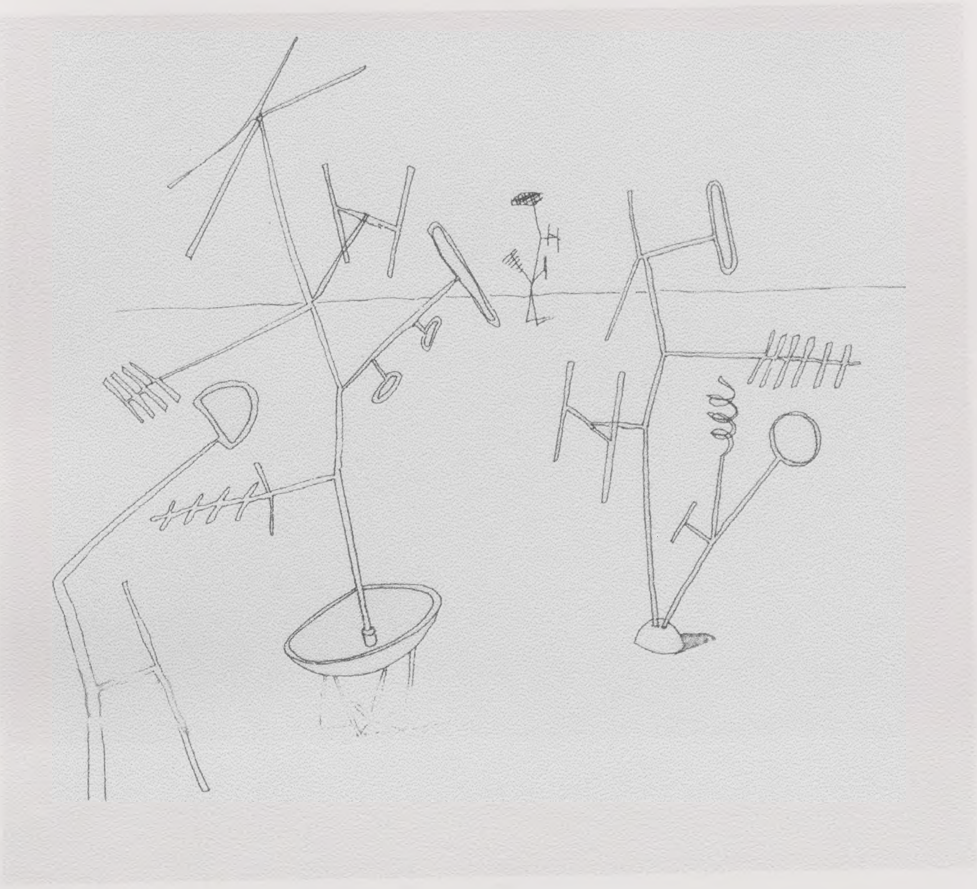
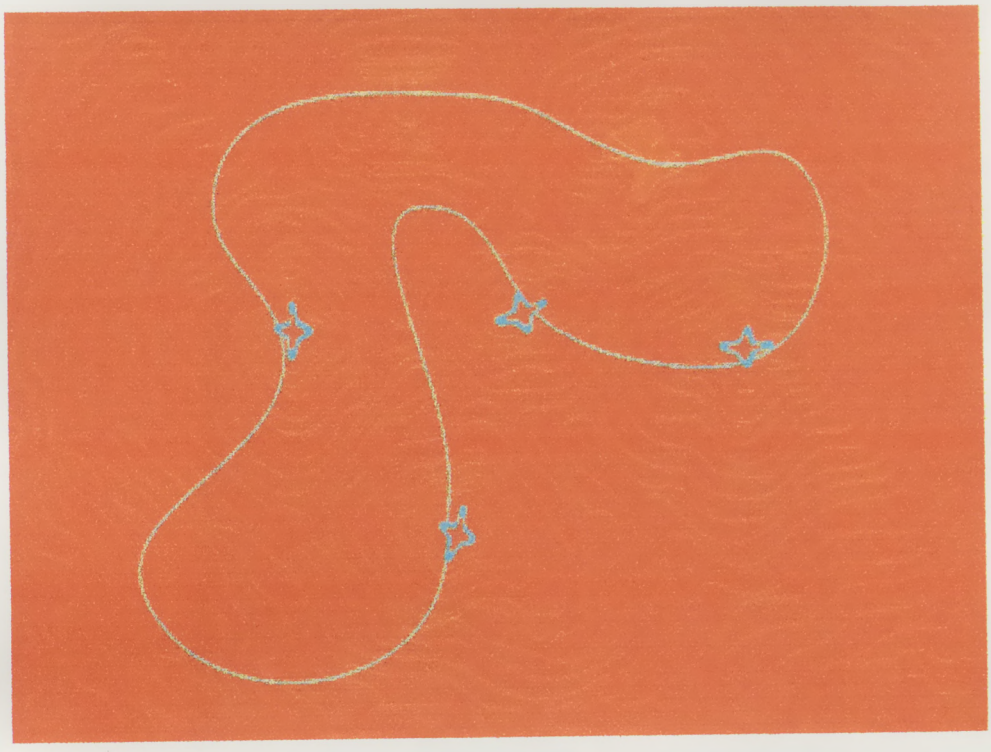


