Aspects of the Aesthetics of Telecommunications

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INTRODUCTION

For the past fifteen years, increasing numbers of artists around the world have been work ing in a collaborative mode using telecommunications. In their "works," which we shall refer to as "events," images and graphics are not created as the ultimate goal or the final product, as is common in the fine arts. Employing computers, video, modems, and other devices, these artists use visuals in a much larger, interactive, bi-directional communication context. Images and graphics are created not simply to be transmitted by an artist from one point to another, but to spark a multidirectional visual dialogue with other artists and partici- pants in remote locations. This visual dialogue assumes that images will be changed and transformed throughout the process in the same way that speech gets changed—interrupt- ed, complemented, altered and reconfigured—in a spontaneous face-to-face conversation. Once an event is over, images and graphics stand not as the "result," but as documenta- tion of the process of visual dialogue promoted by the participants.

This unique ongoing experimentation with images and graphics develops and expands the notion of visual thinking by relying primarily on the exchange and manipulation of visual materials as a means of communication. The art events created by telematic or telecommu- nication artists take place as a movement that animates and unbalances networks struc- tured with relatively accessible interactive media such as telephone, facsimile (fax), personal computers, e-mail, and slow-scan television (SSTV). More rarely, radio, live televi- sion, videophones, satellites, and other less accessible means of communication come into play. But to identify the media employed in these "events" is not enough. Instead, one must do away with prejudices that cast off these media from the realm of "legitimate" artistic media and investigate these events as equally legitimate artistic enterprises.

This essay partially surveys the history of the field and discusses art events that were either motivated by or conceived specially for telecommunications media. The essay attempts to show the transition, from the early stages, when radio provided writers and artists with a new spatiotemporal paradigm, to a second stage, in which telecommunications media, including computer networks, have become more accessible to individuals and through which artists start to create events, sometimes of global proportions, in which the communi- cation itself becomes the work.

Telecommunications art on the whole is, perhaps, a culmination of the process of demateri- alization of the art object epitomized by Duchamp and pursued by artists associated with the conceptual art movement, such as Joseph Kossuth. If now the object is totally eliminated and the artists are absent as well, the aesthetic debate finds itself beyond action as form, beyond idea as art. It founds itself in the relationships and interactions between members of a network.

Art and Telecommunication

One must try to understand the cultural dimensions of new forms of communication as they emerge in innovative art works which will not be experienced or enjoyed as unidirectional messages. The complexity of the contemporary social scene permeat- ed by electronic media, where the flux of information becomes the very fabric of real- ity, calls for a reevaluation of traditional aesthetics and opens the field for new developments. In other words, to address the aesthetics of telecommunications is to see how it affected and affects more tradi- tional arts. It is also to investigate to what extent the context for a new art is created by the merger of computers and telecom- munications. The new material with which artists will be dealing more and more must be identified and then traced, through the intersection between the new electronic processes of visual and linguistic virtualiza- tion brought irreversibly by telecommunica- tions and the personal computer (word-processing, graphic programs, ani- mation programs, fax/modems, satellites, teleconferencing, etc.) and the residual forms that resulted from the process of dematerialization of the art object, from Duchamp to conceptual art (language, video, electronic displays, printing tech- niques, happenings, mail art, etc.) to the present. This new art is collaborative and interactive and abolishes the state of unidi- rectionality traditionally characteristic of lit erature and art. Its elements are text, sound, image, and, eventually, virtual touch based on force feedback devices. These elements are out of balance; they are signs which are already shifting as ges- tures, as eye contact, as transfigurations of perpetually unfulfilled meaning. What is commuted is changed, re-changed, ex- changed. One must explore this new art in

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its own terms, i.e., understanding its proper context (the information society at the dawn of the twenty-first century) and the emerging theories (poststructuralism, chaos theory, culture, studies) that inform its questioning of notions largely taken for granted such as subject, object, space, time, culture and human communication. The forum where this new art operates is not the materially stable pictorial space of painting nor the Euclidean space of sculptural form; it is the electronic virtual space of telematics where signs are afloat, where interactivity destroys the contemplative notion of beholder or *connoisseur* to replace it by the experiential notion of user or participant. The aesthetic of telecommunications demonstrates the necessary move from pictorial representation to communicative experience.

Two of the most interesting new forms of communication that seem to do away with the old addresser-addressee model proposed by Shannon and Weaver [1] and reinforced by Jakobson [2] are electronic mail (e-mail) and conference calling. In e-mail a user can post a message and set it adrift in electronic space, without necessarily sending it to a specific addressee. Then another user, or several other users at the same time, can access this message and answer it, or change it, or add a comment, or incorporate this message into a larger and new context in a process that has no end. The closed message, embodying as it must the identity of the subject (sender), is potentially dissolved and lost in the signifying vortex of the network. If real-time is not crucial for e-mail, the same cannot be said about conference calling, where three or more people engage in exchanges that don't have to be limited to voice.[3] If the linear model goes as far as allowing for addresser to become addressee when the poles are reverted, this new multidirectional and interconnected model melts the boundaries that used to separate sender and receiver. It configures a space with no linear poles in which discussion replaces alternate monologues, a space with nodes that point in several directions where everybody is simultaneously (and not alternately) both addresser and addressee. This is not a pictorial or volumetric space, but an aporetic space of

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information in flux, a disseminated hyper space that does away with the topological rigidity of the linear model. It shares the properties of non-linear systems, such as are found in hypermedia or in the statistical selfsimilarity of fractals, as opposed to the embellished linear surfaces of post-modern painting. It is here, possibly, that artists can intervene critically and suggest a redefinition of the framework and the role of telematics, demonstrating that antagonistic forces mutually constitute each other. What we used to call true and real is and has always been reciprocally and dynamically, in its play of differences, constituted by what we used to call false and unreal. Cultural values are also questioned, since the structures that privileged one culture over others are conceptually challenged, bringing cultural differences to the forefront. Artists can also show, by working with the

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new media, what role the new media play in forming or preserving stable structures that form the self, that model communication, and, ultimately, that create social relations (including relations of authority and power).

In like manner, artist and audience are also constructed in this play of differences. If the mass-produced printed book has generated both the notions of author and of audience as we know them today, associating control over the distribution of printed information to power, the disseminated play of meaning in telematic networks potentially dissolves both without fully establishing the integrated, harmonized, aural global village dreamed of by McLuhan. If telecommunication is that which brings people closer, it also is that which keeps them apart. If telematics is that which makes information accessible to everyone at any moment regardless of geographic frontiers,

it also is that which makes certain kinds of data generated by particular groups in certain formats accessible to people involved with specific institutions. That which brings people closer is also what keeps them away; that which asks is also that which affirms certain values implicit in the framing of the question. If there is no end to this play, to this motion, there must be awareness of its context, But then again, awareness is not removed from this motion through which it is also configured.

