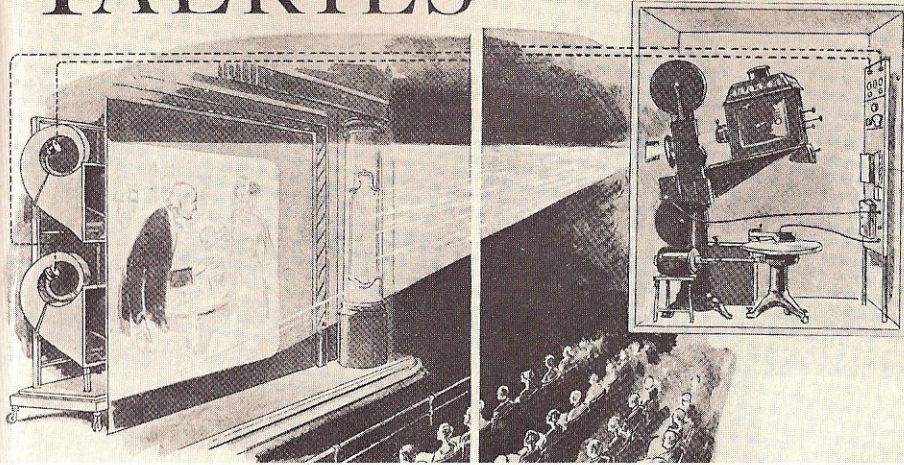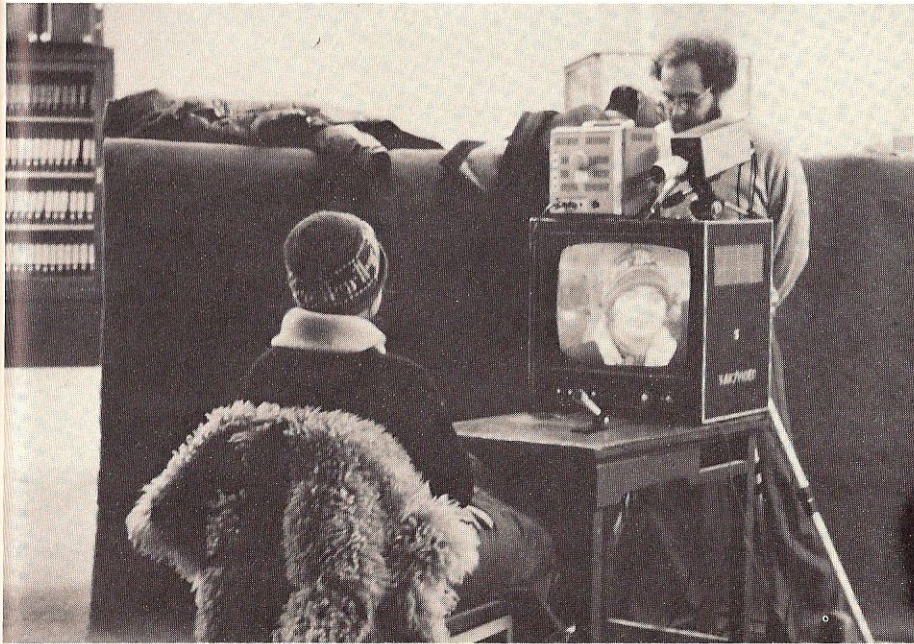Film projection in the thirties.
(from: Alison Sandford, *The Movie Musical from Vitaphone to 42nd Street*. Edited by Miles Kreuger, Dover, New York, 1975).

Two consciousness projection(s) by Dan Graham (cf. p. 6). Performance at the *School of the Art Institute of Chicago*, Chicago, Ill., 1975.

Film and video: video as present-time

Video is a present-time medium. Its image can be simultaneous with its perception by/of its audience (it can be the image of its audience perceiving). The space/time it presents, is continuous, unbroken and congruent to that of the real time which is the shared time of its perceivers and their individual and collective real environments. This is unlike film which is, necessarily, an edited re-presentation of the past of another reality/an other's reality for separate contemplation by unconnected individuals. Film is discontinuous, its language constructed, in fact, from syntactical and temporal disjunctions (for example, montage). Film is a reflection of a reality external to the spectator's body; the spectator's body is out of the frame. In a live-video-situation, the spectator may be included within the frame at one moment, or be out of the frame at another moment. Film constructs a 'reality' separate and incongruent to the viewing situation; video feeds back indigenous data in the immediate, present-time environment or connects parallel time/space continua. Film is contemplative and 'distanced'; it detaches the viewer from present reality and makes him a spectator.

62

The distribution of both films and broadcast-television represents an asymmetrical imposition of information by capital. Film is a consumption product, as is broadcast-television, which, in the interest of advertisers of products, installs a terminal in the home and controls access to information.[1] The concentration of power through capital is also facilitated through the mythology contained in the story-lines of programs and advertisements, and through withholding or controlling the availability of information. The centralized production facilities of film or broadcast TV exploit the saleable (product) aspects of culture at the expense of the existential. A cable system, by contrast, presents the possibility of becoming two-way and decentralized. Individuals, families and the local, extant cultural systems could be given potential self-determination and control. Local cable television could feed *back* the immediate environment.

Addendum
TV gains much of its effect from the fact that it appears to depict a world which is immediately and fully present.
The viewer assumes that the TV image is both immediate and contiguous as to time with the shared social time and parallel 'real world' of its perceivers — even when this may not be the case. This physical immediacy produces in the viewer(s) a sense of psychological intimacy, where people on TV and events appear to directly address him or her.