Fig. 8.40 Sketch and video still form 'Radio Birds'



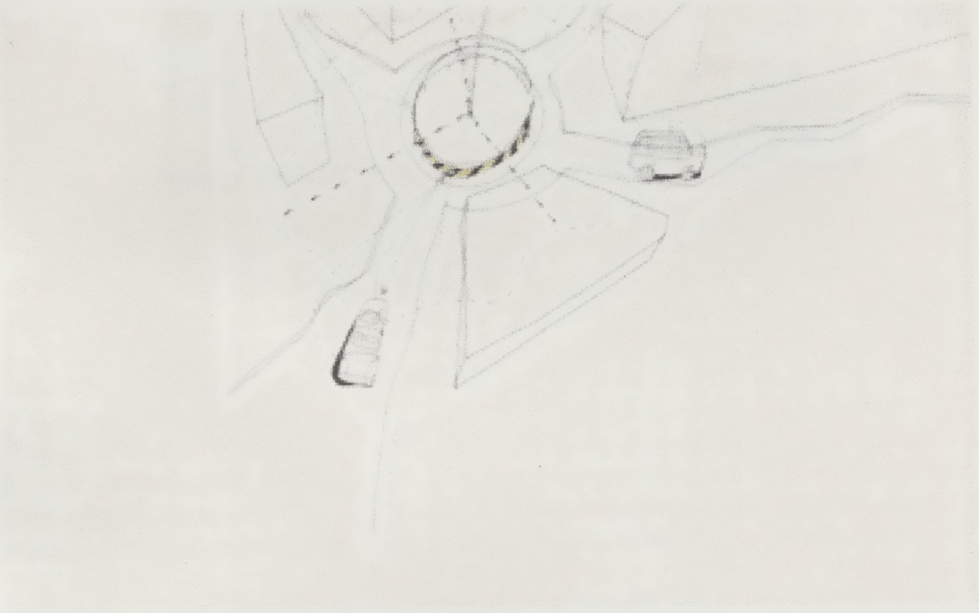


Fig. 8.41 Sketches of 'Public Utility'

