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"Ultramoderne": Or, How George Kubler Stole the Time in Sixties Art

Author(s): Pamela M. Lee

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“Ultramoderne”: Or, How George Kubler Stole the Time in Sixties Art

PAMELA M. LEE

The universe has a finite velocity which limits not only the spread of its events, but also the speed of our perceptions. The moment of actuality slips too fast by the slow, coarse net of our senses.

—George Kubler¹

The matter of time is essential in all estimates of the value of information.

—Norbert Wiener²

Art not only communicates through space, but also through time.

—Robert Smithson³

The Problem

In November 1966, Robert Smithson published a remarkable essay in *Arts Magazine* entitled “Quasi-Infinities and the Waning of Space.” Like many of the artist’s most important writings of the sixties, it took up the question of time in contemporary art. Equal parts concrete poetry and hallucinatory rant, “Quasi-Infinities” subscribed less to the syntax of traditional art writing than it made scattershot reference to the most disparate cultural phenomena: pyramids and ziggurats, modernist literary criticism, classical physics, science fiction. It is not an easy read. The essay made graphic use of the space of the page, so that textual information and visual information were held in dynamic tension with one another, its ground noisy with pictures and splintered citations. Underscoring the importance of its design, Smithson began the piece by attending to its layout. In prose both blank and tautological, he wrote, “Around four blocks of print I shall postulate four ultramundane margins that shall contain indeterminate information as well as reproduced reproductions.”⁴

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B. Non-code based on *The
 Ars Magna* of Ramon Lull

4 The Tower of Babel



5 Kepler's model of the uni-
 verse



6 Claude-Nicolas Ledoux
 (1736-1806)



7 "City of the Future"

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John Cage. *Silence*.
 Cambridge: M.I.T. Press

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 has pointed out that mathematics,
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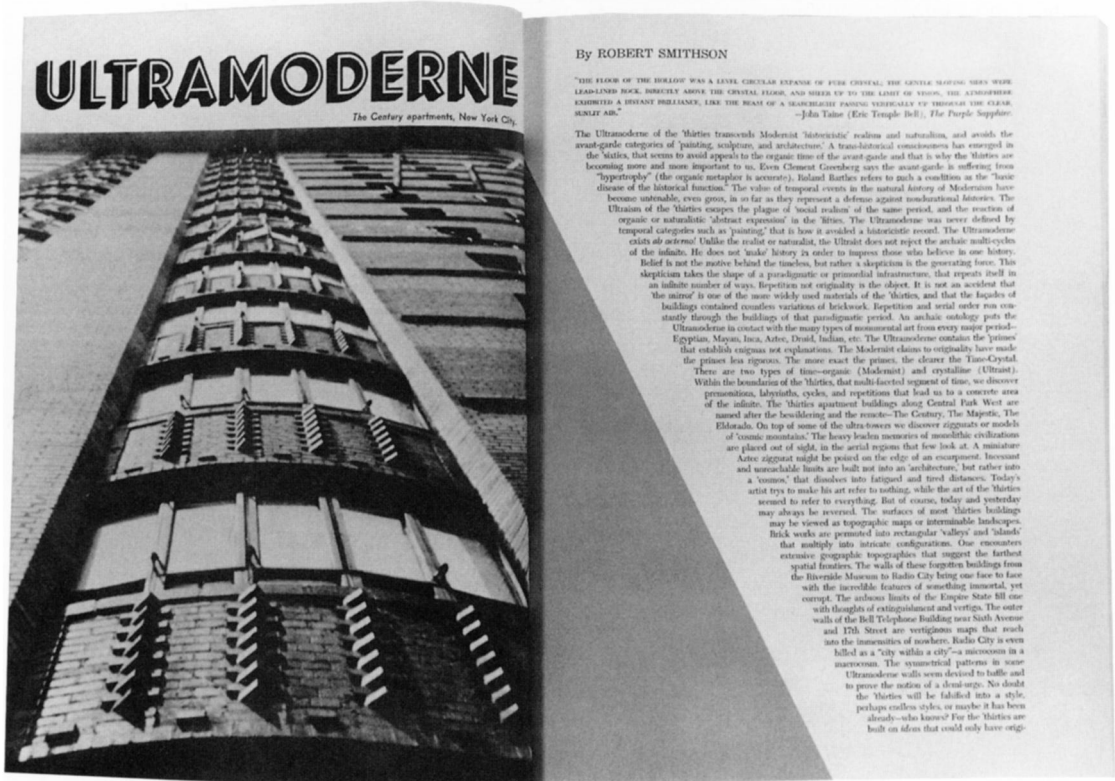
Robert Smithson. "Quasi-
 Infinities and the Waning of
 Space," 1966. Detail. Text
 and layout © Estate of Robert
 Smithson/VAGA, NY, NY.

Thus the four-page article is structured around four text columns, each graphically quarantined by a thick black border. Yet what is literally peripheral to these sections is by no means marginal to the work. The notes and images in the piece swirl dizzily around the language blocks, as if to offset their semantic authority. Vying for the attention of the reader, they dramatize the flipping between word and image that recurs throughout Smithson's art.

One piece of marginalia deserves particular attention as it finds its mirror reflection in the space of the text. At the left-hand gutter of the second page is a quote by the Mesoamericanist and architectural historian George Kubler, taken from his 1962 book *The Shape of Time: Remarks on the History of Things*. "Although inanimate things remain our most tangible evidence that the old human past really existed," it reads, "the conventional metaphors used to describe this visible past are mainly biological."⁵ Spliced from its originary source, the citation at first seems no more or less important than any of the other textual and visual scraps that circle the main body of Smithson's essay.

Here, however, I want to take this reference seriously, wondering what roles Kubler might play in the interpretation of Smithson's strange, vertiginous system. How might we treat "Quasi-Infinities" through Kubler's terms? And how, if at all, are these terms in dialogue with the larger rhetorical field of the essay, not to mention the art of the sixties in general?⁶ No doubt Kubler's thinking about time courses throughout "Quasi-Infinities" as well as another Smithson contribution to *Arts Magazine* of the following year, a piece entitled "Ultramoderne."⁷ It is less the question of pairing Kubler and Smithson that is at stake than the peculiar nature of their exchange.

Indeed, these textual encounters occasion a different assessment of Kubler's writing in the art and art criticism of the sixties. For why might *The Shape of Time*,



a book filled with the most arcane references to Riegl, the Visigoths, and the sequencing of Greek vase painting, resonate so strongly within the most progressive circles of sixties art?⁸ Focusing on Smithson's "Quasi-Infinities and the Waning of Space," I will argue that Kubler serves as a cipher in the reading of much sixties art, one through whom a challenge was mounted to the formalist discourses that continued to dominate American art criticism of the period, but also implicitly addressed concerns about the relationship between time and technology in the postwar era. My claim might be reduced to a Smithsonian shorthand: what is "ultramoderne" about Kubler for Smithson—that is, what is *excessively* modern about the Mesoamericanist—is a consideration of time that illuminates theories of information technology just emerging within the popular consciousness of the two decades following the war. What follows, then, is a buried history of reception organized around three figures: Kubler first, Smithson second, and finally—perhaps, surprisingly—the cybernetician Norbert Wiener. The constellation of the three opens onto an important if curious episode in sixties art, distilling a fundamental crisis of temporality in the larger culture of that moment. We might call this crisis the acutely contemporary phenomena of non-contemporaneity, of not being with the time.

Kubler's Actuality for Smithson

Begin with Kubler and Smithson, an odd match on the face of it. Perhaps the relationship between Kubler and the art of the sixties, much less Smithson and technology, seems untenable at first. To be sure, Kubler's scholarly profile as a Mesoamericanist does not immediately recommend him to the pantheon of post-war critics that includes Clement Greenberg and Michael Fried. His biography demonstrates the traditional, if not conservative, itinerary of the well-heeled academic, far less so the radical art critic.⁹

It is tempting to argue that Kubler's scholarship in Latin American culture held particular sway for Smithson, given the connections drawn insistently between pre-Columbian art and the earthworks for which the artist is best known. His land art of that period would seem to make this connection explicit. Smithson, after all, made critical references to both Mesoamerican and colonial Mexican culture in such crucial works as *Incidents of Mirror Travel in the Yucatan* and *The Hotel Palenque*. And "Ultramoderne," an essay in which Kubler figures prominently, concerns the modernist architecture of thirties New York as a transhistorical nod to the religious structures of the Aztec, Inca, and Maya.

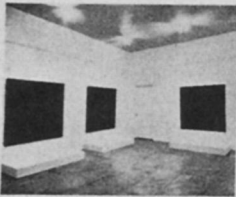
Robert Smithson.
"Ultramoderne," 1967.
Text and layout © Estate
of Robert Smithson/
VAGA, NY, NY.

Quasi-Infinities and the Waning of Space

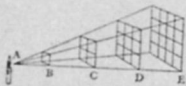
For many artists the universe is expanding; for some it is contracting.

By
ROBERT SMITHSON

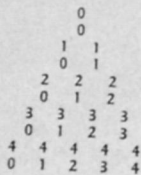
"Without a time sense consciousness is difficult to visualize." J. G. Ballard, *The Overloaded Man*



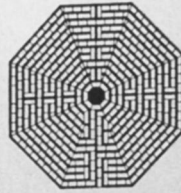
10 Ad Reinhardt installation (March 1965) Betty Parsons Gallery



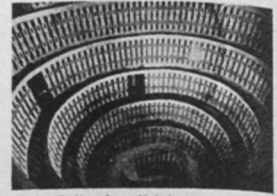
9 From Edgar Allan Poe's *Eureka*



8 A Discrete Scheme Without Memory by Dan Graham



1 The Amiens Labyrinth (France)



2 Built for Fabricius at the University of Padua



3 The Pyramid of Meidum



4 The Tower of Babel



5 Kepler's model of the universe



6 Claude-Nicalas Ledoux (1736-1806)



7 "City of the Future"

AROUND FOUR BLOCKS of print I shall postulate four ultramundane margins that shall contain indeterminate information as well as reproduced reproductions. The first obstacle shall be a labyrinth⁽¹⁾, through which the mind will pass in an instant, thus eliminating the spatial problem. The next encounter is an abysmal anatomy theatre⁽²⁾. Quickly the mind will pass over this dizzying height. Here the pages of time are paper thin, even when it comes to a pyramid⁽³⁾. The center of this pyramid is everywhere and nowhere. From this center one may see the Tower of Babel⁽⁴⁾, Kepler's universe⁽⁵⁾, or a building by the architect Ledoux⁽⁶⁾. To formulate a general theory of this inconceivable system would not solve its symmetrical perplexities. Ready to trap the mind is one of an infinite number of "cities of the future"⁽⁷⁾. Inutile codes⁽⁸⁾ and extravagant experiments⁽⁹⁾ adumbrate the "absolute" abstraction⁽¹⁰⁾. One becomes aware of what T. E. Hulme called "the fringe . . . the cold walks . . . that lead nowhere."