1   One explanation for the form that broadcast television has taken — a centrally originated transmission sent to the passive home viewer on a privately owned TV set — is that television came into being first as a commodity item, mass-produced for the consumer market. When it appeared, the TV set belonged to a new type of inexpensively produced small machines (other examples are: automobiles, cameras, electrical appliances, radio), designed to be transportable or provide means to private transportation. The consumer's demand for these goods was a response to the changed work and life conditions of the industrial worker; he was uprooted from his traditional house for a mobile and urbanized pattern. With the aid of these products the newly re-settled worker could plug in quickly to whatever urban, social environment he found himself in. At the same time, because of the pressures of a more technically organized work-life, the private area of family and house became retreats for the worker on his 'time off'. Television programming allowed the person in his private space to feel connected to a larger, public world, but free of its demands, sheltered in his private home-life.

Components of a cable system

A cable television signal receives off-the-air broadcast signals and feeds them through amplifiers and cable to its subscribers. This requires (A) an antenna tower and a head-end, (B) a distribution plant and, (C) house drops and terminals. (See Figure 3.) The head-end (A) consists of receiving antennas, receivers and amplifiers for local broadcast signals. It might also include equipment for translating signals from UHF stations to VHF channels. Head-ends can also include microwave equipment to bring in distant TV signals.

The distribution plant (B) contains amplifiers and trunk cable attached to utility poles or fed through underground conduits like telephone and electric wires.

House drops (C) are taps on the distribution plant for each building. Terminals include connectors, transformers and converters (if necessary) on the subscriber set.

Typical costs are $100,000 for a 12 channel head-end, including microwaves, $4,000 per mile for the aerial distribution plant, $15,000 to $50,000 per mile for underground plant and $40 to $60 per house drop.

For example, Figure 3 also shows a local origination center (D) which is used to produce community cablecasts. Costs for a local origination center can vary from $50,000 to $250,000 for equipment only, depending on the amount of equipment and whether it is black and white or color.
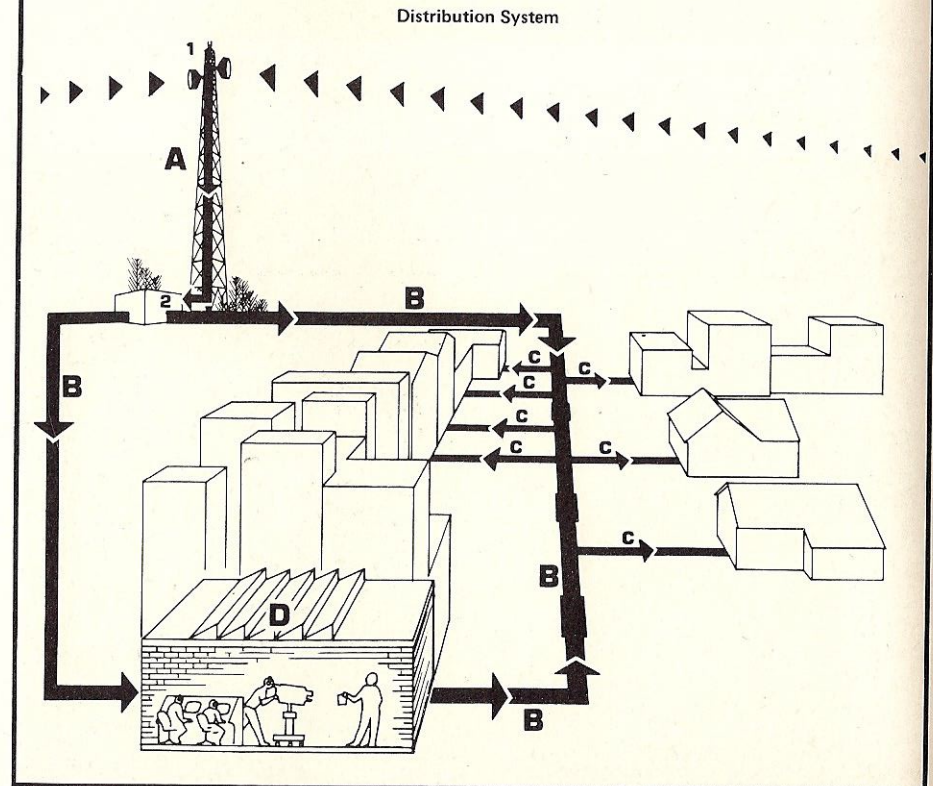
Distribution System

Illustration and quotation 'Components of a Cable System' from: *Cable Television in the Cities;* edited by Charles Tate, published by the Urban Institute, Washington D.C., 1971.

The architectural code / the video code

An architectural code both reflects and directs the social order. In the not too distant future one can envisage that this code will be supplemented, modified and in part supplanted by a new code, that of television. As cabled television images displayed on wall-sized monitors connect and mediate between rooms, families, social classes, 'public'/'private' domains, connecting architecturally (and socially) bounded regions, they take on an architectural (and social) function. Video in architecture will function semiotically speaking as window and as mirror simultaneously, but subvert the effects and functions of both. Windows in architecture mediate separated spatial units and frame a conventional perspective of one unit's relation to the other; mirrors in architecture define self-reflectively, spatial enclosure and ego enclosure.