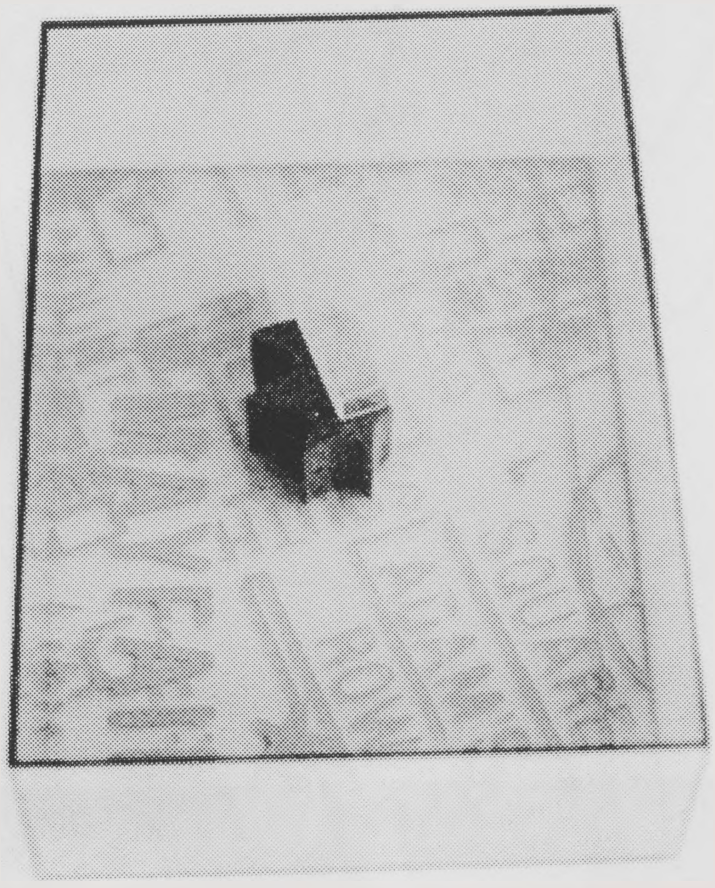


Fig. 8.42 Concept model of leaky Mayfair space

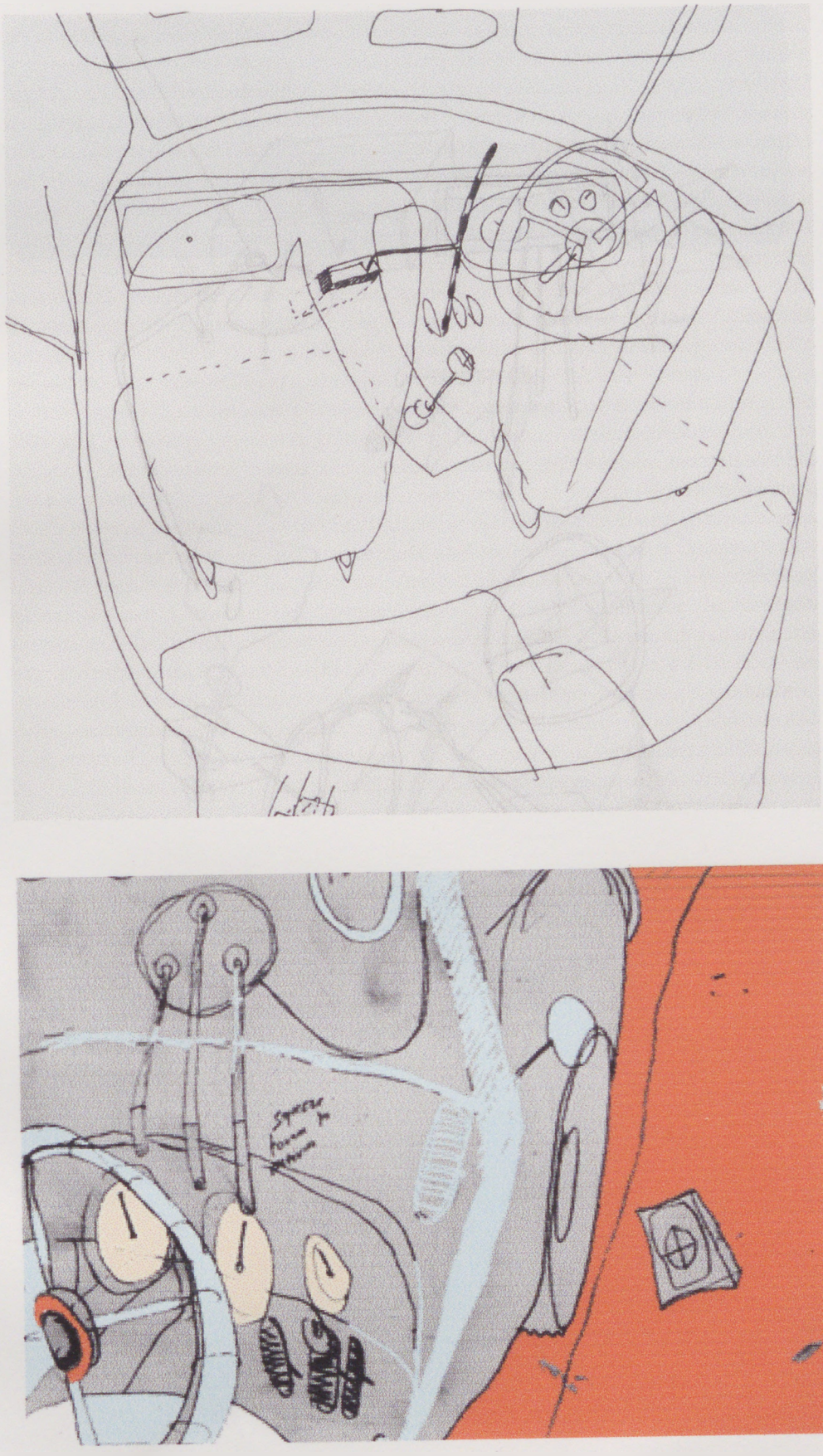


Fig. 8.43 Sketches of car radio