In Ad Reinhardt's "Twelve Rules for a New Academy" we find the statement, "The present is the future of the past, and the past of the future." The dim surface sections within the confines of Reinhardt's standard (60" x 60") "paintings" disclose faint squares of time. Time, as a colorless intersection, is absorbed almost imperceptibly into one's consciousness. Each painting is at once both memory and forgetfulness, a paradox of darkening time. The lines of his grids are barely visible; they waver between the future and the past.

George Kubler, like Ad Reinhardt, seems concerned with "weak signals" from "the void." Beginnings and endings are projected into the present as hazy planes of "actuality." In *The Shape of Time: Remarks on the History of Things*, Kubler says, "Actuality is . . . the interchronic pause when nothing is happening. It is the void between events." Reinhardt seems obsessed by this "void," so much that he has attempted to give it a concrete shape—a shape that evades shape. Here one finds no allusion to "duration," but an interval without any suggestion of "life or death." This is a coherent portion of a hidden infinity. The future criss-crosses the past as an unobtainable present. Time vanishes into a perpetual sameness.

Most notions of time (Progress, Evolution, Avant-garde) are put in terms of biology. Analogies are drawn between organic biology and technology; the nervous system is extended into electronics, and the muscular

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B. Non-code based on *The Ars Magna* of Ramon Lull

11 Any art that originates with a will to "expression" is not abstract, but representational. Space is represented. Critics who interpret art in terms of space see the history of art as a reduction of three dimensional illusionistic space to "the same order of space

as our bodies." (Clement Greenberg—*Abstract, Representational and so forth.*) Here Greenberg equates "space" with "our bodies" and interprets this reduction as abstract. This anthropomorphizing of space is aesthetically a "pathetic fallacy" and is in no way abstract.



12 Plate probably drawn for Spigelius (1627)



13 Willem deKooning

"Although inanimate things remain our most tangible evidence that the old human past really existed, the conventional metaphors used to describe this visible past are mainly biological." George Kubler, *The Shape of Time: Remarks on the History of Things*

system is extended into mechanics. The workings of biology and technology belong not in the domain of art, but to the "useful" time of organic (active) duration, which is unconscious and mortal. Art mirrors the "actuality" that Kubler and Reinhardt are exploring. What is actual is apart from the continuous "actions" between birth and death. Action is not the motive of a Reinhardt painting. Whenever "action" does persist, it is unavailable or useless. In art, action is always becoming inertia, but this inertia has no ground to settle on except the mind, which is as empty as actual time.

THE ANATOMY OF EXPRESSIONISM⁽¹¹⁾

The study of anatomy since the Renaissance led to a notion of art in terms of biology⁽¹²⁾. Although anatomy is rarely taught in our art schools, the metaphors of anatomical and biological science linger in the minds of some of our most abstract artists. In the paintings of both Willem deKooning⁽¹³⁾ and Jackson Pollack⁽¹⁴⁾, one may find traces of the biological metaphor⁽¹⁵⁾, or what Lawrence Alloway called "biomorphism"⁽¹⁶⁾. In architecture, most notably in the theories of Frank Lloyd Wright, the biological metaphor prevails⁽¹⁷⁾. Wright's idea of "the organic" had a powerful influence on both architects and artists. This in turn produced a nostalgia for the rural or rustic community or the pastoral setting, and as a result brought into aesthetics an anti-urban attitude. Wright's view of the city as a "cancer" or "a social disease" persists today in the minds of some of the most "formal" artists and critics. Abstract expressionism revealed this visceral condition, without any awareness of the role of the biological metaphor. Art is still for the most part thought to be "creative" or in Alloway's words "phases of seeding, sprouting, growing, loving, fighting, decaying, rebirth." The science of biology in this case, becomes "biological-fiction," and the problem of anatomy dissolves into an "organic mass." If this is so, then abstract-expressionism was a disintegration of "figure painting" or a decomposition of anthropomorphism. Impressionistic modes of art also suffer from this biological syndrome.

Kubler suggests that metaphors drawn from physical science rather than biological science would be more suitable for describing the condition of art. Biological science has since the nineteenth century infused in most people's minds an unconscious faith in "creative evolu-

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John Cage. *Silence*.
Cambridge: M.I.T. Press

"Dr. J. Bronowski among others has pointed out that mathematics, which most of us see as the most factual of all sciences, constitutes the most colossal metaphor imaginable, and must be judged, aesthetically as well as intellectually, in terms of the success of this metaphor." Norbert Wiener, *The Human Use of Human Beings*



14 Jackson Pollack

15 The biological metaphor is at the bottom of all "formalist" criticism. There is nothing abstract about deKooning or Pollack. To locate them in a formalist system is simply a critical mutation based on a misunderstanding of metaphor—namely, the biological extended into the spatial.

16 *Art Forum*, September 1965. *The Biomorph Formies*

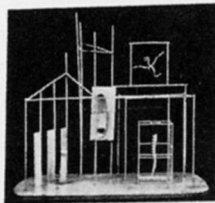
17 A. The Guggenheim Museum is perhaps Wright's most visceral achievement. No building is more organic than this inverse digestive tract. The ambulatories are metaphorically intestines. It is a concrete stomach.



B. Guggenheim Museum

18 The truncated ideas in *Nova Express* (Evergreen Black Cat Book BC-102) disclose in part the "heat-death" of the biological metaphor. "The Insect Brain of Minraud enclosed in a crystal . . ." M. L. von Franz in *Time and Synchronicity in Analytic Psychology* states, "Physicists studying cybernetics have observed that what we call consciousness seems to con-

sist of an intra-psychic flux or train of ideas, which flows 'parallel to' (or is even possibly explicable by) the 'arrow' of time. While M. S. Watanabe convincingly argues that this sense of time is a fact sui generis, others like Grünbaum tend to believe that entropy is the cause of time in man." See *The Voices of Time* (p. 218), edited by J. T. Fraser, New York: George Braziller, 1966.



19 Alberto Giacometti, *The Palace at Four A.M.* (1932-33)

tion." An intelligible dissatisfaction with this faith is very much in evidence in the work of certain artists.

THE VANISHING ORGANISM

The biological metaphor has its origin in the temporal order, yet certain artists have "detemporalized" certain organic properties, and transformed them into solid objects that contain "ideas of time." This attitude toward art is more "Egyptian" than "Greek," static rather than dynamic. Or it is what William S. Burroughs calls "The Thermodynamic Pain and Energy Bank"⁽¹⁸⁾—a condition of time that originates inside isolated objects rather than outside. Artists as different as Alberto Giacometti and Ruth Vollmer to Eva Hesse and Lucas Samaras disclose this tendency.

Giacometti's early work, *The Palace at Four A.M.*⁽¹⁹⁾, enigmatically and explicitly is about time. But, one could hardly say that this "time-structure" reveals any suggestion of organic vitality. Its balance is fragile and precarious, and drained of all notions of energy, yet it has a primordial grandeur⁽²⁰⁾. It takes one's mind to the very origins of time—to the fundamental memory. Giacometti's art and thought conveys an entropic view of the world. "It's hard for me to shut up," says Giacometti to James Lord. "It's the delirium that comes from the impossibility of really accomplishing anything"⁽²¹⁾.

There are parallels in the art of Ruth Vollmer to that of Giacometti. For instance, she made small skeletal geometric structures before she started making her bronze "spheres," and like Giacometti she considers those early works "dead-ends." But there is no denying that these works are in the same class with Giacometti, for they evoke both the presence and absence of time. Her *Obelisk*⁽²²⁾ is similar in mood to *The Palace at Four A.M.* One thinks of Pascal's "fearful sphere" lost in an Egyptian past, or in the words of Plotinus the Stoa, "shadows in a shadow"⁽²³⁾. Matter in this *Obelisk*⁽²⁴⁾ opposes and forecloses all activity—its future is missing.

The art of Eva Hesse is vertiginous and wonderfully dismal⁽²⁵⁾. Trellises are mummified, nets contain desiccated lumps, wires extend from tightly wrapped frameworks, a cosmic dereliction is the general effect. Coils go on and on; some are cracked open, only to reveal an empty center. Such "things" seem destined for a funerary chamber that excludes all mention of the living and the dead. Her art brings to mind the obsessions of the pha-

"In principle, nothingness remains inaccessible to science." Martin Heidegger, *An Introduction to Metaphysics*

"The unity of Nature is an extremely artificial and fragile bridge, a garden net." T. E. Hulme, *Cinders*

"It came to him with a great shock that not one of the robots had ever seen a living thing. Not a bug, a worm, a leaf. They did not know what flesh was. Only the doctors knew that, and none of them could readily understand what was meant by the words 'organic matter.'" Michael Shaara, *Orphans of the Void*

24 A. For further edification concerning obelisks see *A Short History of the Egyptian Obelisk* by W. R. Cooper, London: Samuel Bagster and Sons, 1877. "The first mention of the obelisk, or Tekhen, occurs in connection with the pyramid; and both are alike designated sacred monuments on the funeral stele of the early empire, and also were undeniably devoted to the worship of the sun; occasionally the obelisk was represented as surmounting a pyramid, a position which it has never actually been found to occupy."

B. *The New York Obelisk—Cleopatra's Needle* by Charles E. Moldenke, New York: Anson D. F. Randolph and Co., 1891. "We know of the Obelisk of Karnak, erected by Queen Hatsuta, that the apex of its pyramidion was covered with 'pure gold' . . ."

C. *Cleopatra's Needles and Other Egyptian Obelisks* by Sir E. A. Wallis Budge, London: The Religious Tract Society, 1926. Regarding obelisks in Rome: "The brass globe which had been fixed on the top of the obelisk when Caligula set it up was removed; it was empty, though many believed that it would be found to contain valuable objects."