To the linear model of communication, which privileges the artist as the codifier of messages (paintings, sculptures, texts, photographs), telematics opposes a multidirectional model of communication, one where the artist is creator of contexts, facilitator of interactions. In the first case, messages have physical and semiological integrity and are open only to the extent they allow for different interpretations. In the second case, it is not mere semantic ambivalence that characterizes the significational openness. The openness of the second case neutralizes closed systems of meaning and provides the former viewer (now transformed into user, participant, or network member) with the same manipulation tools and codes at the artist's disposal so that the meaning can be negotiated between them. This is not a simple inversion of poles, as proposed by Enzensberger [4], but an attempt to acknowledge and operate within a signification process that is dynamic, destabilized, and multivocal, within a signification process not based on the opposition artist/audience but on the differences and identities they share. Messages are not "works" but a part of larger communicative contexts, and can be changed, altered, and manipulated virtually by anybody.

One of the problematic issues here is that the dissolution of the distinction between artist and user takes away from artists their privileged position as senders or addressers, because there is no more message or work of art as such. It is clear that most artists are neither prepared nor willing to abandon this hierarchy because it undermines the practice of art as a prof-

itable activity and the social distinction associated with notions such as skill, craft, individuality, artistic genius, inspiration, and personality. The artist, after all, is someone who sees him or herself as somebody who should be heard, as somebody who has something important to say, to transmit to society [5]. On the other hand, one can ask to what extent artists who create telecommunication events may restore the same hierarchy they seem to negate by presenting themselves as the organizers or directors or creators of the events they promote—in other words, as the central figure from which meaning irradiates. As it seems, while a television director works in collaborative fashion with tens or hundreds of people without ever giving up the responsibility for the outcome of the work, the artist (context-creator) that produces telecommunication events sets a network without fully controlling the flux of signs through it. The artist working with telecommunication media gives up his or her responsibility for the "work," to present the event as something which restores or tries to restore the responsibility (in Baudrillard's sense) of the media. [6]

I must observe that certain traces of apparently uncritical enthusiasm for this change in the processes and issues of art are identifiable not only in the present essay and in other texts of mine on the subject [7], but also in the writings of other artists that address the aesthetics of communications at large, and of telecommunications or telematics in particular, including Bruce Breland [8], Roy Ascott [9], Karen O'Rourke [10], Eric Gidney [11] and Fred Forest [12]. Artists are now endowed with new instruments with which they reflect on contemporary issues, such as cultural relativism, scientific indeterminacy, the political economy of the information age, literary deconstruction, and decentralization of knowledge. Artists are now able to respond to these issues with the same material (hardware) and immaterial (software) means that other social spheres employ in their activities, in their communion and isolation. If actual walls are falling (Berlin, the Iron Curtain), and so are metaphorical walls (telematic space, virtual reality, telepresence), one cannot simply overlook or overestimate these historical

1 Claude E. Shannon and Warren Weaver, *The Mathematical Theory of Communication* (Urbana: The University of Illinois Press, 1949).

2 Roman Jakobson, "Linguistics and Poetics," *Style in Language* (New York: MIT Press, 1960), Thomas Sebeak, org., pp. 353-356.

3 Two examples based on personal experience: a) In 1989, Carlos Fadon and I (Chicago), Bruce Breland and Matt Wrbican (Pittsburgh) and Dona Moser (Boston) collaborated in "Three Cities," a slaw-scan exchange operated through three-way calling; b) In 1990, Fadon and I suggested to Bruce Breland the creation of an international telecommunication event to be called "Impromptu," in which artists would try to engage in conversations with tele-medio (fax, SSTV, etc) the same improvised way they do when talking face-to-foce. "Earth Day" was going to be celebrated soon, and Bruce suggested we expand the idea to encompass the ecological context and make it "Earth Day Impromptu." Fadon and I agreed, and we started to work with Bruce and the Dax group, and Irene Faiguenboim, in organizing it. Later, Bruce's experience with large networks proved crucial: working with other Dax members, he made possible a very large SSTV conference call with several artists in different countries, which was, together with the fax and videophone network, part of the "Earth Day Impromptu."

4 Hans Magnus Enzensberger, "Constituents of a Theory of the Media," *Video Culture* (New York: Visual Studies Workshop Press, 1986), John Hanhardt, ed., p. 104.

5 In *Artists' use of interactive telephone-based communication systems from 1977 1984* (unpublished master thesis submitted to City Art Institute, Sidney College of Advanced Education), 1986, p. 18, Eric Gidney gives an account of pioneer artist Bill Bartlett's telecommunication events and also of his disappointment with other artists' responses: "Bartlett was dismayed at the rapacity of many North American artists, who were willing to collaborate only insofar as it furthered their own careers. He found that some artists would simply refuse to correspond after a project was completed. He felt let down, exploited and 'burned out.' Assaulted by serious doubts, he decided to withdraw from any involvement in telecommunications work." Gidney also summarizes the telecommunication work of pioneer artist Liza Bear, and quotes her (p. 21): "A hierarchical structure is not conceptually well-suited and does not create the best ambiance for communication by artists. This [medium] is only successful in regions where artists and video people already have a good track record of working together, sharing ideas, and preparing material."

6 Jean Baudrillard, "Requiem for the Media," *Video Culture* (New York: Visual Studies Workshop Press, 1986), John Hanhardt, ed., p. 129. Baudrillard formulates the problem of lock of response (or *irresponsibility*) of the medio with clarity: "The totality of the existing architecture of the media founds itself on this latter definition: *they are what always prevents response*, making all processes of exchange impossible (except in the various forms of response *simulation*, themselves integrated in the transmission process, thus leaving the unilateral nature of the communication intact). This is the real abstraction of the media. And the system of social control and power is rooted in it." In order to restore the possibility of response (or *responsibility*) in the current configuration of the telecommunications media it would be necessary to provoke the destruction of the existing structure of the media. And this seems to be, as Baudrillard rushes to point out, the only possible strategy, at least on a theoretical level, because to take power over media or to replace its content with another content is to preserve the monopoly of speech.

7 See: Koc, E., "Arte pelo telefone," O Globo, September 15, 1987, Rio de Janeiro; "O arco-íris de Paik," O Globo, July 10, 1988, Rio de Janeiro; "Parallels between telematics and holography as art forms," in *Navigating in the Telematic Sea*, Bruce Breland, ed., New Observations, 76, New York, May-June 1990, p. 7; Koc, E., "Ornitorrinco: Exploring Telepresence and Remote Sensing," in *Connectivity: Art and Interactive Telecommunications*, Roy Ascott and Corl Eugene Loeffier, eds., Leonardo, Vol. 24, N.2, 1991, p. 233; Koc, E., "On the notion of art as a visual dialogue," in *Art Reseaux*, Karen O'Rourke, ed., Université de Paris I, Panthéon-Sorbonne, Paris,1992, pp. 20-23.

8 Art Com (an online magazine forum), Tim Anderson and Wendy Plesniak, eds., Number 40, Vol. 10, August 1990, issue dedicated to the Dox Group.