Fig. 8.44 Treated car radio image

FARADAY CHAIR

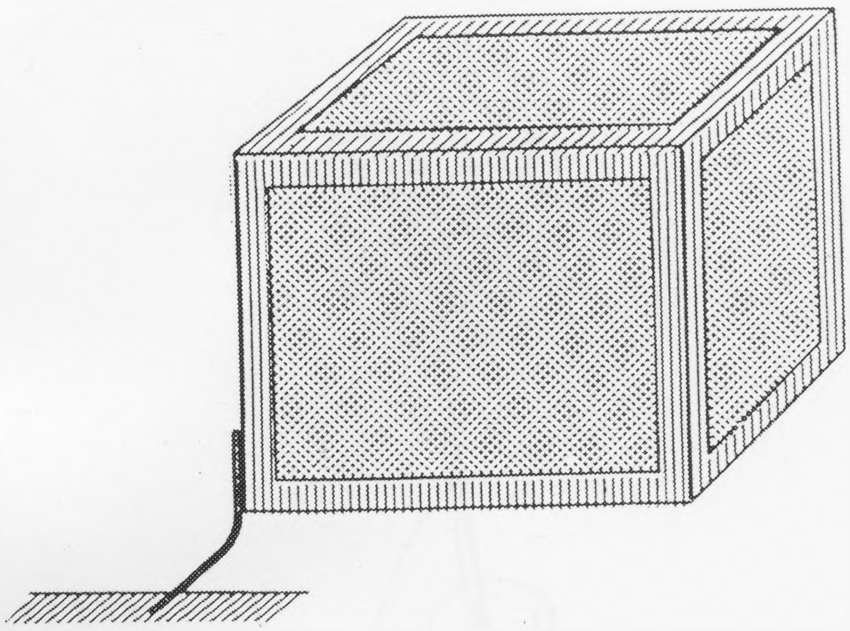


Fig 8.45 Faraday cage

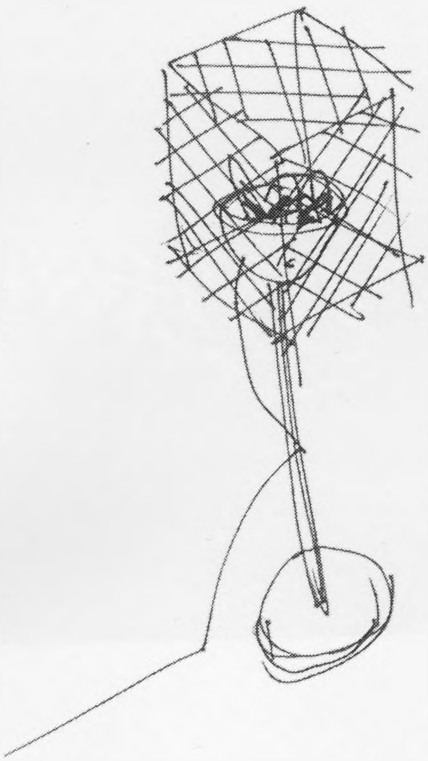


Fig. 8.46 Sketch of faraday 'Fruit Bowl'