D. *Salambo* by Gustave Flaubert, a Berkeley Medallion Book, 1966. Regarding obelisks in Byrsa: ". . . obelisks poised on their points like inverted torches."

20 The following is part of a manuscript that describes *The Palace at Four A.M.* It was dictated by Giacometti to André Breton for publication in the magazine *Minotaure* (No. 3-4, 1933, p. 42) and later translated by Ruth Vollmer into English (see the magazine *Transformation* published by Wittenborn).

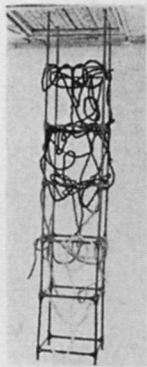
"This object has taken form little by little; by the end of summer 1932 it clarified slowly for me, the various parts taking their exact form and their particular place in the ensemble. Come autumn it had attained such reality that its execution in space did not take more than one day." He also goes on to say, ". . . the days and nights had the same color, as if everything happened just before daybreak. . . ."

21 *A Giacometti Portrait*, The Museum of Modern Art



22 Ruth Vollmer, *Obelisk* (1962)

23 Quoted from *Enneads*, in *Concepts of Mass in Classical and Modern Physics* (Harper Torch Book TB571) by Max Jammer, page 31. On the same page Jammer goes on to say, "Proclus, the other great exponent of Neoplatonism in the East, accepts Plotinus' doctrine, but with one important modification: the passivity or inertia of matter follows from its extension." The decline of the categories of "painting" and "sculpture" seem to be the result of this problem of spatial extension from matter. Space becomes an illusion on matter.



25 A. Eva Hesse, *Loakoon*, 1965

"The individual is the seat of a constant process of decantation, decantation from the vessel containing the fluid of future time, sluggish, pale and monochrome, to the vessel containing the fluid of past time, agitated and multicolored by the phenomena of its hours." Samuel Beckett, *Proust*



B. Pergamen? *Loakoon*

C. In her *Loakoon* based on the sculpture by Pergamen? second century B.C. we discover an absence of "pathos" and a deliberate avoidance of the anthropomorphic. Instead one is aware only of the vestigial and devalitized "snakes" looping through a

lattice with cloth bound joints. Everything "classical" and "romantic" is mitigated and undermined. The baroque aesthetic of the original *Loakoon* with its flowing lines—soft and fluid—is transformed into a dry, skeletal tower that goes nowhere.

raohs, but in this case the anthropomorphic measure is absent. Nothing is incarnated into nothing. Human decay is nowhere in evidence.

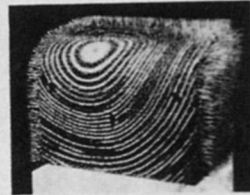
The isolated systems Samaras⁽²⁶⁾ has devised irradiate a malignant splendor. Clusters of pins cover vile organs of an untraceable origin. His objects are infused with menace and melancholy. A lingering Narcissism⁽²⁷⁾ may be found in some of his "treasures." He has made "models" of tombs and monuments that combine the "times" of ancient Egypt with the most disposable futures of science fiction.⁽²⁸⁾

TIME AND HISTORY AS OBJECTS

At the turn of the century a group of colorful French artists banded together in order to get the jump on the bourgeois notion of progress. This bohemian brand of progress gradually developed into what is sometimes called the avant-garde. Both these notions of duration are no longer absolute modes of "time" for artists. The avant-garde, like progress, is based on an ideological consciousness of time. Time as ideology has produced many uncertain "art histories" with the help of the mass-media. Art histories may be measured in time by books (years), by magazines (months), by newspapers (weeks and days), by radio and TV (days and hours). And at the gallery proper—*instants!* Time is brought to a condition that breaks down into "abstract-objects"⁽²⁹⁾. The isolated time of the avant-garde has produced its own unavailable history or entropy.

Consider the avant-garde as Achilles and progress as the Tortoise in a race that would follow Zeno's second paradox of "infinite regress"⁽³⁰⁾. This non-Aristotelian logic defies the formal deductive system and says that "movement is impossible." Let us paraphrase Jorge Luis Borges' description of that paradox. (See *Avatars of the Tortoise*): The avant-garde goes ten times faster than progress, and gives progress a headstart of ten meters. The avant-garde goes those ten meters, progress one; the avant-garde completes that meter, progress goes a decimeter; the avant-garde goes that decimeter, progress goes a centimeter; the avant-garde goes that centimeter, progress, a millimeter; the avant-garde, the millimeter, progress a tenth of a millimeter; and so on to infinity without progress ever being overtaken by the avant-garde. The problem may be reduced to this series:

$$10 + 1 + 1/10 + 1/100 + 1/1000 + 1/10,000 + \dots$$



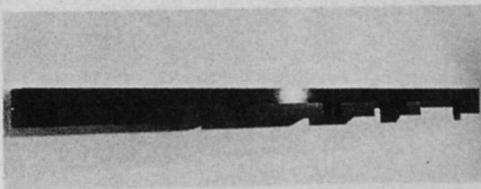
26 Lucas Samaras, *Untitled*, 1963

27 Self-love, self-observation, self-examination, and self-awareness result in an isolated mind. This kind of mind would tend to produce a fictitious "reality" detached from organic nature. *Monsieur Teste* by Paul Valéry is perhaps the greatest elucidation of Narcissism. "He watches himself, he maneuvers, he is unwilling to be maneuvered. He knows only two values, two categories, those of consciousness reduced to its acts: the possible and the impossible. In this strange head, where philosophy has little credit, where language is always on trial, there is scarcely a thought that is not accompanied by the feeling that it is tentative. . . ."

28 In *13 French Science-Fiction Stories* edited by Damon Knight (Bantam paperback #2817) is a story by Charles Henneberg called *Moonfishers*. "The Interplanetarians were landing in these sands. They were of many kinds. Much later, the Pharaoh Pсамметихус III noted: 'They fell from the sky like the fruits of a fig-tree that is shaken; they were the color of copper and sulphur, and some had eyes.'"

29 The following book elucidates this idea: *Abstraction and Empathy* by Wilhelm Worringer, London: Routledge and Kegan Paul Ltd., 1953; translated from the German *Abstraktion und Einfühlung*, 1908. "In so far, therefore, as a sensuous object is still dependent upon space, it is unable to appear to us in its closed material individuality." And "Space is therefore the major enemy of all striving after abstraction. . . ."

30 A. Don Judd has been interested in "progressions" and "regressions" as "solid objects." He has based certain works on "inverse natural numbers." Some of these may be found in *Summation of Series* by L. B. W. Jolley, a Dover paperback.



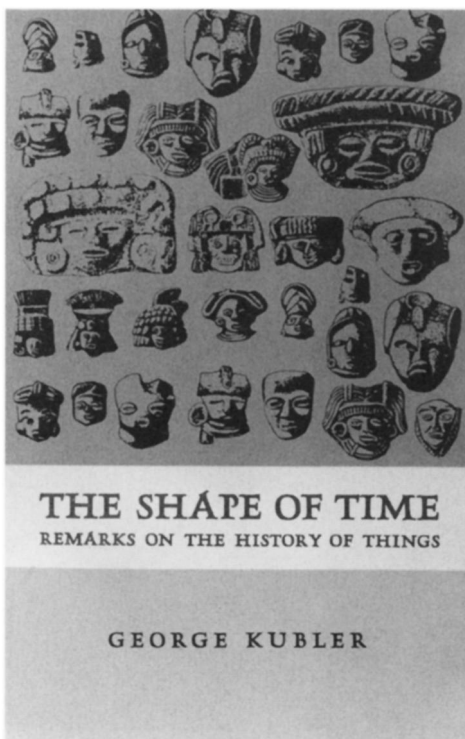
B. Don Judd, *Untitled*, 1965

35

Yet to claim an affinity between the two on these terms alone is to miss the point on a number of levels, not the least of which is that Smithson engaged Kubler in his art well before his Yucatan-inspired works of the late sixties.¹⁰ To make such connections necessary—to read *Spiral Jetty* as the historical terminus of the Nazca Lines—is to subscribe to the kind of enfeebled historicism both Kubler and Smithson violently rejected.¹¹ Rather, at play between the two is something of the deep structure of history elaborated in *The Shape of Time*. Written while its author was recovering from a serious illness, it was referred to by Kubler as his “little book,” a rather modest assessment for a work translated into over ten languages, reprinted continuously from its initial publication in 1962, and which counted among its enthusiastic supporters thinkers ranging from Erwin Panofsky to Sigfried Kracauer.¹² A slim volume whose physical dimensions belied the enormous impact it would have on both the art and art history of the decade, *The Shape of Time* staked a radical and certainly broad claim in its imperative to speak to “the history of things.” By things, of course, Kubler was not describing works of fine art typically conceived, but material culture more generally. Both its object of study and methodological approach were interdisciplinary decades before the notion assumed the academic currency it now carries. Drawing from the language of anthropology, geology, linguistics, physics, archaeology, philosophy, astronomy, and mathematics, it moved freely between discussions of the “potters of Kaminaljuyu” to graph theory to Darwin to the Carracci. Thus it served Kubler’s interests of “enlarging the scope of aesthetic experience,” as much as it underscored the importance of a multicultural approach to the discipline.

But *The Shape of Time* drew the greatest share of its interest in offering a new system for describing historical change in the visual arts, one with deeply structuralist implications.¹³ A radical rejection of linear art history, it flatly dismissed the iconographic accounts of the period as so much pallid symbolism. Instead, Kubler’s approach was organized around the principle of formal sequencing,

emphasizing the structures and taxonomies of historical change over an investigation into the meanings and content of artifacts themselves. While such a method squares with the formalist legacy of art criticism in its acute attention to morphology, it would nonetheless provide a critique of its dominant iterations in the postwar era, particularly in its position toward historical development.



George Kubler. *The Shape of Time* (New Haven: Yale University Press, 1962). Cover.
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Central to this account was the notion of the form-class. Less an objective “thing” than a “problem” that occurred across time, the form-class was represented by a series of artifacts, each of which acted as early, middle, and late versions of the same problem or action. Form-classes were inaugurated by what Kubler called a “prime object”; their subsequent incarnations might include a copy called a “replication.” Importantly, he described the form-class as being like a chain of linked solutions, with the chain itself being history. “The history of art,” he noted, “. . . resembles a broken but much-repaired chain made of string and wire to connect the occasional jeweled links surviving as physical evidences of the invisible original sequence of prime objects.”¹⁴ Depending upon when the problem emerged at a particular historical moment—when it made its virtual “entrance” into the chain—a provisional solution might become available. If the “problem” was resolved over time, the form-class was part of a “closed series.” If it required additional elaboration, it belonged to an “open sequence” and might be reactivated under entirely different historical circumstances.