9 Ascott, R., "Art and Telematics," in *Art Telecommunications*, Heidi Grundmann, ed., The Western Front, Vancouver, Canada (Shakespeare Company, Vienna, Austria), 1984, pp. 25-58.

10 O'Rourke, K., "Notes on Fax-Art," in *Navigating in the Telematic Sea*, Bruce Breland, ed., New Observations, 76, New York, May-June 1990, pp. 24-25.

11 Gidney, E., "The Artist's use of telecommunications: a review," Leonardo, Vol. 16, N. 4, 1983, pp. 311-315.

12 Forest, F., "Communication Esthetics, Interactive Participation and Artistic Systems of Communication and Expression," in *Designing the Immaterial Society*, Design Issues special issue, Marco Diani, ed., Vol. IV, Ns. 1 & 2, University of Illinois, Chicago, pp. 97-115.

and technical achievements. It is not only with sheer enthusiasm for new tools that the artist will work with communication technologies, but also with a critical, skeptical approach concerning the logic of mediation they entail. This means not ignoring that utopias of ubiquitous, electronically mediated communication necessarily exclude those cultures and countries that, usually for political and economic reasons, don't have the same or compatible technologies and therefore cannot participate in any global exchange.[13]

Let's suppose that in a not so distant future Jaron Lanier's dream of "post-symbolic" communication [14] becomes possible and that the cost per minute in a cyberspace matrix is comparable to the normal cost of a phone call. This hypothetical situation could be a viable approach to the problem of linguistic barriers (including language impairment), but it would be no different from other cases of economic segregation, given that even basic telephone technology is full of serious problems in most developing countries.

150 Perhaps exactly because of these problems, and not despite them, artists are using today's techniques to discuss today's issues. If telecommunications art will not simply ignore the contradictions inherited from the media and in the other technological monopolies present in post-industrial societies, I still like to think that perhaps freer forms of communication can emerge out of new interactive artistic practices that make the process of symbolic exchange the very nature of the work.

Disembodied Voices

An assessment of the parallel development of telecommunications media and new art forms throughout the twentieth-century reveals an interesting transition: one first sees the impact of new media on much older forms, such as radio influencing theater. Later, it is possible to detect more experimental uses of these media. At last, artists master the new electronic media and explore their interactive and communicative potential. In this perspective, radio is the first electronic mass communications medium used by artists.

In the late 1920's commercialization of air waves was in its infancy. Radio was a new medium that captured the imagination of the listeners with an auditory space capable of evoking mental images with no spatiotemporal limits. A remote and undetected source of sound dissociated from optical images, radio opened listeners to their own mindscapes, enveloping them in an acoustic space that could provide both socialization and private experiences. Radio was the first true mass medium, capable of remotely addressing millions at once, as opposed to cinema, for example, which was only available to a local audience.

In 1928 German film maker Walter Ruttmann (1887-1941) was invited by the Berlin Broadcasting System to create a piece for radio. Ruttman had already achieved international recognition for his

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abstract animated films, such as Opus I, II, III, and IV, which pioneered the genre and anticipated computer animation by half a century. His experimental documentary "Berlin, Symphony of a Great City" (1927) also was acclaimed worldwide, and inspired a whole generation of film makers who then created filmic "city symphonies." In addition to his contribution to film making, Ruttman's innovative work for radio opened the air waves to the aesthetic of the avant-garde, challenging the standardization of programming imposed by commercial imperatives.

In order to create the commissioned piece, Ruttman was given access to what was one of the best recording systems for film in the world, the "Triergon" process. Coming from the world of cinema, Ruttman decided to create "Weekend," a movie without images. It is a discontinuous narrative based on the mental images projected by sounds alone. He employed the sound tracks in the reel as he would have employed the frame to record images.

"Weekend" lasts about fifteen minutes and creates an aural atmosphere that portrays workers leaving the city and going to the countryside after a working day. At first sounds produced by saws, cars, and trains are predominant; later sounds of birds chirping and children speaking appear more often. As he had done with "Symphony of a Great City," Ruttman edited this pictureless film in experimental fashion: splicing the reel and with it the sound track, repeating certain sounds, reorganizing the sequence and duration of sounds. He edited sound like one edits film.

"Weekend" as a sound montage, conceived for a recording medium and for radio transmission, opened new venues and anticipated the aesthetics of movements such as Concrete Music and of John Cage and Karlheinz Stockhausen. Ruttman defined his abstract films as "optical music," and one should not hesitate to describe "Weekend" as the first "acoustic film" created for radio.

As it became more popular, radio inspired and attracted professionals from different backgrounds, including artists, performers, writers, and members of the avant-garde, such as the Italian Futurists. Since the very beginning of Futurism in 1909, Marinetti and his supporters promoted the surpassing of traditional forms and the invention of new ones at the same time that they celebrated technological militarization and war. Marinetti collaborated closely with Mussolini's regime. In 1929 Marinetti became a member of the Italian Academy, founded by Mussolini, and in 1939 he served in a commission organized by the Fascist regime to censor undesirable books, including those written by Jewish authors. In 1935 he volunteered to serve in the war in Ethiopia, and in 1942 he departed, again as a volunteer, to the Russian front.

The Futurists' last cry for a new art form came in September-October of 1933, with the "Manifesto Della Radio" or "La Radia," signed by Marinetti and Pino Masnata, and published both in "Gazzetta del Popolo," Torino, September 22, and in their own periodical entitled

"Futurismo," Rome, October 1 (although in the last one only Marinetti's name appears) [15]. The manifesto was drafted two years after Masnata wrote the libretto for the radio opera "Tum Tum Lullaby (*or Wanda's Heart*)."

In the manifesto, they proposed that radio be freed from artistic and literary tradition and that the art of radio begin where theater and movies stop. Clearly, their project for an art of sounds and silences evolved from Russolo's art of noises and, like Russolo, they tried to expand the spectrum of sources the artist could use in radio. Marinetti and Masnata proposed the reception, amplification, and transfiguration of vibrations emitted by living beings and matter. This proposal was furthered by the mixture of concrete and abstract noises and "the singing" of inanimate objects such as flowers and diamonds. They claimed that the radio artist ("radiasta") would create words-in-freedom ("parole in libertà"), making a phonetic transposition of the absolute typographic liberty explored by Futurist writers in the visual compositions of their poems. But even if the radio artist would not air words-in-freedom, his broadcasts still must be

in the parolibero style (derived from our words-in-freedom) that already circulates in avantgarde novels and in the newspapers; a style typically fast, dashing, simultaneous, and synthetic.