Architecture defines certain cultural and psychological boundaries, video may intercede to replace or re-arrange some of these boundaries. Cable television, being reciprocally two-way, can interpenetrate social orders not previously linked; its initial use may tend to de-construct or re-define existing social hierarchies.
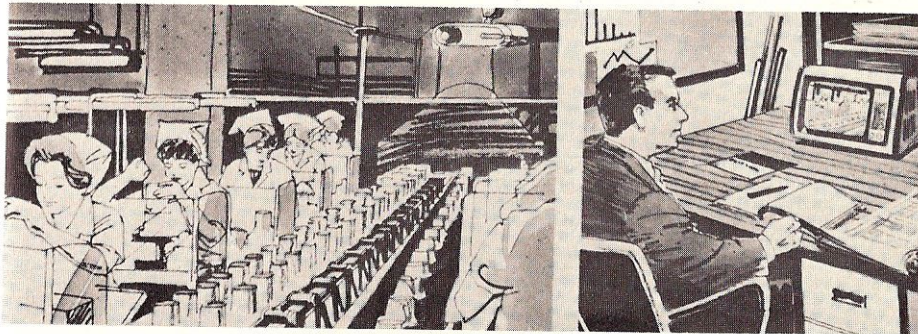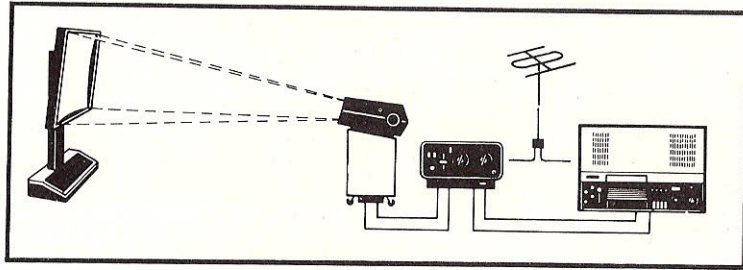

Production Control: production lines can be monitored from your desk. Dangerous areas can be safely watched from a remote location.

'Public'/'private' codes

Public versus *private* can be dependent upon architectural conventions. By social convention, a window mediates between private (inside) and public (outside) space. The interior seen defines or is defined by the publically accepted notion of privacy. An architectural division, the 'house', separates the 'private' person from the 'public' person and sanctions certain kinds of behaviour for each. The *meaning* of privacy, beyond its mere distinguishability from publicness, is more complexly connected to other social rules. For example: a private home restricts access to members of one family; a bathroom within that house is private as it allows usage by only one person at a time (whereas a toilet in a public place is public as it allows multiple access, but is gender restricted); the individual bedroom of a child or adult member of the family may be considered to be private at certain times. Moral sanctions are attached to violation of these codes. There are areas which reflect transitional social change. The taping of private conversations for public law enforcement is one area of unresolved claims between private (including interpretation of the term, 'private') rights and public rights to justice or knowledge. The widespread use of video surveillance cameras involves similar 'moral'/legal issues. The use of video would have social-psychological implications for the family structure: for instance, children being continuously observed through the use of a video camera by their parents, 'lose' their 'right' to be different in private, that is, to have separate 'public' and 'private' identities.
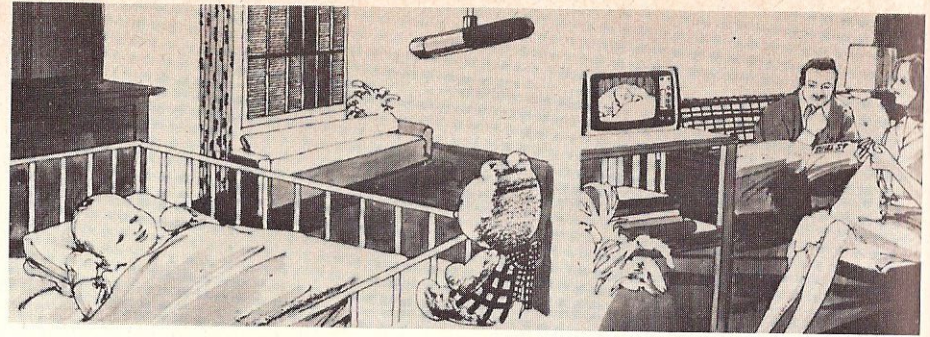
Parent's Helper: parents can find more time for themselves by remotely supervising their children as they play, work, and sleep. Parents can provide this supervision without disturbing or awakening their children.
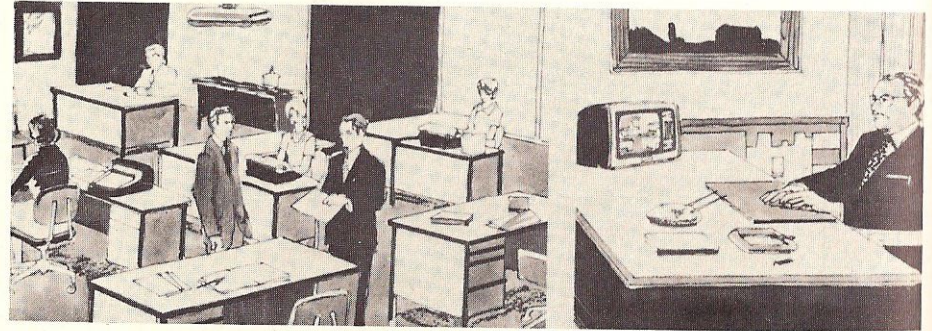
Employee Supervision: a supervisor can monitor different office locations without leaving his desk. The supervisor can thus spend more time working at his desk and the office can operate more smoothly and efficiently.