Nonetheless, for all its emphasis on the linkage between different eras and cultures, Kubler’s was by no means a reading of history as style, let alone archetype. He considered the form-class as being “analytical and divisive” rather than synthetic in nature, and if he pointed to a certain continuum of “problems” throughout the history of art, it was less in the service of universalizing visual practice than rejecting the avant-gardism of his own critical moment. Speaking to the situation of contemporary art, for instance, Kubler made a claim for “the approaching exhaustion of new discoveries” in art and the possible end of the avant-garde.¹⁵ Aesthetic fatigue, as he called it, was the fallout of this endless questing for originality, not to mention the faith placed in this questing. Kubler regarded this artistic phenomenon as embedded within the larger culture, observing that “a signal trait of our own time is an ambivalence in everything touching upon change.”¹⁶

There is, in such phrasings, a thinking about futurity that bears upon the widespread currency of *The Shape of Time* for a sixties art audience. While the author’s strangely technical language proved obscure to a few early reviewers, his dismissal of the rhetoric of progress bore significant implications for contemporary art.¹⁷ For Kubler, the reading of art history as style was grounded in the language of biology, and this was to be avoided at all costs. “However useful it is for pedagogical purposes,” he wrote, “the biological metaphor of style as a sequence of life-stages was historically misleading, for it bestowed upon the flux of events the shapes and behavior of organisms.”¹⁸ The idea of art history as an organism—as a self-contained and homogeneous system—was antithetical to the discontinuous history he proposed.

Such remarks are suggestive in considering Smithson's attraction to Kubler. In both "Quasi-Infinities" and "Ultramoderne," Smithson linked issues of style to formalist criticism, rejecting them both on the grounds of their biological resonance. In note fifteen to "Quasi-Infinities" he neatly collapsed the two when he wrote about the criticism of abstraction: "the biological metaphor is at the bottom of all formalist criticism." The sentiment carries throughout the main text. And in "Ultramoderne" of a year later, Smithson reads the art of the sixties as a turning away from this model, noting "a trans-historical consciousness has emerged in the sixties that seems to avoid appeals to the organic time of the avant-garde."¹⁹

Thus, the equation between Kubler and Smithson would appear not only seamless but complete. Kubler's distaste for biological metaphors—readings of art history in terms of progress and organic growth—equates neatly with Smithson's dismissal of Greenbergian formalism. But a reading of the two that stops here is no more satisfactory than saying Smithson makes reference to Kubler for his expertise in Latin American art. For an artist who consistently thematized process and ruin in his larger corpus—and for an essay that graphically delights in the fragmenting and dispersal of information at its borders—one questions the hermetic, even mechanistic, character of this exchange.

It is Kubler himself who provides some cues to an alternative reading of his appearance in Smithson's work:

. . . we cannot clearly decry the contours of the great currents of our own time: we are too much inside the streams of contemporary happening to chart their flow and volume. We are confronted with inner and outer historical surfaces. Of these only the outer surfaces of the completed past are accessible to historical knowledge.²⁰

Here Kubler gives voice to the problem of contemporaneity. It is a problem of *presentness*. Not "presentness" in the sense in which it was widely elaborated within the art writing of the late sixties; his is an implicit challenge to the notion of presentness that Michael Fried extolled in his famous attack against minimalist sculpture, "Art and Objecthood."²¹ If anything, Kubler speaks to the impossibility of fully inhabiting the temporal plenitude of one's art-historical moment. For to stand in the "streams of contemporary happening" as we are, we cannot stabilize our relation to the currents of the time. Only when we are at a historical distance from the present might the processes of historiographic reconstruction be set into motion. Only then, and with difficulty, might the contours of a "completed past" be rendered historically legible.

Which begs the question of time for both Kubler and Smithson. Might this invocation of Kubler point to a model of time whose contours were not wholly accessible to the presentness that the artist inhabited? Yet another piece of marginalia in “Quasi-Infinities” is instructive. On the same page as the reference to Kubler, occupying the same gutter space, is a quote as seemingly elliptical as the art historian’s. “Dr. J. Bronowski among others,” it reads, “has pointed out that mathematics, which most of us see as the most factual of all sciences, constitutes the most colossal metaphor imaginable, and must be judged, aesthetically as well as intellectually, in terms of the success of this metaphor.”

The citation is from Norbert Wiener’s *The Human Use of Human Beings*; it dates from 1950, and its larger field of reference is cybernetics, the theory of the control of messages that the MIT mathematician inaugurated. Like the quote by Kubler placed almost directly above it, it addresses a problem of communication, or to be more precise, metaphor—the way one figure of speech is employed to describe another figure of speech, which describes another figure of speech in turn. Metaphor, understood in its broadest sense, is the endless concatenation of language. As Roland Barthes once succinctly put it, “metaphor does not stop.”²² Metaphor points to the metaphoricity of *all* forms of communication, the porosity of any discursive system. Say, then, that metaphor is the thematic link between the two margin notes on the same page of “Quasi-Infinities.” What of the second text in this chain and the metaphoric work it performs on Kubler, and vice versa? The connection between Wiener’s book and *The Shape of Time* is more than suggestive. It coordinates the relationship between pastness, futurity, and technology long an obsession in Smithson’s work; and speaks to the way the artist structures information in “Quasi-Infinities” as a tentative, deeply ambivalent system.

Calling over Time: Kubler and Wiener’s Drift

[T]he historian’s idea of change is related to the linguist’s idea of “drift,” exemplified by the progressive separation that widens between cognate languages. This “drift,” produced by cumulative changes in the articulation of sounds, can be related in turn to the interferences that distort any audible communication. The telephone engineer calls such interferences “noise.” “Drift,” “noise,” and change are related by the presence of interferences preventing the complete repetition of an earlier set of conditions.

—Kubler²³

As much as the link between Smithson and Kubler has been established by art historians, so too has the connection between Smithson and technology. Important accounts by Caroline Jones and Eugenie Tsai, respectively, consider this relationship through the artist's fascination with postwar industrialism and a parallel engagement with science fiction.²⁴ Far less considered is a reading of Smithson through the lens of cybernetics, as an artist wrestling, however implicitly, with the emerging information society. But Smithson's preoccupations with the past were matched only in intensity by his engagement with futurity, and such concerns took acute shape not only in his own thinking about new technology, but in the way his art was consistently received through the terms of systems theory.²⁵ To this end, I want to argue that "Quasi-Infinities" is both a confrontation with and an adumbration of a cybernetic model of temporality, and it is through Kubler that such interests are at once constellated and ventriloquized.

For Smithson, it all comes down to the matter of time, or, to be more precise, the problem of communication over time. While the artist did not discuss Wiener with the same frequency as he did Kubler, it is telling that when the term "cybernetics" is mentioned in his writings, the art historian's name is likely to augur its appearance. In Smithson's unpublished essay "The Artist as Site-Seer, or, a Dintorphic Essay" (1966-67), for example, the artist ranges over a number of topics employing the same slack prose-style as he did in "Quasi-Infinities." Crucially, a ramble on the notion of Kubler's prime objects gives way to a discussion on cybernetics as "tombic communication"—a kind of mortified discourse bearing parallels to the grave architecture of ancient Egypt. To be sure, Wiener offered a particularly important model for the artist in his formulation of cybernetics, organized as it was around the technology of postwar America.

In Wiener's *Cybernetics: or Control and Communication in the Animal and the Machine* (1948) and the layman's account of information theory cited by Smithson, the mathematician presented a model of communication through the term "cybernetics," a word whose root (*kubernētēs*) derives from the ancient Greek for "steersman" as well as the modern Greek word for "governor." As the etymology suggests, cybernetics is a science of control or predictive value—of taking account of futurity and its "probabilistic tendencies" and attempting to regulate its outcome through the transfer of messages. Growing out of research and development in anti-aircraft technology, its history is inseparable from the military science of the Second World War. The capacity to foresee—or foreread—the actions of the enemy is a projective capacity, and, as such, one could say that cybernetics subscribes to the time of

prolepsis, the future tense. As we shall see, how this inflects an understanding of history as a linear unfolding finds its analogue in Kubler's thinking, and is likewise played out in the very margins of Smithson's article.

Why this might be the case—and why cybernetics might be of interest to Smithson, let alone any contemporary artist of the period—bears a necessarily brief excursus.²⁶ Suffice it to say that the discussion of cybernetics in the first two decades following the war extended well beyond its original military foundations, perhaps even serving to suppress that history.²⁷ Well after Wiener's death in 1964, cybernetics became a pop culture buzzword used to describe phenomena as wide-ranging as the centralization of power during the Cold War, modern religion, behavioral psychology, childrearing, alcoholism, dialectical materialism, deteriorating ecosystems, and visual sign systems.²⁸ Systems discourse took on many formulations at this moment—other influential readings included Claude Shannon's account of information theory and the biological systems analyses of Ludwig von Bertalanffy—but it was Wiener's name that became synonymous with its broad understanding in the cultural imagination.

But the popular understanding of cybernetics was not just multidisciplinary. For Wiener, writing in 1950, cybernetics was “a tentative new theory of scientific method” that referred not only to the study of language, but the capacity to regulate or control the transmission of information within a range of different systems: biological, mechanical, electronic, temporal.²⁹ Thus, animals and machines were subject to cybernetic analysis, and the human nervous system, with its capacity for learning, was regarded as roughly analogous to the functions of the new computers.³⁰

Still, for all its multidisciplinary relevance, Wiener himself expressed reservations about the uses to which his research was put. Relatively early in its history, the mathematician voiced concern over making neat analogies between communicative and information systems and social and biological ones, even as cybernetics was popularly employed (and often by his own colleagues) to do just that, and even as many of his own words seemed to support such analogizing. “Information is information,” Wiener wrote in *Cybernetics*, “not matter or energy. No materialism which does not admit this can survive at the present day.”³¹ Such statements seemed to draw a virtual line between the scientific and the humanistic; they seemingly preclude, if tentatively, the interdisciplinary impulse that attracted many to cybernetic discourse in the first place.

