

Jack Burnham, ZERO, and Art from Field to System

LUKE SKREBOWSKI

The American art critic and educator Jack Burnham's post-formalist "systems" aesthetics sought to theorize the paradigm shift in art that had occurred in the 1960s in relation to the development of a burgeoning information society in the United States (as well as in other technologically advanced nations).¹ As Burnham put it, "the emerging major paradigm in art is neither an ism nor a collection of styles. . . . it is fundamentally concerned with the implementation of the art impulse in an advanced technological society."² Addressing post-medium and post-object-specific art practice in the expanded field, Burnham insisted that art could no longer be understood to comprise the formal evolution of isolated objects—specific or otherwise—but instead had to be understood as a relational totality, a complex of components in interaction, a *system*. As he put it in his 1968 *Artforum* article "Systems Esthetics" (fig. 1), "art does not reside in material entities, but in relations between people and the components of their environment," and "Conceptual focus rather than material limits define the system. Thus any situation, either in or outside the context of art, may be designed and judged as a system."³

Burnham's pioneering claims about the emergence of art-as-system had originally begun as an investigation of the development of modern *sculpture*, which he conceived as moving from an object-based to a systems-based paradigm. Burnham subsequently generalized his earlier claims about the shift of a single medium from an object-based to a systems-based ontology by making a claim about the systematic ontology of art in general. The evolution of Burnham's systems aesthetics from his theory of modern sculpture has predominantly been historicized in terms of its relationship with American Minimal and Post-Minimal practices and in light of the purported postwar "triumph" of the New York School over the School of Paris.⁴ Yet in his account of the shift from art-as-object to art-as-system, Burnham accorded European artists a central role, specifically those associated with what he described as a post-formalist "New Tendency" in European art, beginning in the late 1950s as a reaction against Tachisme and within which artists associated with both the Zero group and the wider ZERO network occupied a central position.⁵

53

- 1 The development of an "information society" involves the dominant sector of an economy shifting to focus on the production and distribution of knowledge (rather than agricultural produce or industrial goods) and a concomitant automation of industrial production using electronics and rapidly developing information technology. For an account of this process in broader historical context, see James R. Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge, MA: Harvard University Press, 1986).
- 2 Jack Burnham, "Systems Esthetics," *Artforum* 7, no. 1 (September 1968): 35.
- 3 *Ibid.*, 32.
- 4 For a critical engagement with a selection of the scholarship on Burnham up to 2009, see Edward A. Shanken, "Reprogramming Systems Aesthetics: A Strategic Historiography," in *Proceedings of the 2009 Conference on Digital Arts and Culture* (Berkeley and Los Angeles: University of California Press, 2009), <http://escholarship.org/uc/item/6bv363d4>.
- 5 In what follows I employ the term "Zero group" to name the triumvirate of Heinz Mack, Otto Piene, and Günther Uecker described by Piene as an "inner circle" but "not a group in a definitely organized way." I use the term ZERO network to refer to those artists who associated with the "inner circle" through participation in the *Abendaustellungen* (evening exhibitions) held in Düsseldorf and/or the three issues of ZERO magazine, as well as those artists who participated in the major ZERO exhibitions held internationally. For Piene's early discussion of these issues, see Otto Piene, "The Development of Group Zero," *Times Literary Supplement*, September 3, 1964, reprinted with minor changes as "The Development of the Group 'Zero,'" in ZERO, ed. Heinz Mack and Otto Piene (Cambridge, MA: MIT Press, 1973), xxiii–xxv.



Don Rubin, view of installation, *Pink and Gold*, 9' fluorescent lamps, 1967. (Museum of Contemporary Art, Chicago.)