Conventions of the glass window

The glass window, like the Renaissance painting, creates a picture plane that places the world at a measured distance for the viewer on either side. The world, held at a distance, frames a conventional view which is defined by the specific size, shape, and direction of orientation of the opening of the window frame. A view from one space into the other space, by what is allowed to be seen, defines one space's socially (pre-)conceived 'view' of the other. What someone on one side of the window can see of the other space, *and*, what can be seen of them as part of their space by a viewer on the other side (*and, vice versa*, for someone on the other side) is conventionalized by the social/architectural code. A look from one side, as opposed to a look from the other side, may be symmetrical, appear symmetrical but not be, or be clearly asymmetrical. The 'picture-window' appears to be symmetrical in the length of time allowed a person on either side to stare, but actually is not. An employer's view of his employees' work-space through one-way glass, as opposed to the employees' view of their employer's office, is asymmetrical, expressing inequalities of power.
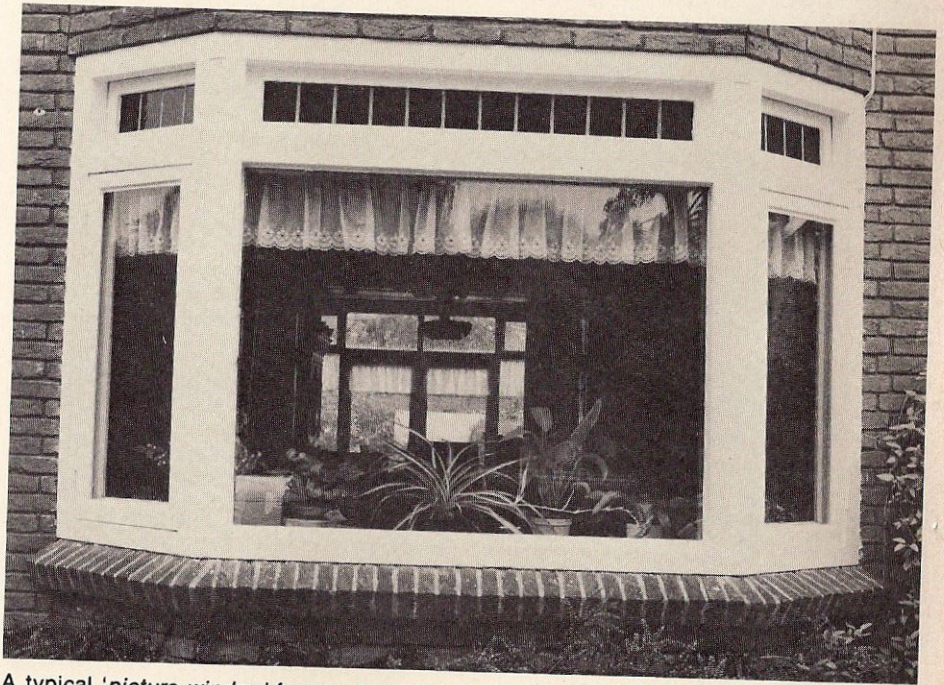
A typical 'picture window' from a dutch private home. Photograph by Dan Graham.
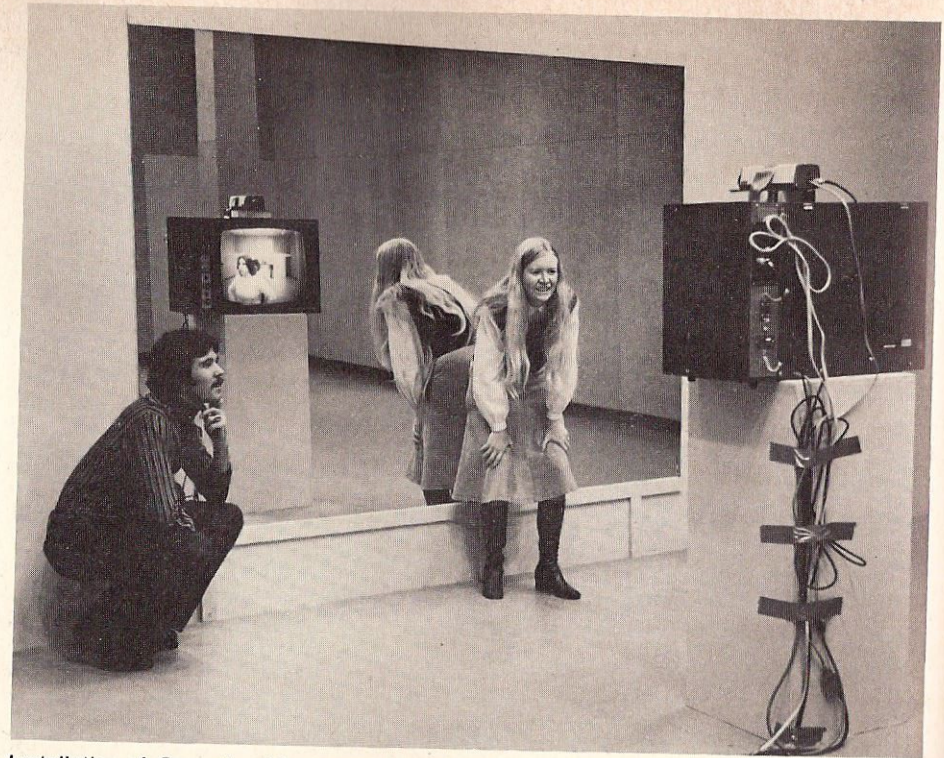
The mirror image / the video image

A mirror's image optically responds to a human observer's movements, varying as a function of his position. As the observer approaches, the mirror opens up a wider and deeper view of the room-environment and magnifies the image of the perceiver. By contrast, a video image on a monitor does not shift in perspective with a viewer's shift in position. The mirror's image connects subjectively with the perceiver's time/space axis. Optically, mirrors are designed to be seen frontally[1]. A video monitor's projected image of a spectator observing it, depends on that spectator's relation to the position of the camera, but not on his relation to the monitor. A view of the perceiver can be transmitted from the camera instantaneously or time-delayed over a distance to a monitor which may be near or far from the perceiver's (viewing) position in space or time. Unlike the flat visuality of Renaissance painting, in the video image geometrical surfaces are lost to ambiguously modelled contours and to a translucent depth. Mirrors in enclosures exteriorize all objects within the interior space, so that they appear on the mirror as frontal surface planes. In rectilinear enclosures, mirrors create illusory perspective boxes. The symmetry of mirrors tends to conceal or cancel the passage of time, so that the over-all architectural form appears to transcend time, while the interior area of the architecture, inhabited by human movements, process and gradual change, is emptied of significance. As the image in the mirror is perceived as a static instant, place (time and space) becomes illusorily eternal. The world seen on video, by contrast, is in temporal flux and connected subjectively (because it can be identified with) to experienced duration.