An even more pressing (doubtlessly related) anxiety surrounding cybernetics existed: not just how it was understood as a theoretical conceit, or even as a method,

but what it was exploited for, both as military science and in its subsequent applications to an increasingly technocratic culture.³² In his essay “Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision,” Peter Galison cites a letter from 1945 in which the cybernetician confessed,

Ever since the atomic bomb fell I have been recovering from an acute attack of conscience as one of the scientists who has been doing war work and who has seen his war work as part of a larger body which is being used in a way of which I do not approve and over which I have absolutely no control.³³

There is no small irony in the observation that Wiener’s theory of control had exceeded his very grasp of it. He explicitly acknowledges a field that saw scientific progress and social progress pitched in a confrontational relationship with one another, themes which were voiced increasingly in his later writings.

This history is critical on its own terms, although admittedly it does not answer to the relationship between the cybernetician, the art historian, and the artist in its telling. Yet strange, perhaps muted signals as to this connection exist in the work and reception of other contemporary artists. They reveal that what is obscure for a reader in the twenty-first century was at least tacitly understood for a sixties artist: namely, the promise of communication in general, and a promise of communicating art as a system in particular.

The Promise of Systems

Take, for example, the strange case of John Baldessari and his participation in the important exhibition at the Jewish Museum called *Software: Information Technology: Its Meaning for the Arts*. The show was curated in 1970 by Jack Burnham, then a professor at Northwestern University. Best known for his book *Beyond Modern Sculpture* (1968), Burnham argued generally for a fundamental historical transition in the production of works of art: the shift from the making of discrete objects to a new systems-aesthetics, alleged to mirror the waning of the so-called machine age and the concomitant emergence of digital technology after the war. Writing on artists ranging from Smithson to Hans Haacke to Allan Kaprow to Carl Andre, Burnham suggested that

the emerging major paradigm in art is neither an ism nor a collection of styles. Rather than a novel way of rearranging surfaces and spaces, it is fundamentally concerned with the implementation of the art impulse in an advanced

technological society . . . With continued advances in the industrial revolution, [the artist] assumes a more critical function. As *Homo Arbitrator Formae* his prime role becomes that of man the maker of aesthetic decisions.³⁴

“Man” as the maker of objects was now supplanted by the artist as rational decision maker or, better put, information processor. Burnham employed Kuhn’s reading of scientific revolutions to articulate such shifts, as well as the generalized systems analysis of von Bertalanffy. As a result *Software* was representative of a cluster of large-scale offerings from the late sixties devoted to the changing role of technology in the visual arts—if not the machine-age ethos of the prewar years, then the information society of the computer-race era. “It demonstrates the *control and communication* techniques in the hands of artists,” Burnham wrote of his show in the introduction to the catalogue.³⁵ These words register a clear debt to Wiener’s thinking, as did much of the art in the exhibition itself.

Yet amidst the proliferation of (this then) new media art, one of Baldessari’s contributions to the catalogue was strikingly primitive. From a series of paintings begun in the mid-sixties, the work was not so much low-tech as it was no-tech, a flat, acrylic grey field against which generic handtype read

This painting owes its existence to prior paintings. By liking this solution, you should not be blocked in your continued acceptance of prior inventions. To attain this position, ideas of former painting had to be rethought in order to transcend former work. To like this painting, you will have to understand prior work. Ultimately this work will amalgamate with the existing body of knowledge.

This is something of a mouthful for Baldessari, whose paintings of the moment were characteristically terse in their winking allusions to the art critics and theories of the day. Still, there is an implicit address to the formalist art criticism of the postwar era. In the plodding repetitiveness of the painting’s text—the notion that each new phase of painting necessarily trumps an earlier prototype—Baldessari ironizes the modernist directive to progressive art historical development, a function, in part, of his exceedingly reductive painterly means.

Yet how might such a critique square with Burnham’s larger curatorial thesis? In contrast to the painting’s wordiness, the title of the work itself was flat-footed and laconic but no less revealing. Entitled *Painting for Kubler*, it was dedicated to an art historian with apparently little connection to computer technology, much less the new media work that was the show’s central attraction. But here credit is

due Baldessari, for there is no doubt that Kubler's writing inspired such associations. In *The Shape of Time*, he questioned the methodological divide between the study of art and the study of science, suggesting that a rapprochement between the two might occur through acknowledging the metaphors of production and obsolescence shared by both fields. Indeed, his rejection of biological metaphors was countered with the language of new technology. "Perhaps a system of metaphors drawn from physical science would have clothed the situation of art more adequately than the prevailing biological metaphors," he wrote,

especially if we are dealing in art with the transmission of some kind of energy; with impulses, generating centers, and relay points; with increments and losses of transit; with resistances and transformers in the circuit. In short, the language of electrodynamics might have suited us better than the language of botany.³⁶

Kubler further described the nature of time as being like a signal:

[T]he instant of actuality is all we ever can know directly. The rest of time emerges only in signals relayed to us at this instant by innumerable stages and by unexpected bearers. . . . The nature of a signal is that its message is neither here nor now, but there and then.³⁷

PAINTING FOR KUBLER

THIS PAINTING OWES ITS EXISTENCE TO
PRIOR PAINTINGS. BY LIKING THIS SOLUTION,
YOU SHOULD NOT BE BLOCKED IN YOUR CONTIN-
UED ACCEPTANCE OF PRIOR INVENTIONS. TO
ATTAIN THIS POSITION. IDEAS OF FORMER
PAINTING HAD TO BE RETHOUGHT IN ORDER TO TRAN-
SCEND FORMER WORK. TO LIKE THIS PAINTING, YOU
WILL HAVE TO UNDERSTAND PRIOR WORK. ULTIMATE-
LY THIS WORK WILL AMALGAMATE WITH THE EXISTING
BODY OF KNOWLEDGE.

Given the peculiar nature of the signal, the “problem” that the form-class represented was either switched, altered, or closed down. “As the solutions accumulate,” Kubler remarked, “the problem alters.”³⁸

Kubler’s model of time, then, is not unlike an electrical circuit charged with a new signal, one that might break off into vectors which may fire up others, short-circuit, or potentially link different solutions to a shared problem. As such, *The Shape of Time*—a book ostensibly devoted to the historicity of things—at times reads like a manifesto of information theory. More specifically, it resonates with two of cybernetics’ central tenets: the notion of feedback and the related concept of circular causal systems. Both forge a link between Kubler’s reading of material history and cybernetic time as they open onto the possibility—or more accurately, *impossibility*—of either system to contain fully the uneven temporalities both writers admit. It is this understanding of system, and art history as a system along with it, that “Quasi-Infinities” would come to address.

The Problem with Systems

P. A. Norvell: Jack Burnham feels we are going from an object-oriented society to a systems-oriented society.

Smithson: System is a convenient word, like object. It is another abstract entity that doesn’t exist. . . . Jack Burnham is very interested in going beyond, and that is a utopian view. The future doesn’t exist, or if it does exist, it is the obsolete in reverse. The future is always going backwards. Our future tends to be prehistoric. I see no point in utilizing technology or industry as an end in itself, or as an affirmation of anything. . . . If you make a system you can be sure the system is bound to evade itself, so I see no point in pinning any hopes on systems. A system is just an expansive object, and eventually it all contracts back to points.³⁹

If you make a system you can be sure the system is bound to evade itself. In this 1969 interview with Patsy Norvell, Smithson spoke with confidence about the new systems-based art that critics and curators like Burnham supported. He was confident that the work was no more advanced than the old-fashioned “object-based” art it was alleged to supersede, that the de facto label of progress attached to new media or systems work was not simply utopian, but wholly misguided. If efficiency was the usual characteristic attributed to new systems, whether artistic or technological, Smithson would concede only one point: that

John Baldessari.
Painting for Kubler, 1969.

is, whatever a system was designed or intended to do, it would just as surely evade those bounds.

In crucial respects, the very problem of a system's evasiveness—that it inevitably escapes its systematicity—was addressed by the first principle of cybernetics: the notion of feedback. It is, to follow Wiener, “the property of being able to adjust future conduct by past performance,” or, more to the point, “a method of controlling a system by reinserting into it the results of its past performance.”⁴⁰ Like an endlessly circulating tape loop, feedback enables a system to assimilate and therefore learn new behaviors with the introduction of new messages. For the system, however efficient, admits to its own decay, its “evasiveness” to borrow Smithson's term. Feedback regulates what Wiener calls “entropy”—a system's probabilistic tendency toward contingency, disorganization, chaos. The discussion of entropy will be returned to shortly, but for now it is worth considering the strangely recursive temporality of feedback as a concept. All at once, feedback is prophylactic and predictive. It presumes to control a system whose very breakdown is projected as inevitable.⁴¹

Just how such a feedback loop occurs in time, and how it alters the course of action and reaction over time, is a function of the principle of circular causality, in turn related to the study of teleological mechanisms.⁴² Circular causal systems are opposed to deterministic models of causality; they invert the conventional axis of cause and effect by enacting a circular, and as thus non-linear, exchange of messages from one point to the next. Within such systems, whether self-regulating or open, a continuous relay occurs between points so that attributions of origin or telos are rendered indissociable, at least in theory. Instead, points are understood as mutually constitutive of one another, much in the way that a dialogue depends wholly on the contribution of two parties.