Futurist radio could employ isolated words and repeat verbs in the infinitive form. It could explore the "music" of gastronomy, gymnastics, or love-making, as well as use simultaneously sounds, noises, harmonies, clusters, and silences to compose gradations of crescendo and diminuendo. It could make the interference between stations a part of the work, or create "geo metric" constructions of silence. At last, Futurist radio, by addressing the masses, could eliminate the concept and the prestige of the specialized public, which always had "a deforming and denigrating influence." On November 24, 1933, Fortunato Depero and Marinetti made the first futurist transmissions over Radio Milano [16]

In 1941, Marinetti published an anthology of Futurist theater with a long title, "The futurist theater synthetic (dynamic-illogical-autonomous-simultaneous-visionistic) surprising aeroradiotelevisual music-hall radiophonic (without criticisms but with Misurazioni)," [17] in which he compiled nine of Masnata's and five of his own radio works ("radiophonic synthesis").

Throughout the 1930's radio not only became technically reliable but tunable, allowing the listener to choose among several programming options. Radio could now receive short, medium, and long waves from considerable distances. Whether enjoyed for entertainment or hailed as a tool for political propaganda, radio became a domestic convergence point. Listening to radio became a gener alized habit in the 1930s, when the world was at the verge of another global conflict.

On October 30, 1938, the Sunday program "The Mercury Theater on the Air" directed by twenty three year old Orson Welles and aired by The Columbia Broadcasting System (CBS)—in New Jersey, always at 8pm—would present another adaptation of a literary text, this time to celebrate Halloween. Writer Howard Koch adapted the novel chosen by Orson Welles, "The War of The Worlds" (1898) by Herbert George Wells (1866-1946), updating the story and transposing the action to a virtually unknown but real place, Grovers Mill, in New Jersey. The choice was accidental but convenient, since it was close to the Princeton Observatory, where Koch placed the fictitious Astronomy authority Prof. Pierson. More importantly, Koch structured the story, apparently following a suggestion by Mecury Theater producer John Houseman, intercalating music and news, so that it seemed that the music was being interrupted every now and then because of strange events and news flashes that reported them live.

In Orson Welles' dramatic voice, listeners became aware, little by little, that the initial explosions observed on the surface of Mars turned out to be disturbances caused by unidentified flying objects that landed in Grovers Mill. Next, the monstrous Mart

13 Robert Adrian X addressed this issue when he observed ("Communicating," in *Art Telecommunications*, Heidi Grundmann, ed., The Western Front, Vancouver, Canada (Shakespeare Company, Vienna, Austria), 1984, pp. 76-80): "Nobody in eastern Europe can get access to telefacsimile equipment or computer timesharing equipment... and the situation is much grimmer in Africa and most of Asia and Latin America. If these parts of the world are to be considered for inclusion in artists' telecommunications projects it has to be at the level of ACCESSIBLE electronic technology... the telephone or short wave radio."

14 In October 28, 1991, Jaron Lanier lectured at the auditorium of The School of The Art Institute of Chicago. At that occasion I had the opportunity to ask him what he meant by this often-quoted and seldom-explained phrase ["post-symbolic communication"]. Lanier explained that one direction he envisions for virtual reality is for it to be taken over by telephone companies, so that time-sharing in cyberspace becomes possible. In this setting, it would be possible for people in distant locations, wearing datasuits, to meet in cyberspace. These people would be able to exercise visual thinking on a regular basis and communicate by other means different than spoken words; they would be able to express an idea by simply making that idea visible in cyberspace, or by manipulating their own databody or by manipulating their interlocutors' databodies [I'm calling "databody" the human body of a VR user as seen by the user once immersed in cyberspace]. This kind of communication, achieved by a still symbolic but perhaps more direct use of visual signs, is what Lanier called "post symbolic communication." His "Reality Built for Two," or "RB2," is a step in that direction, and we can expect videophone services to provide support for it as well.

15 Luciano Caruso, *Manifesti Futuristi* (Firenzi: Spes-Solimbeni, 1980), pp. 255-256.

16 Pontus Hulten, org., *Futurism & Futurisms* (Venice and New York: Palazzo Grossi and Abberville Press, 1986), p. 546.

17 Fillipo Marinetti, *Il teatro futurista sintetico (dinamico-alogico-autonomo-simultaneo-visionico) a sorpresa aeroradiatelevisivo caffé concerta radiofonico (senza critiche ma con Misurazioni)* (Naples: Clet, 1941). Some words in this title were neologisms coined by Marinetti and allow for multiple interpretations. My choices in the translation of the title are but some of the possible solutions.

ian invaders started to use their "heat ray" and project its "parallel beam" against everything surrounding them, burning people alive and destroying cars, houses, and cities. Despite several announcements during the program that it was fictitious, the news format of the broadcast caught casual listeners by surprise. At the end, when Prof. Pierson read his diary and revealed that the Martians had been defeated by terrestrial micro-organisms, it was too late.

With nervous voices, Mercury Theater actors and actresses depicted the landing of Martian war machines, the fire ignited by the deadly rays, and the panic of witnesses. The public reacted with anguish and despair. Nobody died but several people got injured, miscarriages occurred, houses were left behind without a second thought, roads were caught in huge traffic jams, and policemen and firemen were mobilized against the invisible menace. In New York City, many residents loaded their cars and drove away from New Jersey. Calls from the East overloaded the telephone lines in the Southwestern United States and in Newark, New Jersey, hundreds of doctors and nurses called hospitals to volunteer their services. In Concrete, Washington, an accidental blackout happened exactly at the point in the transmission when the Martians were taking control over the country's power system. In the South, people sought refuge in local churches and in Pennsylvania a woman was saved from suicide by the timely return home of her husband. Angry listeners filled lawsuits against Welles and CBS, without major consequences. Welles' contract made him not responsible for consequences of any of the program's broadcasts, and CBS could not be severely penalized since there was no previous similar case which might have allowed them to anticipate the incident.

Welles' simulated Martian invasion revealed, for the first time, the true power of radio. It exhibited the unique ability of radio to play with the breath of speech and the plastic sonority of its special effects to excite the imagination of the listener. It showed how the technical reliability of the medium built its credibility, giving veracity to the "news" transmitted through it. It explored unique temporal rhythms,

mixing real-time (the transmission lasted about one hour) and dramatized time (Prof. Pierson tells us at the end that the whole event happened in a few days). The silence between the cuts (from music to news and vice-versa) was not simply an absence of sound, as in a musical pause; it was presented to the listener as the actual waiting time to link the reporter at the scene of the landing to the crew in the studio. Perhaps, even more significant was the fact that during the transmission the panic felt by thousand of listeners was very real. The invasion was an event that happened in the medium of radio and this medium was already so much a part of the lives of the listeners, it was so transparent and unquestionably reliable, that the transmission was not experienced as a representation or enactment. It was "hyper-real" in Baudrillard's sense of the word, an experience in which signs not grounded in reality are so much real that they become more real than the real.[18] Welles made explicit the pseudo-transparency of the mass media by unveiling the mechanisms by which the media tries to make itself a clear window to truth, the way it pretends to ignore its own mediation and the influence it has on the collective unconsciousness of society. No doubt, Welles attracted the rage of lawmakers with a propensity to censorship. Radio and electronic media would never be the same after the simulated invasion from Mars.