Addendum:

The child sees itself formed as an image in the same way as an Other, beside which it identifies. The child's 'ego' is formed by an identification with its like: the other human being who is in the mirror and the reflection of its body, which is dissimilar to its subjective experience, but is identified with it. In the mirror-image its 'ego' seems to be located in two places simultaneously, outside itself (in the world of other objects and looking back at the child), and within itself (looking out at the image of itself). The child falsely imagines his body image to be a unified and complete entity, identified with the image of Otherness.

Installation of *Opposing Mirrors and Video Monitors on Time Delay* (1974) at *St. Lawrence University*, Canton, N.Y., 1975 (cf. p. 27-30).

1 The mirror inverts the position of the spectator seeing a Renaissance painting. There the spectator faces the painting and looks forward into its projected space; in doing this, he reconstructs the exterior (and also 'interior') view of the painter at the point in time and space when he made the painting.

Mirrors and 'self'

Mirrors are metaphors for the Western concept of the 'self'. In his theory of the 'mirror phase', Jacques Lacan has posited that a developing child first discovers his 'self' by a mirror-like identification with the image of an other. When the mother holds the child up to the mirror, the child views his body-image reflected in the mirror as an objectified and complete form, at a time when it is subjectively experienced as incomplete and un-coordinated. The child identifies itself with an image of an other, or an image which is outside its body sensations, but, in terms of social reality, must be taken to be its identity.

Installation of *Present Continuous Past(s)* at *Otis Art Institute Gallery*, September, 1975 (cf. p. 7-8).

Video feedback

The video feedback of 'self'-image, image, by adding temporality to self-perception, connects 'self'-perception to physiological brain processes; this removes self-perception from the viewing of a detached, static image; video feedback contradicts the mirror model of the perceived 'self'. Through the use of video-tape feedback, the performer and the audience, the perceiver and his process of perception, are linked, or co-identified. Psychological premises of 'privacy' (as against publicness) which would be derived from the mirror-model, depend on an assumed split between observed behaviour and supposedly unobservable, interior *intention*. However, if a perceiver views his behaviour on a 5 to 8 second delay[1] via video-tape (so that his responses are part of, and influencing his perception), 'private' mental intention and external behaviour are experienced as one. The difference between intention and actual behaviour is fed back on the monitor and immediately influences the observer's future intentions and behaviour. By linking perception of exterior behaviour and its interior, mental perception, an observer's 'self', like a topological moebius strip, can be apparently without 'inside' or 'outside'. Video feedback time is the immediate present, without relation to past and hypothetical future states — a continuous topological or feedback loop forward or backward between just-past or immediate future. Instead of self-perception being a series of fixed 'perspectives' for a detached ego, observing past actions with the intent of locating 'objective truth' about its essence, video feedback encloses the perceiver in what appears to be (only) what is subjectively present. While the mirror alienates the 'self', video encloses the 'self' within its perception of its own functioning, giving a person the feeling of a perceptible control over his responses through the feedback mechanism.

Smith's (scientific) experiment, introducing time delay between acting and seeing. The delay is given by the tape loop of the video recorder.
Diagram and caption quoted from: *Eye and Brain*, by R.L. Gregory, McGraw-Hill, New York, 1966.
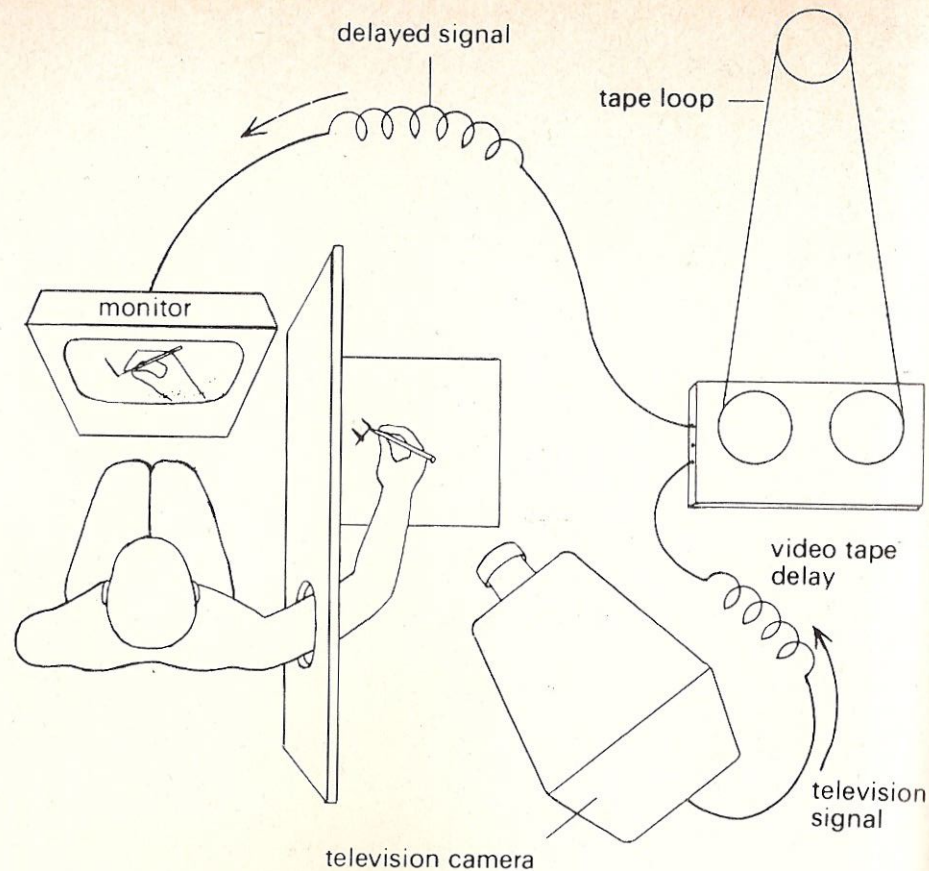
1 5 to 8 seconds is the limit of 'short-term' memory or memory which is part of and influencing a person's (present) perception.