In the two decades following the war, the concept of circular causal systems was brought to bear on disciplines ranging from computer science to behavioral psychology (e.g. biofeedback). But it also found its analogue within the field of art history, with Kubler's consideration of time serving as its principal model. Indeed, for Kubler, historical change is enacted though the transmission of information from one signal to the next, but the transmission is neither linear nor continuous; a seemingly random cycling governs the way in which forms of material culture occur throughout history. The signal of an art-historical event, then, is a kind of communicative recurrence. Non-deterministic, it moves in multi-directional tangents, shaping our understanding of things not as a matter of

evolutionary or organic development, but of belatedness. To borrow one of the art historian's examples, one's knowledge of Rodin forever changes one's understanding of Michelangelo, as if history moved not forward in time, but backward and then forward again. Writing on this kind of temporal switchback, Kubler suggests,

All substantial signals can be regarded both as transmissions and as initial commotions. For instance, a work of art transmits a kind of behavior by the artist, and it also serves, like a relay, as the point of departure for impulses that often attain extraordinary magnitudes in later transmission.⁴³

The work of art, then, serves as both artifact *and* message: "For instance," Kubler noted, "a work of art is not only the residue of an event but it is its own signal, directly moving other makers to repeat or to improve its solution."⁴⁴

Our lines of communication with the past therefore originated as signals which become commotions emitting further signals in an unbroken alternating sequence of event, signal, recreated event, renewed signal, etc. Celebrated events have undergone the cycle millions of times each instant throughout their history.⁴⁵

The message, in short, cannot remain pure; it is necessarily, even progressively "deformed" in its drift across history. Nowhere in *The Shape of Time* is Kubler more explicit about art history as such a system of messages than when he remarks "works of art resemble a system of symbolic communication which must be free from excessive 'noise' in the many copies upon which communication depends."⁴⁶

A notion of history that is at once progressive and deformative; a system that unfolds only to circle back endlessly on itself: for Kubler and Wiener alike, as messages or works of art cycle throughout time, they are implicated in a process of deepening regression, a virtual dialectic of enlightenment conditioned by the laws of cybernetics. As Wiener reflected, "the Enlightenment fostered the notion of progress . . . even though some felt this progress was subject to the laws of diminishing returns."⁴⁷ To think of history as a condition of diminishing returns: here we are in the realm of entropy, and it is through entropy, finally, that we register as decisive Kubler's and Wiener's importance for contemporary art.

Aesthetic Fatigue: Entropy and the Collapse of Art History

In the arts, the desire to find new things to say and new ways of saying them is the source of all life and interest . . . Beauty, like order, occurs in many places in this world, but only as a local and temporary fight against the Niagara of increasing entropy.

—Wiener⁴⁸

Well over two-thirds into *The Human Use of Human Beings*, Wiener made one of two substantive comments on the visual arts. “[E]very day,” he complained, “we meet with examples of painting where, for instance, the artist has bound himself from the new canons of the abstract, and has displayed no intention to use these canons to display an interesting and novel form of beauty, to pursue the uphill fight against the prevailing tendency toward the commonplace and the banal.”⁴⁹ Compared to the relative clarity of the rest of the book, the knottiness of this passage betrays its author’s discomfort with artistic practice. Modern art in general, abstract painting more specifically, presented an especially difficult problem for communication and the transfer of messages, as most contemporary artists were content merely to follow the “prevailing tendency toward the commonplace and banal.” Wiener subsequently insinuated that much avant-garde work was produced for the sake of “the social and intellectual prestige of being a priest of communication,” with the result being that “the quality and communicative value of the message drop like a plummet.”⁵⁰ Only “true beauty,” analogized by Wiener to the order of a functioning cybernetic system, could stem this “Niagara of increasing entropy.”

Wiener’s statements here are uncharacteristically elliptical, but given the centrality of entropy as a concept for the cybernetician, his attempt to apply its laws to the visual arts is critical. In “Progress and Entropy,” the second chapter of *The Human Use of Human Beings*, Wiener regarded entropy as the will to disorder or chaos that inevitably entered into any closed system. While stemming from the Second Law of Thermodynamics (a system of order is bound to move to disorder), Wiener’s reading extended well beyond thermodynamic processes. Insofar as entropy’s relevance would pertain to the assimilation of messages for a system’s future performance (e.g. a system’s predictive capacity), he saw entropy as a necessarily temporal process, that which transformed and blocked communication over time.

Entropy was also a foundational concept in Smithson’s practice, and he, too, understood that its effects were not limited to physical and chemical processes

alone.⁵¹ But what is not commonly acknowledged in discussions of the artist and entropy is the extent to which he drew upon its formulation in information theory. As he reported to Alison Skye in the 1973 interview “Entropy Made Visible,”

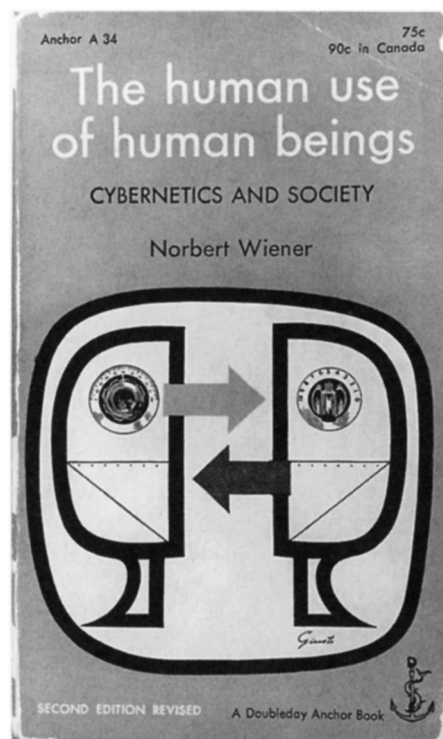
Norbert Wiener [sic] in *The Human Use of Human Beings* also postulates that entropy is a devil, but unlike the Christian devil which is simply a rational devil with a very simple morality of good and bad, the entropic devil is more Manichean in that you really can’t tell the good from the bad, there’s no clear cut distinction. And I think at one point Norbert Wiener [sic] also refers to modern art as one Niagara of entropy. In information theory you have another kind of entropy. The more information you have the higher degree of entropy, so that one piece of information tends to cancel out the other.⁵²

Smithson glosses Wiener on entropy being a “Manichean devil” before speaking to the directly proportionate relationship between entropy and information. Importantly, the example of information he considers is modern art. And for Smithson, following Wiener, art itself was conditioned by an entropic temporality. In “Entropy and the New Monuments” (1966) Smithson famously wrote that time was subject to a process of “decay” or “monumental inaction,” and that the most important art of that moment served as analogues of this process. Sculptural work by Ronald Bladen or Sol LeWitt—serialized, repetitious objects—dramatized the possibility that the future of art was a horizon of sameness, unerring in its blankness. Not only was this art depleted of symbolic meaning, it represented a virtual stilling of the avant-garde’s movement toward progress.

Which brings us full circle to *The Shape of Time*. Recall how Kubler’s anti-biological rhetoric spoke to contemporary artistic phenomena: his creeping sense that “a signal trait of our own time is an ambivalence in everything touching upon change” and “the approaching exhaustion of new discoveries in art.”⁵³ At the conclusion of his book, Kubler connected the weakening status of the avant-garde to a fundamental problem of perception and communication:

Radical artistic innovations may perhaps not continue to appear with the frequency we have come to expect in the past century. It is possibly true that the potentialities of form and meaning in human society have all been sketched out at one time and place or another. . . .

Norbert Wiener. *The Human Use of Human Beings* (New York: Doubleday, 1950). Cover.



As it is, our perception of things is a circuit unable to admit a great variety of new sensations all at once. Human perception is best suited to slow modifications of routine behavior. Hence invention has always had to halt at the gate of perception where the narrowing of the way allows much less to pass than the importance of the messages or the need of the recipients would justify.⁵⁴

In speaking on the human mind's failure to assimilate too many new sensations (and by extension, too many new forms of art), Kubler's language anticipates more recent discussions on information overload and the bandwidth. While the word "entropy" itself does not appear in his text, such comments pulse with its beat, suggesting that all those artistic signals flashed through time might ultimately generate a vast and homogeneous incoherence. Indeed, at the edges of Kubler's writing, and at the heart of his theory of formal sequencing, lies the notion that works of art from the past were like "weak signals" sent across the "void." It should come as no surprise by now that Smithson returned, over and over again, to this particular expression by Kubler in his own writing.

Quasi-Infinities and Diminishing Returns

Given both the breadth and the extent of such ever-multiplying connections, let us return to Smithson's "Quasi-Infinities and the Waning of Space" and read it as a push/pull dynamic—both visually and textually—between entropy and control, progress and fatigue, signal and noise, pastness and futurity.⁵⁵ An earlier typed version of the essay begins with some deeply resonant observations:

Around a series of inaccessible abstractions, I shall construct an inaccessible system that has no inside or outside, but only the dimension of reproduced reproductions. . . . To formulate a general theory of this inconceivable system would not solve its symmetrical perplexities. . . . Arcane codes and extravagant experiments conceal the absolute abstraction.⁵⁶

These opening remarks are not far removed from the final version of "Quasi-Infinities." But to revisit this draft is to be struck by the language of systems, codes, and general theories that introduces—even frames—the essay itself. One is struck equally by the artist's characterization of such systems as "inaccessible" and "inconceivable," as if the very notion of "system" was wholly untenable.

The published essay underscores this condition even as it masks and complicates it. At first read—or at first glance—"Quasi-Infinities" would appear to succumb to

a kind of textual and visual aphasia.⁵⁷ Images of Kepler's universe rub up against models by Dan Graham, while references to Eva Hesse and Zeno's second paradox jostle for space at the margins. In the language of cybernetics, "Quasi-Infinities" initially presents itself as little more than noise. And yet if Smithson characterized his work as a "system," provisional as it may be, he nuances his understanding of the term in this version.

Consider his opening sentence as such a challenge and revision: "Around four blocks of print I shall postulate four ultramundane margins that shall contain indeterminate information as well as reproduced reproductions." Here the design of the text is explicitly qualified in terms of its margins and their "indeterminate information." If notes are conventionally thought to authorize or legitimate the material within a text, in this case, the information they supply is radically indeterminate, anchoring the text neither literally nor figuratively. Smithson's article makes endless, even circular, allusion to these notes, but they do not so much explain the essay as they progressively refract what is already quite incoherent within it.

Much of this seems to turn around the logic of Smithson's "reproduced reproductions." Following his earlier draft of "Quasi-Infinities," "reproduced reproductions" are the only means possible to allude to, if not access, his "inconceivable" system. "Reproduced reproductions" are not only the visual bits that encircle the main body of the essay like so much clip art, but the fragments of quotations that share the same marginal space. At the outset, they are acknowledged by the artist as reproductions—that is, non-originals—which further acknowledges the chain of mediation Smithson has set into play in the context of an art magazine. As such they cannot signify autonomously, transparently. Their meaning is at a secondary, possibly tertiary remove from their inaugural context. That they are "reproduced reproductions" suggests that this copying can continue *ad infinitum*. They are, then, analogous to Kubler's replication of a prime object, Wiener's circuitous message. The unendingness and non-development that marks a certain account of entropy, the virtually heedless way in which visual images inflect, refract, and signal one another throughout history, "an endless slide show," dramatized by Smithson in the sixties by their circulation as mass media.⁵⁸ Hence the clashing of images in his work, which might appear, at least at the face of it, to have little relationship with one another.