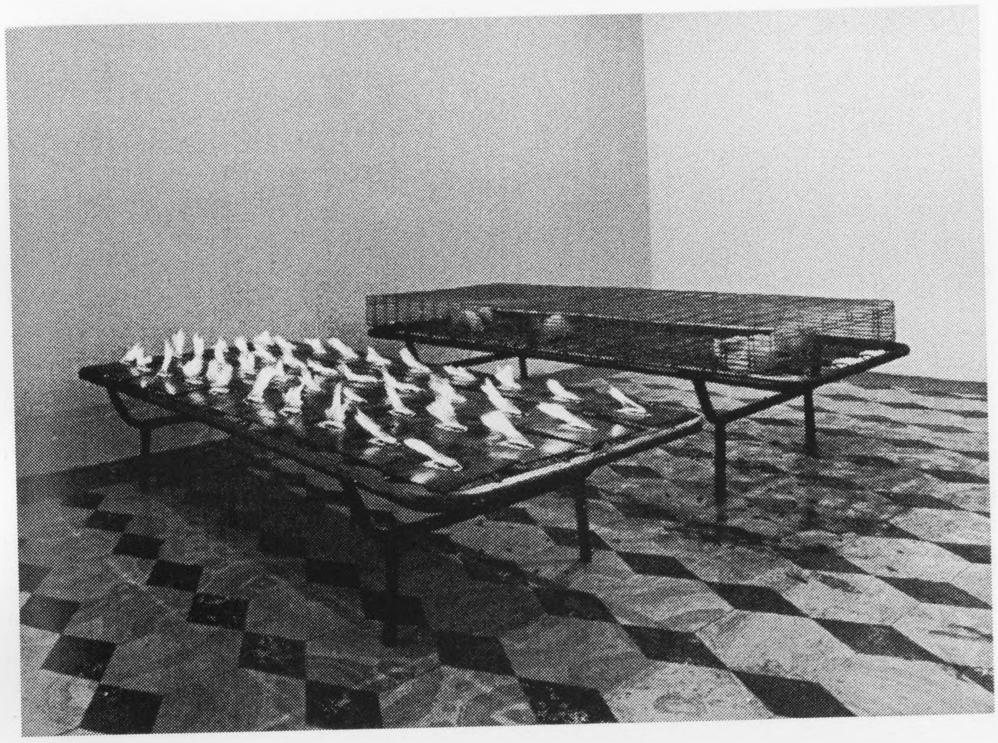


Fig. 8.47 'Untitled' (1969) by Jannis Kounellis