The glass divider, light and social division

Window glass alienates 'subject' from 'object'. From behind glass, the spectator's view is 'objective', while the observed's subject(ivity) is concealed[1]; the observer on the outside of the glass cannot be part of an interior group's 'intersubjective' framework. Being mirror-reflective[2], glass reflects the mirror-image of an observer, as well as the particular inside or outside world behind him into the image of the space into which he is looking.

Abstractly, this reflectiveness of glass allows it to be a sign signifying, at the same time, the nature of the opposition between the two spaces and their common mediation. The glass in the window through its reflectiveness unites, and by its physical impenetrability separates inside and outside. Due to its reflective qualities, illumination within or without the space that the glass divides, produces either complex reflections, non-reflective transparency, or opacity. Light signifies various distinct spatial or temporal locations. Artificial light is often placed in contrast to natural illumination (defining indoors and outdoors). The pattern of illumination phases with, and marks off, natural and cultural diurnal rhythms of human activities taking place on either side of the glass partition. Illumination is a controller of social behaviour. Both glass and light (separately or conjointly) enforce social divisions.

1 Seen by a second observer on the other side of the glass, the first observer appears as an outsider.
2 There is a physical and a dialectical relation between mirrors and glass, each reflecting, accentuating qualities of the other.

Shopwindows in West-Berlin. Photograph by Dan Graham.

Glass used in shop windows / commodities in shop windows

The glass used for the show-case, displaying products, isolates the consumer from the product at the same time as it superimposes the mirror-reflection of his own image onto the goods displayed. This alienation, paradoxically, helps arouse the desire to posses the commodity. The goods are often displayed as part of a human mannekin — an idealized image of the consumer. Glass isolates (draws attention to) the product's surface appeal, 'glamour', or superficial appearance alone (attributes of 'workmanship' which link craftsmen to a specific product being lost) while denying access to what is tangible or immediately useful. It idealizes the product. Historically this change in the appearance of the product corresponds to the worker's alienation from the products they produce; to be utilized, the product must be bought on the market in exchange for wages at a market value with the conditions of its production obscured. Glass is helpful in socially alienating buyer from producer, thereby concealing the product's connection to another's real labor and allowing it to acquire exchange value over and above its use value.

In a sort of way, it is the same with Man as with commodities... man sees himself reflected in other man. Peter only establishes his own identity as a man by first comparing himself with Paul as being of the same kind, and thereby Paul, 'in hide and hair', Paul in his Pauline corporality, becomes entirely to Peter the phenomenal form of the genus Man.[1]
Capitalistic society makes all personal relations between men take the form of objective relations between things... Social relations are transformed into 'qualities of... things themselves (commodities)'.[2]

Under capitalism, just as the projected ego is confused with the body image in the mirror, so that ego is confused with the commodity. The individual is made to identify himself (in his feeling for 'himself') with the image of the commodity. The commodity object is a substitute *(fetish)* for his lack — the lack his desire expresses. The glass and mirrors of the shop-window beckon the potential customer by arousing doubts and desires about his self-image/self-identity. It is as if in looking at the product behind the glass showcase, the consumer is looking at an ideal image of himself (in the mirror). Or he sees in the reflections that he deviates from the ideal (represented by the mannekin), but is given the possibility of acquiring attributes of this ideal if he buys the merchandise. The commodity reflects his desire for a more complete, 'better self', identified with the alter *ego*.

Inseparable from the goods the consumer desires is the illusion that buying them will 'complete' that which is 'incomplete' in himself. This desire is never satisfied (as the market system must continue to function), but because the consumer identifies himself with (his projection into) the commodity, he enfuses the commodity with a psychological value which now becomes part of its market value.

In the showcase display the prospective costumer's point of view, his sense of 'self', is equated not only with the object centered in his view, but with the System (which created the device). The showcase window as a framing or optical device replicates the form of the Renaissance painting's illusionary, three-dimensional 'space'. Like a painting's perspective, it frames a determined view (determines a view), creating a point of focus — meaning — organized around a central vanishing point. The customer's gaze is focused upon the centered object's external form; focus creates value. The spectator's 'self', unseen, projected into the space, is identified with the thing(s) represented. The spectator's gaze, his 'self'-projection, organizes meaning around the centered object, meeting his centered look.

The showcase materials affect the viewer slightly differently from the painting. First, glass becomes a screen upon which a partial mirror-image of the observer himself (accentuated by the use of mirrors in the back of the case facing the front plane) is imposed. By means of strong overhead lighting, the faint reflection of the spectator as well as that of the outside, real world is superimposed on the glass in front of the visually highlighted objects seen within. The glass of the showcase optically is half-way between the invisibility (which hides the spectator's and the original painter's self-image) of the Renaissance painting *and* the reflectivity of the mirror (which shows the spectator himself looking, plus that part of the real space which is normally invisible behind him.[3]) Often a rear mirror or smaller fragments of a mirror are positioned behind objects, displayed in showcases, to fracture the ideal-image of the spectator, partially glimpsed on the glass surface and rear mirror. By these means a viewer's initially desired ideal 'self'-image is focused and imposed upon — identified with — the inaccessible, but visually desired, commodity for sale; the object seems imaginarily complete, while the 'self' is de-totalized, incomplete, lost, not graspable, except through its visual projection upon the object. The shop window thus captures, focuses, and efficiently employs the latent desires of the casual passerby, to confer a subjective, overdetermined meaning upon the goods it 'objectively' places on view.