Yet if neither the notes nor images consolidate a stable or monolithic reading of the essay, they simultaneously produce a type of signifying chain which links, like

a network, one reference to the next. Thus what might seem chronologically random in “Quasi-Infinities” is not unlike the historical model of a form-class proposed by Kubler—one that treats the very problem of time in art history as a series or, perhaps, an immanently overloaded system.

Understood in these terms, Kubler serves as the feedback mechanism of Smithson’s work. His place within the four blocks of print, as well as at the margins, controls the literal circulation of these messages from collapsing into sheer noise. It is, however, the most tenuous of balancing acts; Smithson knows it and is deeply ambivalent about it. “The fullness of history is forever indigestible,” Kubler wrote in *The Shape of Time* and there is no doubt that the system of history in “Quasi-Infinities” threatens to break down under its weight. Here, then, the paradox of being “ultramoderne” is complete. For Smithson consults a historian concerned with the pastness of things to take on a future prefigured by collapse.

Not a Coda

For Kubler, Wiener, and Smithson alike, the question of futurity and belatedness they share begs a return to such problems in the present. With varying degrees of ambivalence, each author expressed anxiety about historical time, inflected by their respective concerns with systems and communication theory. What, then, is the fallout of constellating these three figures in the present? What remains for us today in their confluence as art history?

Perhaps Kubler should have the last word. In 1981, nearly thirty years after publishing *The Shape of Time*, Kubler delivered a lecture on several different occasions entitled “*The Shape of Time* Reconsidered,” reflecting upon the book’s reception and its diverse interlocutors. A brief section treats the prestige accorded to the book by contemporary artists. In the working notes to the lecture, Kubler speculated that “their interest in it arises from the freedom it offers them from those rigid hierarchies defined by the textbook industry in the history of art.”⁵⁹ The statement is suggestive if hardly descriptive, and the author’s conclusions are just as perfunctory in the lecture’s published form. On Robert Morris, Kubler refers to “an unpublished research report” on Morris’s interest in sculptural problems and the critique of iconography.⁶⁰ On Smithson, he is even briefer, as the artist’s name is mentioned in passing only in relationship to Morris.

So, then, there was an awareness of such figures, glancing as the perspective is, and it is fair to say that Kubler’s archives bear its impress far more clearly than the essay itself. A faded Xerox of “Quasi-Infinities” can be found in his papers. A

number of letters from artists, devotional in tone and character, are tenderly preserved. Announcements for gallery shows and video screenings co-exist with scholarly exchanges on Mesoamerican building techniques. It is as though the art historian was continuously assimilating new messages in an attempt to understand his own contemporaneity.

One document thematizes this conceit as a matter of historical belatedness. In the spring of 1973, over a decade after publishing *The Shape of Time*, Kubler was interviewed by Robert Horvitz for *Artforum*. The discussion concerns itself with the book as well as other contemporary matters: the unedited transcript moves easily from considerations of television to Kubler's opinions on Marshall McLuhan. But missing from the published version is a brief exchange that attests to the book's very thinking on the problem of contemporaneity:

Horvitz: You have strongly criticized the use of the biological metaphor in the depiction of historical processes, and you suggest that electrodynamics might be more productive. But what you were essentially describing, with "relays," "signals," "routines" has now been developed as Information Theory.

Kubler: Of the Wiener type, rather than the Shannon type, yes. I suppose the theory was then in existence, but the applications weren't.⁶¹

It would be a mistake to conclude with this passage for its evidentiary capacity, and one should take care not to fetishize Kubler's statement as proof of Wiener's influence in the writing of *The Shape of Time*. The notion of "proof," after all, suggests a linear relationship between Wiener and Kubler, causally determined, but such determinations are not at issue here.

And yet the matter of communication is. For Kubler's exchange reveals something of the temporal and communicative logic that all three authors confronted in their work and that animates their peculiar intertwining as figures of postwar culture. Over ten years after its initial appearance, *The Shape of Time* was regarded by its author as an art-historical demonstration of information theory—but not quite. Kubler claimed that the "theory was then in existence but the applications weren't." Such a delay between theory and its applications thematizes the larger argument of *The Shape of Time*: its modeling of art history as a kind of cybernetic *Nachträglichkeit*.

History, then, becomes a matter of both belatedness and regressivity, eternal recurrence reinscribed as a problem of communication. Compromised by an endless temporal switching, one always returns to the past too late, just as one always

projects into the future too early. The problem, however, is that the fullness of the present is forever at a loss, flagging the crisis of historicity that Fredric Jameson reads as among the constituent features of postmodernism.⁶² If Kubler, Smithson, and Wiener grappled with this problem as a matter of futurity, perhaps they foreshadowed for us in the present an increasingly accelerated horizon of technological entropy. No doubt they registered in advance how we might struggle with their messages today, as so many distant, barely audible, signals.

Notes

This essay is a part of a book-length study entitled *Chronophobia: On Time in the Art of the 1960s*. It was originally presented on the panel “Art Writing of the Sixties,” convened by Keith Moxey at the annual meeting of the College Art Association in New York in February 2000. A longer version was delivered at the Modern Art Colloquium at Yale University in March of the same year. For comments, suggestions, and criticism, I wish to thank Tom Crow, Carrie Jones, Alex Nemerov, Chris Wood, Bryan Wolf, and the editors of *Grey Room*, particularly Branden Joseph.

1. George Kubler, *The Shape of Time: Remarks on the History of Things* (New Haven: Yale University Press, 1962), 18.

2. Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society*, 2nd ed. (New York: Doubleday, 1950), 122.

3. Robert Smithson, “The Artist as Site-Seer; or, a Dintorphic Essay,” in *Robert Smithson: The Collected Writings*, ed. Jack Flam (Berkeley: University of California Press, 1996), 342.

4. Robert Smithson, “Quasi-Infinities and the Waning of Space,” originally published in *Arts Magazine* 41, no. 1 (November 1966), 28–31, reprinted in Flam, ed., *Robert Smithson*, 34.

5. Smithson, “Quasi-Infinities,” 33.

6. What is *not* under dispute is the art historian’s impact on contemporary art practice. Scholars have alluded to this relationship, treating the rhetorical similitude between Smithson and Kubler as a kind of deconstruction before the letter. See, for example, Gary Shapiro, *Earthworks: Art after Babel* (Berkeley: University of California Press, 1995), 84–88.

7. Robert Smithson, “Ultramoderne,” originally published in *Arts Magazine* 42, no. 1 (September/October 1967): 31–33. Repr. in Flam, ed., *Robert*

Smithson, 62–65. See also Smithson, “Some Void Thoughts on Museums” in Flam, ed., *Robert Smithson*, 41.

8. Famously, Robert Morris’s master’s thesis treated Brancusi through Kubler’s terms. See also Ad Reinhardt, “Art vs. History,” *Art News*, 64, no. 19 (January 1966): 19–21. Note, too, the reverential letters sent to Kubler by Asger Jorn, Juan Downey, and Brian O’Doherty (a.k.a. Patrick Ireland) in George Alexander Kubler Papers, Manuscripts and Archives, Yale University Library (hereinafter GAKP), group 843, accession no. 98-M-103. O’Doherty invited Kubler to contribute to a 1967 issue of the journal *Aspen*.

9. A short biography of Kubler might read as follows: The son of an art historian, he was born in Los Angeles in 1912. He received his Ph.D. from Yale in 1940 as a student of Henri Focillon, whose *La Vie des Formes* would prove central to the younger art historian. He also undertook extensive coursework at the Institute of Fine Arts with Erwin Panofsky. See George Kubler, “Henri Focillon, 1881–1943” (1945) and “The Teaching of Henri Focillon” (1981) in *Studies in Ancient American and European Art: The Collected Essays of George Kubler*, ed. Thomas F. Reese (New Haven: Yale University Press, 1985), 378–381. Anthropology also played an acute role in his formation. See John Howland Rowe, “Review: *The Shape of Time: Remarks on the History of Things*,” *American Anthropologist* 65 (1963): 704–705. Although Kubler did not formally train with A. L. Kroeber, they had a long-standing correspondence. On the relationship between art and anthropology, see George Kubler, “History—or Anthropology—of Art” (1975) in *Studies in Ancient American and European Art*, 406–412.

Soon after writing his pioneering dissertation on the religious architecture of New Mexico,

Kubler joined the faculty at Yale, where he taught until his retirement in 1983. Throughout his long career, Kubler authored a series of highly influential publications including *Mexican Architecture of the Sixteenth Century*, "Population Movements in New Mexico: 1520–1600," "The Kukupa in the Colonial World," and *Building the Escorial*. He continued to live in Hamden, Connecticut until his death in 1996.

10. The first written example of Smithson's interest in Kubler is in the 1964 working notes for the neon sculpture *Eliminator*. See Flam, ed., *Robert Smithson*, 327.

11. The most important critique of such an approach is Rosalind Krauss, "Sculpture in the Expanded Field," in *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge, Mass.: MIT Press, 1996), 277–290.

12. Panofsky's iconography was roundly criticized in *The Shape of Time*; in spite of this, Panofsky expressed strong admiration for the book. See Erwin Panofsky, Letter to Chester Kerr, Director of Yale University, 21 May 1966, GAKP group 843, accession no. 98-M-103, box 5, folder "Miscellaneous Correspondence." Kubler also acknowledged the tribute paid to *The Shape of Time* by Sigfried Krauer in Krauer's posthumously published work *History: The Last Things Before the Last* (New York: Oxford University Press, 1969), 142–150.

13. The question as to whether one can call *The Shape of Time* a structuralist art history can only be acknowledged here. Two points bear mentioning: Kubler's relationship to structuralist anthropology and his reading of Thomas Kuhn's groundbreaking *The Structure of Scientific Revolutions*. It is worth noting that in May 1967 Kuhn and Kubler presented at the same conference on the structural relationship between art and science at the University of Michigan. See

George Kubler, "Comments on Vanguard Art," in *Comparative Studies in Society and History* 11, no. 4 (October 1969): 398–402.