Telephone Pictures

The telephone, the automobile, the airplane, and, of course, radio, were for the avant-garde artists of the first decades of this century a symbol of modern life. Through them one could extend human perception and capabilities. The Dadaists, however, deviated from the general enthusiasm for scientific rationalism and criticized technology's destructive power. In 1920, in the "Dada-Almanac" edited in Berlin by Richard Huelsenbeck, they published the irreverent proposal that a painter could now order pictures by telephone and have them made by a cabinet-maker. This idea appeared in the "Almanac" as a joke and a provocation. Constructivist Hungarian artist Laszlo Moholy-Nagy

(1895-1946) was living in Berlin at the time, but it is uncertain whether he read it or heard about it. What is certain is that the soon-to-be member of the Bauhaus believed that intellectual motivations were as valid as emotional ones in creating art and decided to prove it to himself. Years later, the artist wrote:

In 1922 I ordered by telephone from a sign factory five paintings in porcelain enamel. I had the factory's color chart before me and I sketched my paintings on graph paper. At the other end of the telephone the factory supervisor had the same kind of paper, divided into squares. He took down the dictated shapes in the correct position. (It was like playing chess by correspondence.) One of the pictures was delivered in three different sizes, so that I could study the subtle differences in the color relations caused by the enlargement and reduction. [19]

With the three telephone pictures described above, the artist took his Constructivist ideas several steps further. First, he had to determine precisely the position of forms in the picture plane with the minute squares in the graph paper as the grid through which the pictorial elements were structured. This process of pixellation in a sense anticipated the methods of raster based, computer art. In order to explain the composition over the phone, Moholy had to convert the art work from a physical entity to a description of the object, establishing a relationship of semiotic equivalence. This procedure antedates concerns set forth by conceptual art in the 1960s. Next, Moholy transmitted the pictorial data making the process of transmission a significant part of the over all experience. The transmission dramatized the idea that the modern artist can be subjectively distant, personally removed from the work. It expanded the notion that the art object doesn't have to be the direct result of the hand or the craft of the artist. Moholy's decision to call the sign factory, capable of providing industrial finishing and scientific precision, instead of an amateur painter for instance, attests to his motifs. Furthermore, the multiplication of the final object in three variations destroyed the notion of the "original" work, pointing toward the new artforms that emerge in the age of mechanical reproduction. Unlike Monet's sequential paintings, the three similar telephone pictures are not a series. They are copies

without an original. Another interesting aspect of the work is that scale, a fundamental aspect of any art piece, becomes relative and secondary. The work becomes volatized, being able to be embodied in different sizes. Needless to say, relative scale is a characteristic of computer art, where the work exists in the virtual space of the screen and can be embodied in a small print or a mural of gigantic proportions.

Despite all the interesting ideas it announces, the case of the telephone pictures is controversial. Moholy's first wife, Lucia, with whom he was living at the time, states that in fact he ordered them in person. In her account of the experience, she recalls that he was so enthusiastic when the enamel paintings were delivered that he exclaimed, "I might even have done it over the phone!" [20] The third personal record of the event, and as far as I know there are only three, comes from Sybil Moholy-Nagy, the artist's second wife:

He had to prove to himself the supra-individualism of the Constructivist concept, the existence of objective visual values, independent of the artist's inspiration and his specific *peinture*. He dictated his paintings to the foreman of a sign factory, using a color chart and an order blank of graph paper to specify the location of form elements and their exact hue. The transmitted sketch was executed in three different sizes to demonstrate through modifications of density and space relations the importance of structure and its varying emotional impact. [21]

We are left with the question, usually set aside by commentators, of whether Moholy actually employed the telephone or not. Although apparently irrelevant, since the three works were actually painted by an employee of a sign factory according to the artist's specifications and were named "Telephone Pictures" by Moholy-Nagy himself, this question cannot be totally disregarded or answered. Lucia seems to remember the event clearly, but the artist's account, in the absence of proofs that state otherwise, would have to prevail. One tends to assume they could have been ordered over the phone because Moholy was an enthusiast of new technologies in general and of telecommunications in particular. In the book "Painting, Photography, Film," [22] originally

published in 1925, he reproduced two "wireless telegraphed photographs" and a sequence of two images he described as examples of "telegraphed cinema," all by Prof. A. Korn. In the same book, Moholy seems to conclude this chapter by launching an early call for new art forms to emerge out of the age of telecommunications:

Men still kill one another, they have not yet understood how they live, why they live; politicians fail to observe that the earth is an entity, yet television has been invented: the "Far Seer" — tomorrow we shall be able to look into the heart of our fellow man, be everywhere and yet be alone. (...) With the development of photo-telegraphy, which enables reproductions and accurate illustrations to be made instantaneously, even philosophical works will presumably use the same means—though on a higher plane—as the present day American magazines. [23]

With Moholy-Nagy's three "telephone pictures," which were shown in his first one-man show in 1924 at the gallery Der Sturm in Berlin, we see the artist acknowledging the conceptual power of the telephone exchange. This first experience was recognized by The Museum of Contemporary Art in Chicago as a forerunner of the conceptual art of the 1960s with its November 1-December 14, 1969 exhibit "Art by Telephone." Thirty six artists were asked to place a phone call to the Museum, or to answer the Museum's call, and then to instruct Museum staff about what their contribution to the show would be. The Museum then produced the pieces and displayed them. A record-catalogue was produced with recordings of the phone conversations between artists and the Museum. The Director of the Museum, Jan van der Marck, asserted that no group exhibition had before tested the aesthetic possibilities of remote-control creation: "Making the telephone ancillary to creation and employing it as a link between mind and hand has never been attempted in any formal fashion." [24]

"Art by Telephone" was not meant as a telecommunications art event. It was a group exhibition of works produced by an unusual method: telephone descriptions followed by the curator's own implementations. The artist was to be, as in the case of Moholy, physically absent from the process. Marck saw this as an expansion of the syncretism between language, per

18 Jean Baudrillard, *Simulations* (New York: Semiotext(e), 1983) p 54. Telecommunication media now efface the distinction between themselves and what used to be perceived as something apart, totally different from and independent of themselves, something we used to call the "real." Baudrillard calls this situation "hyperreal," or "hyperreality." This lack of distinction between sign (or form or medium) and referent (or content or real) as stable entities is by the same token a step further away from McLuhan and a step closer to the new literary criticism as epitomized by Derrida. In what is likely to be his most celebrated essay, "The Precession of Simulacra," he once again acknowledges McLuhan's perception that in the electronic age the media are no longer identifiable as opposed to its content. But Baudrillard goes further saying that: "There is no longer any medium in the literal sense: it is now intangible, diffuse and diffracted in the real, and it can no longer even be said that the latter is distorted by it."