1 Karl Marx (quoted in Anthony Wilden, 'System and Structure')
2 Herbert Marcuse, 'Reason and Revolution' and Karl Marx (quoted by Herbert Marcuse in 'Reason and Revolution')
3 Both the Renaissance painting and the mirror are two-dimensional, rectilinear surfaces, conventionally hung to meet the standing spectator's eye-level view and flush to an interior wall, so that the wall functions both as an architectural (structural) support and as a support for the painting or mirror. The mirror or painting's back surface and the area of the wall upon which it is hung, are hidden from view; in their place is either the reflection of the opposite side of the space, or a depiction of an illusionary 'space'. Both mirror and painting use the frame to orient the spectator's view, necessitating that he turns frontally and faces the picture or mirror surface, focusing his attention toward the center point (defined by the framed edges of the form.)
A mirror literally inverts the Renaissance painting's perspective; it flattens the real, present world 180° reversed to the spectator facing the mirror, so he can see himself physically in the picture (looking).

Chicago-office building. Photograph by Dan Graham.

Glass buildings: corporate 'showcases'

At the same time that glass reveals, it conceals. If one looks into a glass showcase, one can have the illusion that the container is neutral, without apparent interest in the content of what it displays; or, conversely, the appearance of what is contained can be seen as a function of the qualities of the container itself.[1] In the ideology of modern functionalist architecture, an architectural form appropriates and merges both of these readings. First, because symbolic form, ornamentation, is eliminated from the building (form and content being merged), there is no distinction between the form and its material structure; that is, the form represents nothing more or less than the material; second, a form or structure is seen to represent only its contained function, the building's structural and functional efficiency being equated with its real utility for those who use it. Aesthetically, this idea is expressed in the formula: efficient form is beautiful and beautiful form is efficient. This has a 'moral' dimension; 'efficient' connotes a melioristic, 'scientific' approach seemingly uncontaminated by 'ideology', which, pragmatically, has (capitalistic) use value. ('Efficiency' is how well a building contributes to the operations of the company housed within it. The look of a building, its cleanness and structural transparency thus joins the myth of scientific progress to that of the social utility of efficient business practice.)[2] These glass and steel buildings usually house corporations or government agencies. The building's transparent functionalism conceals its less apparent ideological function: justifying the use of technology or bureaucracy by large corporations or government agencies to impart their particular version of order on society. The spectator's view is diverted away from social context by focusing only on the surface material or structural qualities. Glass and steel are used as 'pure' materials, for the sake of their materiality. The use of glass gives another illusion: that what is seen is seen exactly as it is. Through the glass one sees the technical workings of the company and the technical engineering of the building's structure. The glass's literal transparency not only falsely objectifies reality, but is a paradoxical camouflage; for while the actual function of a corporation may be to concentrate its self-contained power and control by *secreting* information, its architectural facade gives the illusion of absolute openness. The transparency is visual only; glass separates the visual from the verbal, insulating outsiders from the content of the decision-making processes, and from the invisible, but real, interrelationships linking company operations to society.

The glass building, in attempting to eliminate the disparity between its outside facade (which conventionally mediates its relation to the outside environment where it is sited) and its private, institutional function, pretends to eliminate the distinction between its outer form and its inner content. The self-contained, transparent glass building denies that it has an outside and that it participates as an element in the language of the surrounding buildings with other social functions which make up the surrounding environmental context. Where other buildings are usually decorated with conventional signs of their function for the public to see, the facade of the glass building is virtually eliminated. The aesthetic purity of the glass building, standing apart from the common environment, becomes transformed by its owner into a social alibi for the institution it houses. On one hand, the building's transparent 'openness' to the environment (it incorporates the natural environment),
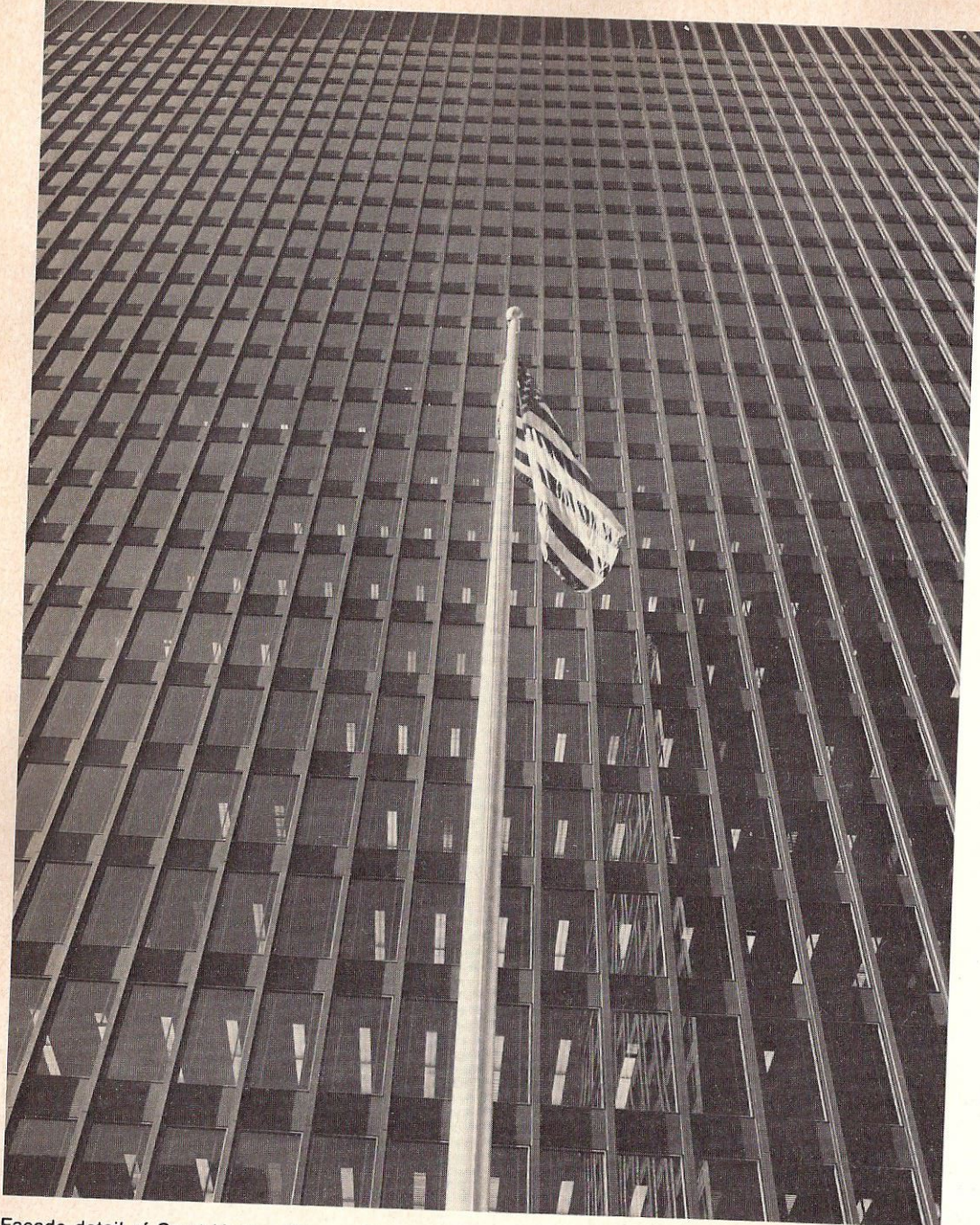
Facade-detail of Court-House, Chicago Federal Center. Photograph by Hedrich-Blessing.
from: James A. Speyer, *Mies van der Rohe*, The Art Institute of Chicago, Chicago, 1968.