14. Kubler, *The Shape of Time*, 40.

15. Kubler, *The Shape of Time*, 11.

16. Kubler, *The Shape of Time*, 62.

17. Jonathan Barnett, "Art Apart from Style," *Architectural Record* 132, no. 3 (September 1962): 58.

18. Kubler, *The Shape of Time*, 8.

19. Smithson, "Ultramoderne," in Flam, ed., *Robert Smithson*, p. 63.

20. Kubler, *The Shape of Time*, 30.

21. In his important essay, "Art and Objecthood," Michael Fried attacks minimalist sculpture (what he calls "literalist" sculpture) on the grounds of its "theatricality": the sense in which it addresses the temporal and phenomenological horizon of its beholder. Theatricality in art is the antithesis of vanguard work, Fried argues, because in its appeal to the lived experience of its viewer, it effaces the boundaries between artistic genres which constitute one of modernism's central imperatives: its medium-specificity. In contrast to theatricality, Fried makes a claim for the "presentness" of the artwork. Famously, Fried concluded his essay with a pronouncement of quasi-religious undertones when he announced, "Presentness is grace." Michael Fried, "Art and Objecthood" in *Art and Objecthood: Essays and Reviews* (Chicago: University of Chicago Press, 1998), 148–168.

22. Roland Barthes, "Requichot and his Body" in *The Responsibility of Forms* (Berkeley: University of California Press, 1985), 225–226.

23. Kubler, *The Shape of Time*, 160.

24. Caroline Jones, *Machine in the Studio* (Chicago: University of Chicago Press, 1996) and Eugenie Tsai, *Robert Smithson Unearthed: Drawings, Collages, Writings* (New York: Columbia University Press, 1991).

25. See, for example, the letter exchange from the summer of 1969 between Gyorgy Kepes and Smithsonian regarding his contribution to Kepes's *Art and the Environment*. Smithsonian was invited to MIT to participate on a panel on art and the environment, a topic which, as formulated by Kepes, had deeply cybernetic implications. Robert Smithsonian Papers, Archives for American Art, Washington D.C. (hereafter RS AAA), roll 3832.

26. Problems of time occupied Wiener consistently throughout his career, particularly in his publishing forays into neurology. See Norbert Wiener, "Time, Communication and the Nervous System," in *Teleological Mechanisms: Annals of the New York Academy of Sciences* 50, art. 4 (13 October 1948): 197–220; "Random Time," *Nature* 181 (1958): 561–562; "Time and the Science of Organization," *Scientia* (1958); see also Wiener, ed., *Cybernetics of the Nervous System*, vol. 17 of *Progress in Brain Research* (Amsterdam: Elsevier, 1965).

It bears saying that the study of time takes on an institutional dimension in the mid-sixties, and it has a marked cybernetic orientation. Of many examples, see the proceedings of the conference *Interdisciplinary Perspectives of Time* held by the New York Academy of Sciences on 17–20 January 1966. There were a number of well-known participants (e.g. Isaac Asimov); it is worth noting that George Kubler gave a paper along with several notable cyberneticians. Indeed, he served as a discussant on a panel entitled "Of Tee and Tau" with Heinrich Klüver and Warren S. McCulloch. For some of the papers from that conference, see Roy Waldo Miner, ed., *Interdisciplinary Perspectives of Time, Annals of the New York Academy of Sciences* 138, art. 2 (6 February 1967). Also see the program notes for the conference in GAKP group 843, accession no. 98-M-103, box 1, folder 2.

Finally, the mid-sixties also saw the formation in 1965 of the International Chronosophical Society, later known as The International Society for the Study of Time. Kubler was an active member of the Society, serving on its advisory board. The Society's major publication was J. T. Fraser, ed., *The Voices of Time* (Amherst: University of Massachusetts Press, 1966). Note that Smithsonian footnotes this book in "Quasi-Infinities."

27. Cybernetics' widespread applications were such that a series of ten conferences on the theme were sponsored by the Macy foundation in New York between 1946–1953. For the most comprehensive history of the Macy Conferences, see Steve Joshua Heims, *Constructing a Social Science for Postwar America: The Cybernetic Group, 1946–1953* (Cambridge, Mass.: MIT Press, 1991). These conferences included not only such well-known cyberneticians as Wiener, John Von Neumann, Warren McCulloch, and Claude Shannon but anthropologists, social scientists, psychoanalysts, and linguists, ranging from Margaret Mead to Gregory Bateson to Eric Erikson to Roman Jakobson.

28. Two examples suffice here. See, for example, Gregory Bateson, *Steps to an Ecology of Mind* (New York: Ballantine, 1972); and from the interdisciplinary field of visual studies, see Gyorgy Kepes, ed., *Sign, Image, Symbol* (Cambridge, Mass.: MIT Press, 1966), especially Lawrence K. Frank's introductory essay to the volume, "The World as a Communication Network," 1–14. Frank, a psychologist and deeply important figure in the history of cybernetics, embeds a reference to *The Shape of Time* in an explicitly cybernetic account of visual sign systems. Kepes's entire series of edited volumes, *Vision and Value*, functioned by similar principles. His role as the founder of the Center for Advanced Visual Studies at MIT and his efforts to bring scientists and artists

together represents an important locus in this history. See Reinhold Martin, "The Organizational Complex: Cybernetics, Space, Discourse," *Assemblage* 37 (December 1998): 102–127.

29. Wiener, *The Human Use of Human Beings*, 15.

30. Hence the distance between man and machine seemed to close, anticipating what Manfred Klines and Nathan Clyne would subsequently call the "cyborg" in 1960—a neat contraction of the words "cybernetic" and "organism."

31. Wiener, *Cybernetics*, 132.

32. Norbert Wiener, cited in David Noble, *Progress without People: In Defense of Luddism* (Chicago: Charles H. Kerr, 1993), 153. My thanks to Allan Sekula for this reference.

33. Peter Galison, "The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision," *Critical Inquiry* 21, no. 1 (Autumn 1994): 253.

34. Jack Burnham, "Systems Aesthetics," *Artforum* 33, no. 1 (September 1968): 35.

35. Jack Burnham, "Note on Art and Information Processing," in *Software: Information Technology: Its Meaning for Art*, exhibition catalogue (New York: The Jewish Museum, 1970), 10.

36. Kubler, *The Shape of Time*, 9.

37. Kubler, *The Shape of Time*, 17.

38. Kubler, *The Shape of Time*, 31.

39. Robert Smithson, interview with Patsy Norvell in Flam, ed., *Robert Smithson*, 194.

40. Wiener, *The Human Use of Human Beings*, 33, 61.

41. Of course, feedback was hardly a new "invention." James Watt's governor was cited as one such historical instance of feedback from the Industrial Revolution. Wiener gave other examples which had little if nothing to do with the technology of the emerging digital era (e.g., applause—or, alternately, silence—in a theater and its impact on an actor's performance) which served to demon-

strate the various circuits of information that occur between one system and another.

42. Steve Heims describes a circular causal system in the following terms: "In traditional thinking since the ancient Greeks," he writes, "a cause A results in an effect B. With circular causality A and B are mutually cause and effect of each other: Moreover, not only does A affect B but through B acts back on itself. The circular causality concept seemed appropriate for much in the human sciences. It means that A cannot do things to B without being itself affected." Heims, 23.

The cybernetic concept of teleological mechanisms or purposive systems grew out of an attempt to move away from animistic accounts of goal-oriented behavior. See L. K. Frank, Foreword to *Teleological Mechanisms*, *Annals of the New York Academy of Sciences* 50, art. 4 (13 October 1948): 189–196.

43. Kubler, *The Shape of Time*, 20.

44. Kubler, *The Shape of Time*, 21.

45. Kubler, *The Shape of Time*, 20–21.

46. Kubler, *The Shape of Time*, 61.

47. Wiener, *The Human Use of Human Beings*, 37.

48. Wiener, *The Human Use of Human Beings*, 134.

49. Wiener, *The Human Use of Human Beings*, 134.

50. Wiener, *The Human Use of Human Beings*, 134. Wiener's other comment on art appears on pp. 117–118.

51. See Wiener, "Progress and Entropy," in *The Human Use of Human Beings*, 28–48. This chapter details the larger cultural and historical implications entropy has on society beyond its effects on thermodynamic processes.

52. Alison Skye, "Entropy Made Visible," interview with Smithson, in Flam, *Robert Smithson*, 302.

53. Kubler, *The Shape of Time*, 11, 62.

54. Kubler, *The Shape of Time*, 123–124.

55. Some remarks on the history of the text shed additional light on such tensions and the peculiar nexus of concerns that attends the artist's reading of both Kubler and Wiener. Before it was published in the fall 1966 issue of *Arts Magazine*, "Quasi-Infinities" assumed at least three different iterations. The first suggests that much of the present content of the essay—particularly Smithson's rather glib comments about the history of the avant-garde—were intended as responses to a survey on the state of contemporary art sent to a number of artists by Irving Sandler in May of that year. Sandler's survey was later published in Flam, ed., *Robert Smithson*, 329. See Smithson's handwritten response, 15 June 1966, RS AAA, roll 3832. By contrast, the second incarnation is a typed essay entitled "Art and Time," an undated text in Smithson's archives whose contents are nearly identical to what would later become "Quasi-Infinities." The third version is a typed essay dating from 6 October 1966 and bearing the same title as the final copy.

56. Robert Smithson, unpublished version of "Quasi-Infinities and the Waning of Space" dated 6 October 1966. RS AAA, roll 3834, 01-1394, "Writings."

57. To the extent that I am describing Smithson's

text as aphasic, his essay might also confirm Fredric Jameson's diagnosis of postmodernism as a kind of Lacanian schizophrenia. On schizophrenia, see Fredric Jameson, *Postmodernism: Or, the Cultural Logic of Late Capitalism* (Durham, N.C.: Duke University Press, 1991), 25–32.

58. Jameson, xvii. I borrow the expression "endless slide show" from Jameson, whose theorization of postmodernism—particularly its understanding of technology in late capitalism—can only be acknowledged here, but will be expanded in the book-length study from which this essay comes.

59. George Kubler, undated notes ca. 1981 related to the lecture "*The Shape of Time* Reconsidered," GAKP group 843, accession no. 98-M-103, box 1, folder 2.

60. George Kubler, "*The Shape of Time* Reconsidered," in *The Collected Papers of George Kubler*, ed. Thomas E. Reese, 430 note 12.

61. Robert J. Horvitz, "Toward a Synthetic Overview: A Talk with George Kubler," unedited transcript of 7 July 1973 interview, later published in *Artforum* 12, no. 2 (October 1973). GAKP group 843, accession no. 98-M-103, box 2, folder "Conversation with G. A. Kubler."

62. Jameson, 22.