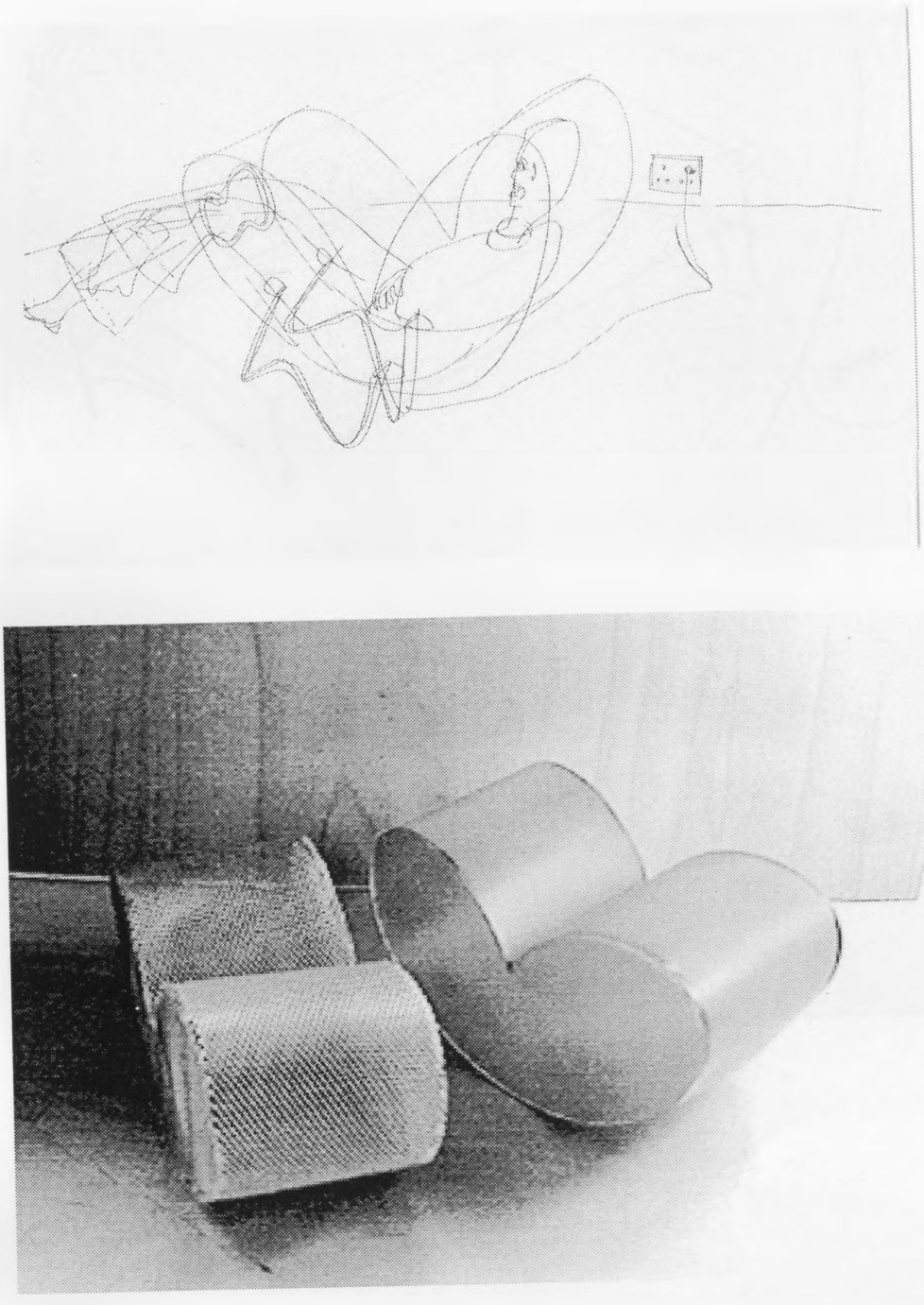
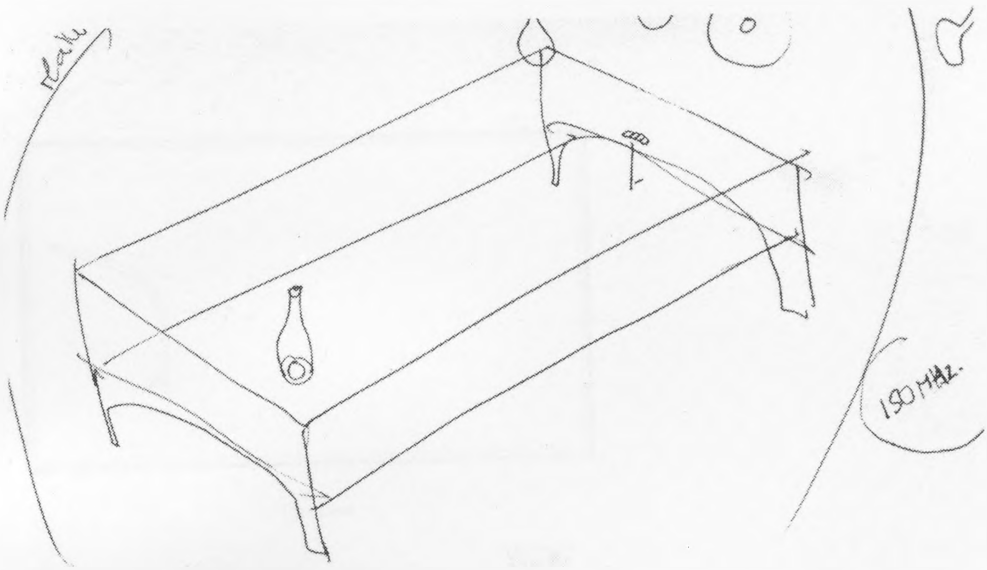