19 Laszlo Moholy-Nagy, *The New Vision and Abstract of an Artist* (New York: Wittenborn, 1947), p. 79.

20 Kisztina Passuth, *Moholy-Nagy* (New York: Thames and Hudson, 1985), p. 33.

21 Sybil Moholy-Nagy, *Moholy-Nagy: Experiment in Totality* (Massachusetts: MIT Press, 1969), p XV.

22 Laszlo Moholy-Nagy, *Painting, Photography, Film* (Massachusetts: MIT Press, 1987).

23 Moholy-Nagy [*Painting, Photography, Film*], pp. 38-39.

24 *Art by Telephone*, record-catalogue of the show, Museum of Contemporary Art, Chicago, 1969.

formance, and visual arts characteristic of the decade. Conceptual art set the framework for the emergence of telecommunications art by emphasizing that *cosa mentale* that Duchamp had already defended against the purely visual result of retinal painting. Marck wrote that the participants:

want to get away from the interpretation of art as specific, handcrafted, precious object. They value process over product and experience over possession. They are more concerned about time and place than about space and form. They are fascinated with the object quality of words and the literary connotation of images. They reject illusion, subjectivity, formalist treatment, and a hierarchy of values in art. [25]

This exhibit's pioneering status in the development of the aesthetics of telecommunications was counterbalanced by many artists' rather shy response to the challenge of making creative use of the telephone. The majority of the participants never worked with communications or telecommunications before, but what is noticeable is that their response to this unique opportunity was still bound by the notion that the work of art is embodied in tangible matter, even if in matter without durable substance. Most artists used the telephone in an ordinary way, providing instructions for the making of objects and installations. Only a few dared to transform an actual communication experience in the work itself. The most notable exceptions are Stan VanDerBeek, Joseph Kosuth, James Lee Byars, and Robert Huot.

Huot's interactive proposal was the most unusual if not the most literal. It potentially involved all visitors of the museum and attempted to generate unexpected first meetings by employing chance and anonymity. Twenty-six cities in America were chosen, each starting with a letter of the alphabet, and twenty-six men named Arthur were selected, one in each city. Each Arthur's last name was the first listing under the initial letter of the city (Arthur Bacon, in Baltimore, for instance). The Museum displayed a list of all cities and names, and invited visitors to call and ask for "Art." The work was the unexpected conversation between "Art" and the visitor, and its development totally up to them.

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Huot's piece, no matter if intended as a pun on the title of the show, presents the artist as the creator of a context, not a passive experience. It disregards pictorial representation, gives up control over the work and takes advantage of the real-time and interactive qualities of the telephone. The piece was meant to spark relationships, and by doing so anticipated much of the telecommunications work of the next two decades.

Visual Telephonics and Beyond

For all the social, political, and cultural implications of the telephone, or more precisely, the dialogic structuring of the telephone, one is compelled to observe that little critical attention has been paid to it. Historical, technical, and quantitative sociological studies can shed little light on the deeper problems of the telephone, which are adjacent to linguistics, semiology, philosophy, and art. Avital Ronell has brought to the fore a long-distance philosophical call that is as unprecedented as it is welcome. Letting her own discourse oscillate between speech and writing in the connections and reroutings of a metaphorical switchboard, Ronell's book [26] has provided a new philosophical insight, a multi-party line between Martin Heidegger, Sigmund Freud, Jacques Derrida, and, of course, Alexander Graham Bell. Ronell's gesture, albeit on another plane, is similar to that of those artists that since the late 1970s have found in the telephone an incomparable source for experimentation. Why the telephone?

In some ways it [the telephone] was the cleanest way to reach the regime of any number of metaphysical certitudes. It destabilizes the identity of self and other, subject and thing, it abolishes the originariness of site; it undermines the authority of the Book and constantly menaces the existence of literature. It is itself unsure of its identity as object, thing, piece of equipment, perlocutionary intensity, or artwork (the beginnings of telephony argue for its place as artwork); it offers itself as instrument of the destinal alarm, and the disconnecting force of the telephone enables us to establish something like the maternal superego. [27]

The beginnings of telephony argued for the artistic merits of the telephone based on its capacity for transmitting sound over long distances, i.e., based on its resem-

blance to what we know today as radio. It would be possible, Bell and other pioneers hoped, to listen to operas, news, concerts, and plays over the phone. In Bell's earliest lectures and performances, when the two-wayness of the medium was still a technical obstacle, Watson would play the organ and sing over the phone to entertain the audience and demonstrate the possibilities of the new device. Several decades later, if business over the telephone multiplied transactions, its use in the coziness of the household provoked mixed reactions. John Brooks points out [28] that H. G. Wells, in his "Experiment in Autobiography" (1934), complained about the invasion of privacy spawned by the telephone. Wells expressed his desire for "a one-way telephone, so that when we wanted news we could ask for it, and when we were not in a state to receive and digest news, we should not have it forced upon us." [29]

Wells was conjuring the image of a future all-news radio station, the creation of which, as McLuhan noticed, would later result from television's impact on radio. More importantly, Wells was reacting to the intrusion of that "destinal alarm" that Ronell refers to, to that "disconnecting force" of the telephone that is so disturbing and attractive, so unsettling and arresting. When Wells stresses that the telephone provides news even when he does not desire it, he takes notice of the projective trait of the telephone, which is the launching of speech, and speech alone, in the direction of the other, in constant demand for immediate readiness. This demand takes place in the linguistic domain and is properly answered by a question which is at the same time a dubious answer: "yes?"

Perhaps what is unique about ordinary telephony is that in its circuitry only spoken language circulates. As Robert Hopper has suggested [30], the telephone emphasizes the linearity of signs by splitting sound off from all other senses, by isolating the vocal element of communication from its natural congruity with the facial and the gestural. By cutting the audile out of its interrelation with the visual and the tactile, and by separating interlocutors from the speech community, the telephone abstracts communication processes and

reinforces Western phonocentrism [31], now translated into an outreaching tele-phonocentrism. It is to destabilize this phonocentrism, and subsequently to contribute in undoing hierarchies and centralization of meaning, knowledge, and experience, that theorists like Ronell and telecommunications artists construct their calls. In the twentieth century, what Derrida calls phonocentrism can be traced back to Saussure. Hopper cautiously finds Saussure bound to the telephone and supports his argument with evidence that Saussure lived in Paris when the city saw the boom of telephony. But more than that, he reminds us that the telephone was invented by a speech teacher of the deaf (Bell) and he stresses the acute resemblance of Saussure's speaking-circuit to telephonic communication.[32] In the almost scientific vocal isolation of telephony and in the presence of absent speakers, speech speaks loudly of its linear structure and offers itself for theoretical (and artistic) investigation.