and on the other hand, the building's claim to aesthetic hegenomy over the surrounding environment (its formal self-containment), efficiently legitimate the corporate institution's claim to autonomy ('The World of General Motors'). A building with glass on four sides gives the illusion of self-containment; while it seems apparently open to visual inspection, in fact, in looking through glass on all sides, the particular, focused-upon detail, the 'interior' is lost (one looks *through* and not *at*) to the architectural generality, to the apparent materialness of the outward form, or to 'Nature' (light, sun, sky or the landscape glimpsed through the building on the other side.)

1 But an optical focus, which aspect of the world is perceived when one looks, is culturally determined.

2 The technological-utilitarian glass office structure derives from the Bauhaus's vision of an architecture built from elemental, ideal formal and social images. The total, utopian vision, in theory could serve as an alternative to the dominant, conservative, bourgeois order, wedding science and aesthetics to a socially just and more rational notion of progress (scientific progress aiding social progress). The vision begins with, and is grafted onto, the mid-19th century notion of 'art for art's sake' which proposed an art that would negate the existing world-order through the creation of an interior order of art. In this vision, 'Art'/'Architecture' attempts to create another (which is always 'its' own) language — in order to transcend that of the existent, real world. The total new order could be seen as a negation of all existing values, the avant-gardist notion being one that radically denies the 'old' in favour of the 'new' (social-aesthetic principle); this is seen in itself as healthy. The structuralist version of 'radical' art devaluation (e.g. Roland Barthes' 'Writing Degree Zero') is to purge the language of its (hidden) ideological contamination by reducing the text to purely elemental structure. The artist was seen as an 'underground', but heroic figure, standing apart from the social order — the existence of his art as a radical negation, denial, of this order. It is a paradox, then, that the more wilful and heroic the imposition of the art form on an environment perceived as sterile or antagonistically unaesthetic, the more transcendent and utopian the artist's or architect's initial vision (which the building/artwork symbolically expresses), the much more distanced (and arrogant) the message that the building/artwork conveys to the general social body and more impotent is its intended ideologically corrective effect.

Selected Bibliography:

Benjamin, Walter, *Charles Baudelaire: A Lyric Poet in the Era of High Capitalism*, NLB, London, 1973.
Berger, John, *Ways of Seeing*, Penguin, London, 1972.
Blaser, Werner, *Mies van der Rohe*, Praeger, New York, 1972 (revised edition).
Bourdieu, Pierre (in *Rules and Meanings*, edited by Mary Douglas, Penguin, London 1973), *The Berber House* (excerpted from P. Bourdieu, *The Berber Houses of the World Reversed*, originally published in *Echanges et communications: Mélanges offerts à Claude Lévi-Strauss à l'occasion de son 60ᵉ anniversaire*, Mouton, The Hague, 1971).
Epstein, Edward Jay, *News from Nowhere*, Random House, New York, 1973.
Lacan, Jacques, *Écrits*, Norton, 1977.
Marcuse, Herbert, *Negations*, Beacon, Boston, 1968.
McLuhan, Marshall, *Understanding Media*, McGraw-Hill, New York/Toronto, 1964.
Ryan, Paul, *Cybernetics of the Sacred*, Doubleday Anchor, New York, 1974.
Speyer, James A., *Mies van der Rohe*, Art Institute of Chicago, Chicago, 1968.
Sterne, Robert A.M., *New Directions in American Architecture*, George Braziller, New York, 1977 (revised edition).
Tzonis, Alexander, *Towards a Non-Oppressive Environment*, i press incorporated, 1972.
Wilden, Anthony, System and Structure, Tavistock Publications, London, 1972.
Williams, Raymond, *Television: Technology and Cultural Form*, Schocken, New York, 1975.
Venturi, Robert, *Contradiction and Complexity in Architecture*, Museum of Modern Art, New York, 1977 (revised edition).
Venturi, Robert, *Learning from Las Vegas*, M.I.T. Press, Cambridge, Mass., 1972 and 1977.