Fig 8.48 Sketches and sketch models for faraday chair



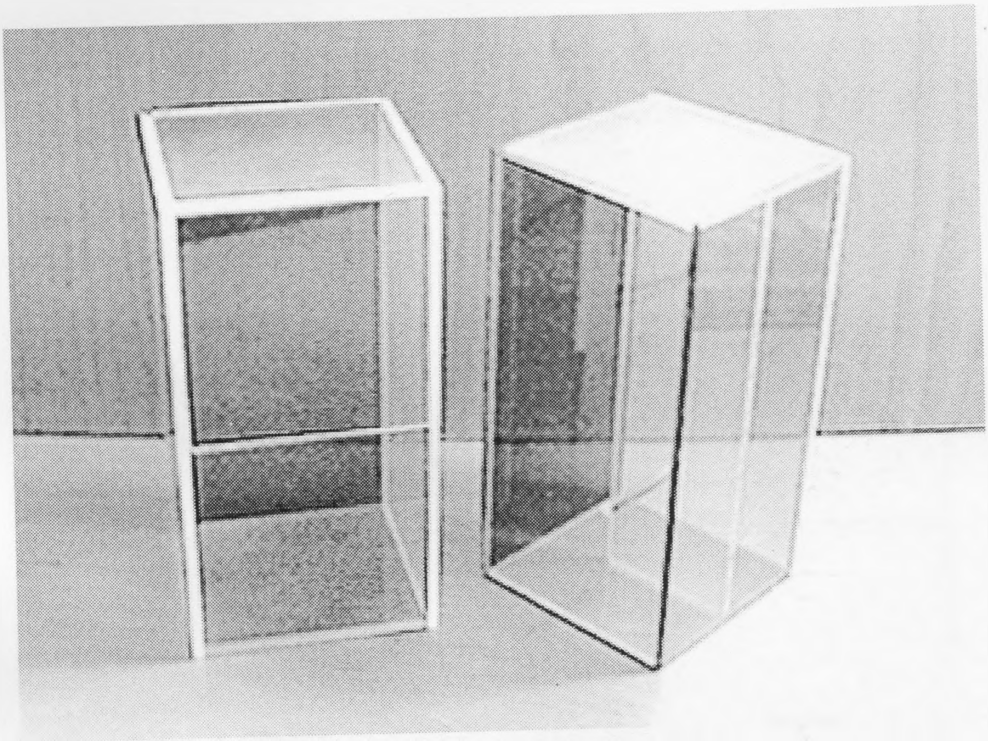
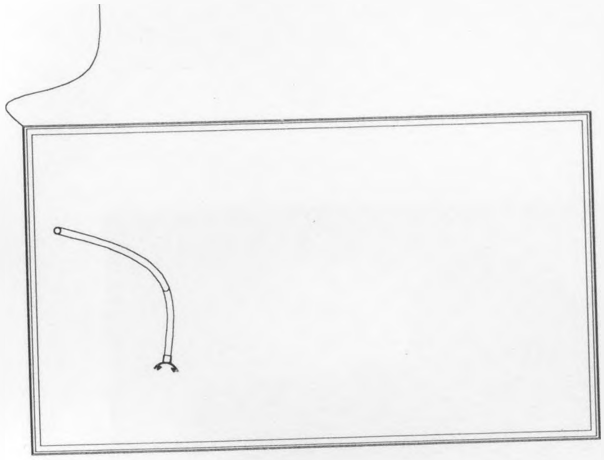
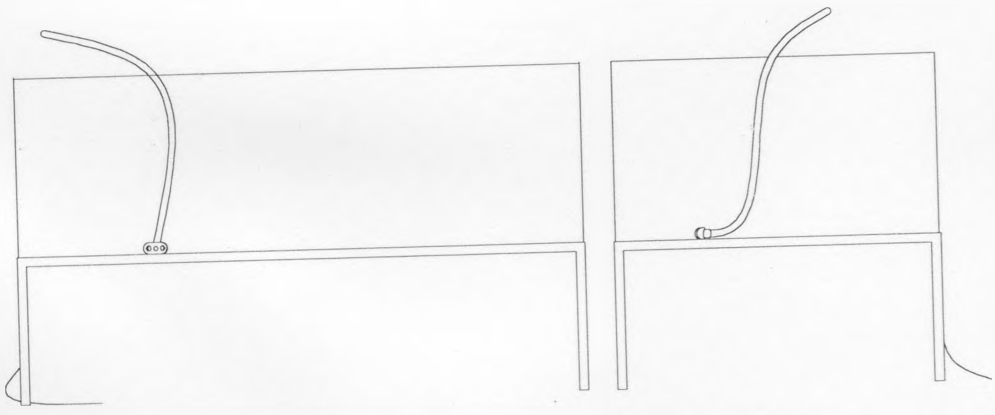