Being a modality which excludes all that is different from vocal immediacy, the telephone speaks volumes about its platonic metaphysical framework. But when zeroing in on several particulars of telematic experience, one instantiates new insights on the telephonic structure that contribute to a possible deconstruction of that framework. Perhaps the most relevant aspect of the new telephonic syntax is its recent technical absorption of the graphic element. It is now technically possible not only to talk but to write over the phone (e-mail), to print over the phone (fax), to produce and record sound and video (answering machine, slow-scan TV, videophone) over the phone. As we have seen, it is also very likely that in the future, fiber optics wil give us access to tele-cyberspace. The telephone is becoming the medium par excellence of that "enlarged and radicalized" writing that signals Derrida. But contrary to what one would otherwise hypothesize, the more the telephone becomes speechless the more central its role becomes in our lives. It is clear that the telephone is slowly but continuously ceasing to owe its existence exclusively to speech and that the cultural implications of

this new aspect of contemporary life remains to be elaborated as an aesthetic experience.

If the artist can have a unique encounter with technology because he or she is an expert, aware of the changes in sense perception, as McLuhan purported [33], then it is the artist who will instigate the discovery of new realms of experience beyond ordinary cognition. Today small numbers of artists informed by a spirit of genuine artistic inquiry are turning their backs on the art market and are committing themselves to creating telecommunications events in the placeless place of networking.

Starting in 1982, after the pioneering telecommunication activities of Bill Bartlett, Stan VanDerBeek and Liza Bear, Bruce Breland, Matt Wrbican and other members of the Pittsburgh-based Dax group (which now has an extension in Bellingham, Washington), have worked consistently with fax and slow-scan TV as artistic media. Dax has created or participated in telecommunications events in which telephone lines are saturated with signals that flow in multiple directions carrying graphic information. These interactions often include other media as well (dance, computer music, etc.), span over several time zones, are geographically dispersed, and establish varied kinds of relationships between participants. Bruce Breland, Director of the group, wrote that:

> The concept of interactive systems has erased the old boundaries of regionalism or nationalistic art. Telematics has created the possibility of a new setting for interactive participation between individuals and groups. Telematics provides a means for instantaneous and immediate dissemination of information granting the individual a choice between simple retrieval or intricate collaborative art events. [34]

One of their first activities was participation in "The World in 24 Hours" (1982), a global network organized by Robert Adrian for Ars Electronica, in Austria, which linked sixteen cities on three continents for a day and a night. Three years later, they stretched the notion of worldwide interaction with "The Ultimate Contact," a slow-scan TV piece created over FM radio in collaboration with the orbiting space shuttle Challenger. The Dax group

25 *Art by Telephone*, op. cit.

26 Avitol Ronell, The Telephone Book; Technology, Schizophrenia, Electric Speech (Lincoln: University of Nebraska Press, 1989).

27 Ranell, op. cit., p. 9.

28 John Brooks, "The First ond Only Century of Telephone Literature," in The Social Impact of the Telephone, Ithiel de Solo Pool, ed., (Massachusetts: MIT Press, 1977), p. 220.

29 Quoted by Brooks, op. cit., p. 220.

30 Robert Hopper, "Telephone Speaking and the Rediscovery of Conversation," in Communication and the Culture of Technology, Martin J. Medhurst, Alberto Gonzolez and Torlo Roi Peterson, eds., (Pullman: Washington State University, 1990), p. 221.

31 The history of Western civilization, the history of our philosophy, is one of what Derrida colls "metaphysics of presence." It is o history of the privilege of the spoken word which is thought as the immediate, direct expression of consciousness, as the presence or manifestation of consciousness to itself. In o communication event, for example, the signifier seems to become transparent as if allowing the concept to make itself present os what it is. Derrida shows that this reasoning is not only present in Plato (only spoken language delivers truth) and Aristotle (spoken words as symbols of mental experience), but in Descartes (to be is to think, or to pronounce this proposition in one self's mind), Rousseau (condemnation of writing as destruction of presence and as disease of speech), Hegel (the ear perceiving the manifestation of the ideal activity of the soul), Husserl (meaning as present to consciousness at the instant of speaking), Heidegger (the ambiguity of the "voice of being" which is not heard), and virtually in any instance of the development of the philosophy of the West. The rationale and implications of this logocentrism/phonocentrism ore not obvious and one must research its functioning. Derrida explains that language is impregnated by and with these notions; therefore, in every proposition or system of semiotic investigation metaphysical assumptions coexist with their own criticism, all affirmations of logocentrism also show another side that undermine them. See Jocques Derrida, Of Grammotology (Baltimore and London: John Hopkins University Press, 1976); also Jocques Derrido, Positions (Chicago: University of Chicago Press, 1981).

32 What Hopper does not account for is the fact that, in his discussion of linguistic intercourse, Saussure only employs examples of face-to-face exchanges, eliminating telephonic intercourse. Saussure (Course in General Linguistics (New York: McGraw-Hill, 1966), p. 206): "Whereas provincialism makes men sedentary, intercourse obliges them to move about. Intercourse brings passers-by from other localities into o village, displaces o part of the population whenever there is o festival or fair, unites men from different provinces in the army, etc."

33 Morsholl McLuhan, Understanding Media (New York: McGraw-Hill, 1964) p. 18.

34 Breland [*New Observations*], p.10.

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also participated in larger networks realized in acknowledged art institutions, such as the "Ubiqua" (1986) telecommunications lab at the 42nd Biennale de Venezia. In it, they participated with text (IP Sharp), slow-scan TV, and fax. More recently, they were the first to collaborate with African artists in a telecommunications event. On July 1990, they created "Dax Dakar d'Accord," a slow-scan TV exchange with artists in Pittsburgh and Dakar, Senegal, as part of a Senegalese five-year commemoration of the African Diaspora, the "Goree-Almadies Memorial" [35]. Participants from Dakar included Breland, Wrbican, Bruce Taylor, Mor Gueye (glass paintings), Serigne Saliou Mbacke, De C.A.S.A. (sand paintings), Les Ambassadeurs (dance and music), Le Ballet Unité Africaine (dance and music), and Fanta Mbacke Kouyate performing "Goree Song," which makes reference to Goree Island in Dakar Harbour, holding and embarkation place for the slave trade that took place over a four-hundred year period.

56 In Brazil, or perhaps I should say, in and out of Brazil, artists such as Mario Ramiro, Gilbertto Prado (a member of French Art Reseaux), Paulo Bruscky, and Carlos Fadon have worked with telecommunications since the early or mid 1980s. The events created by these artists, some of whom have occasionally worked together, encompassed exchanges both on a national and international scale. Mario Ramiro, now living in Germany, is also a sculptor who works with zero-gravity and infrared radiation. He has initiated and participated in a number of telecommunications events with fax, slow scan TV, videotext, live television broadcasts, and radio. He has also written extensively on the subject. Paulo Bruscky, from Recife, well-known for his work in xerography and mail-art, is one of the few Brazilian artists to have been awarded a Guggenheim fellowship. His early work in telecommunications involved experiments with telex and fax. Carlos Fadon, who lived in Chicago and now is back in São Paulo, is a photographer and computer artist whose work is part of several international collections. One of his most original slow scan TV

pieces [36] is "Natureza Morta ao Vivo" ("Still Life/Alive"), which proposes that once one artist (B) sends an image to another (B), the image received becomes the background for a still life created live. The artist (B) places objects in front of the electronic image and the combination of both object and image is captured as a video still which is now sent back to the artist (A). This artist now uses this new image as the background for a new composition with new objects and sends it to the artist (B). This process is repeated with no terminus, so that the generation of a still life remains a work-in-progress through which a visual dialogue takes place.