Fig. 8.49 Sketch and conceptual models for day bed version



Top View



Front View

Side View

Fig. 8.50 Outline drawing of final design
700H x 1230W x 700D mm

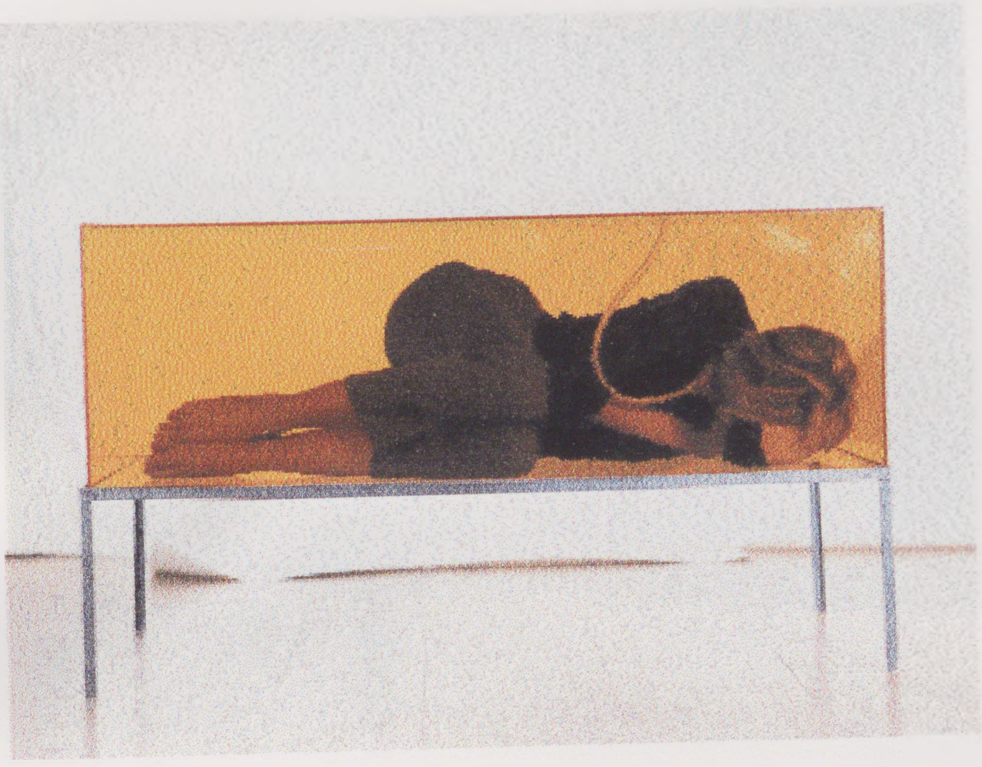


Fig. 8.51 Study for final version with occupant.

Fig. 8.52 Study for snorkel close up