In Paris, France, the Art Reseaux group, formed by Karen O'Rourke, Gilbertto Prado, Christophe Le François and others, has been developing elaborate projects such as O'Rourke's "City Portraits" [37],

> How can there be a receiver or a transmitter as positive values if it is only in the connecting act, if it is only in the crisscrossings of telephonic exchanges, that such positions temporarily constitute themselves?

which call for participants in a global net work to travel in imaginary cities by means of exchange of fax images. The project usually involves the initial creation of a pair of images, the entrance and the exit, which other artists then take as the extremes of the route they will explore in the metamorphosis of images exchanged over the telephone line. Artists create entrances and exits using images of the cities they live in, by manipulating other images to form synthetic landscapes or both, blending aspects of direct and imaginary experiences of the urban environment. Gilbertto Prado has been working on the "Connect" project, which involves at least two sites and two fax machines in each site. Artists in each site are asked not to cut the roll of thermal paper in the machine when fax images start to appear. Instead, they are asked to feed that roll into another fax machine and interfere in the images in the process. A loop is then formed, connecting not only the artists but

the machines themselves. This new configuration forms a circle in electronic space, linking in an imaginary topology cities that can be as far apart as Paris and Chicago. As an example of possible systems of interaction beyond linear models, Prado designed a circular diagram in which the hands (and not the mouths or the ears of the interlocutors) are the organs used for communication.

Le François' most recent project is "Infest," in which artists are invited to investigate aesthetically that new aspect of contemporary life which is the deterioration of images and documents due to contamination and infection by computer viruses. During the exchanges, images suffer manipulations that attempt to destroy and reconstruct them (infection/disinfection), pointing to the new condition of electronic decay in the world of digital epidemiology.

As the metaphors of human existence continue to intermingle with those of cybernetic existence, designers learn how to cope with issues of interfacing and artists compare remote communication to face-to-face interaction. Acknowledging the place of telephony in art, Karen O'Rourke reflected on the nature of fax exchanges as an artistic practice:

Most of us today have taken not painting (nor even photography) as a starting point for our images, but the telephone itself. We use it not only to send images but to receive them as well. This nearly instantaneous feedback transforms the nature of the messages we send, just as the presence of a live audience inflects the way in which actors interpret their roles or musicians their scores. [38]

Traditionally, as in the sign/idea relationship, representation (painting, sculpture) takes place as absence (the sign is that which evokes the object in its absence). Likewise, experience (happening, performance) is that which takes place as presence. One only experiences something when this something is present in the field of perception. In telecommunications art, presence and absence are engaged in a long-distance call that upsets the poles of representation and experience. The telephone is in constant displacement. It is logocentric but its phonetic space, now in

congruity with inscription systems (fax, e-mail etc), signifies in the absence more typically associated with writing (absence of sender, absence of receiver). The telephone momentarily displaces presence and absence to instantiate experience not as pure presence, but, as Derrida wrote, "chains of differential marks."[39]

Conclusion

The new aesthetic outlined in the previous pages certainly escapes from the problematic rubric of *fine arts*. The roles of artists and audience become intertwined, the exhibition *qua* forum where physical objects engage the perception of the viewer loses its central position. The very notion of meaning and representation in the visual arts—associated with the presence of the artist and stable semio-linguistic conventions—is revised and neutralized by the experiential setting of communications. Having evolved from early experiments pursued by artists associated with the movement of conceptual art, where language and media were first investigated programmatically as artistic realms, telecommunications art provides a new context for the postmodern debate.

Our traditional notions about symbolic exchanges have been relativized by new technologies, from answering machines to cellular telephony, from cash stations to voice-interface computers, from surveillance systems to satellites, from radio to wireless modems, from broadcast networks to e-mail networks, from telegraphy to free-space communications. Nothing in these promoters of social intercourse allows either optimism nor despair; they call for a disengagement from the concept of communication as transmission of a message, as expression of one's own consciousness, as correspondent to a pre-defined meaning.

The experimental use of telecommunications by artists points to a new set of cultural problems and to a new art. How to describe, for example, the encounter now possible between two or more people in the space of the image in a videophone call? If two people can talk at the same time on the phone, if their voices can meet and overlap, what shall we say about the new experience of telemeeting in the reciprocal space of the image? What is the fate of all the telecommunication models [40] that don't account for the multi-party interwoven fabric of planetary networks? After minimal and conceptual art, does it suffice to return to the decorative elements of parody and pastiche in painting? And what of the hybridization of media, which now compress maximum information-processing capabilities in minimum space? How will we deal with the new hypermedia that unite in one apparatus—telephone, television, answering machine, video disk, sound recorder, computer, fax/e-mail, videophone, word processing, and much more? How can there be a receiver or a transmitter as positive values if it is only in the connecting act, if it is only in the crisscrossings of telephonic exchanges, that such positions temporarily constitute themselves? Contemporary artists must dare to work with the material and immaterial means of our time and address the pervasive influence of new technologies in every aspect of our lives, even if that implies that they interact from afar and remain out of sight, at-a-distance from the art market and its accomplices. I quote Derrida [41], now in conclusive mode:

One never sees a new art, one thinks one sees it; but a "new art," as people say a little loosely, may be recognized by the fact that it is not recognized, one would say that it cannot be seen because one lacks not only a ready discourse which organizes the experience of this art itself and is working even on our optical apparatus, our most elementary vision. And yet, if this "new art" arises, it is because within the vague terrain of the implicit, something is already enveloped—and developing.

35 For a complete list, see *Art Com*, Number 40, Vol. 10, August 1990.

36 Carlos Fadon, "Still Life/Alive," in Connectivity: Art and Interactive Telecommunications, Roy Ascott and Carl Eugene Loeffler, eds., Leonardo, Vol. 24, N.2, 1991, p. 235.

37 See *Connectivity: Art and Interactive Telecommunications*, p. 233.

38 O'Rourke, "Notes on Fax-Art," op. cit., p. 24.

39 Jacques Derrida, *Limited Inc* (Evanston, IL: Northwestern University Press, 1988), p. 10.

40 For a summary of communication models, see Denis McQuail and Sven Windahl, *Communication Models for the Study of Mass Communications* (London and New York: Longman, 1981).

41 Jacques Derrida, "Videor," in *Passages de L'Image* (Barcelona: Caixa de Pensions, 1991), p. 176. "Passages de L'Image" was a traveling exhibition of media arts (video, holography, digital imaging, etc) organized by the Musée National D'Art Moderne, Centre Georges Pompidou, Paris.