SYSTEMS ESTHETICS

fig.1 Jack Burnham, "Systems Esthetics," *Artforum* 7, no. 1 (September 1968)

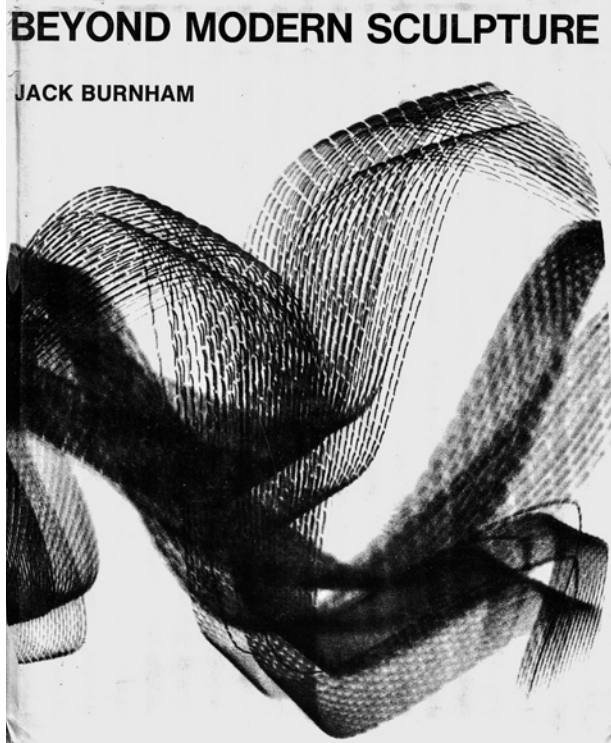


fig.2 Jack Burnham, *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century*, New York: George Braziller, 1968

BURNHAM'S INTELLECTUAL PROJECT

In what follows I explore the influence of the Zero group on the development of Burnham's systems aesthetics. In order to do so, it is, however, first necessary to outline the overall trajectory of his thought (in order to situate the influence of Zero within it).⁶ Burnham's career comprised four distinct moments involving three significant theoretical turns:

1. A HISTORY AND THEORY OF MODERN SCULPTURE (1964–67)

Burnham set out to provide a materialist, avowedly technologically determinist, study of the development of modern sculpture from the 1870s to the 1960s in his first book *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century* (1968, fig. 2). At this stage, Burnham's thinking was teleological and sought to explain a shift in contemporary sculptural practice from sculpture conceived as an object to sculpture conceived as a system (a change that was still emergent at the time of writing).

2. AN ACCOUNT OF CONTEMPORARY ART (1967–70)

In a series of subsequent "Systems" essays, Burnham generalized his earlier claims about the shift of a single medium (sculpture) from an object-based to a systems-based ontology to an account of art in general while simultaneously dropping the teleological aspects of *Beyond Modern Sculpture*.

3. A THEORY OF MODERN ART (1970–72)

Burnham wrote his second book in response to criticisms leveled at *Beyond Modern Sculpture* and converted to structuralism as a new way to clarify the ontology of modern art, now understood as an overarching

signifying system. In *The Structure of Art* (1972), Burnham attempted to combine structural anthropology and semiological analysis (both derived from Saussurean structural linguistics) to produce an account of the underlying structural logic of modern art from the 1840s to the 1970s.

4. A HERMETIC THEORY OF ART (1972–)

In his later work, Burnham came to consider art to be in an endgame state within which Marcel Duchamp's work exemplified the logical semiotic structure of *all* forms of art after the invention of the ready-made. Burnham also became convinced that Duchamp was a hermeticist who had covered up the true meaning of his art and thus sought to reveal the meaning of Duchamp's work, and thereby of art *tout court*, by engaging with various esoteric traditions as interpretative methodologies, principally Kabbalah. He combined these esoteric readings with structuralism in writing that was characterized by an arcane mysticism that did not find a ready audience.

These then are the four major phases of Burnham's thought and it is only the first two that prove of enduring influence today. It was in the movement between these first and second phases of his project—between thinking sculpture as system and conceiving his wider systems aesthetics—that Burnham was particularly influenced by artists associated with the Zero group as well as the broader New Tendency in art of the 1950s and 1960s within which he placed them.

ENGAGING THE NEW TENDENCY

Burnham's *Beyond Modern Sculpture* was a pioneering attempt to articulate a history of the development of modern sculpture in relation to technological change. Yet the book should also

⁶ For a fuller discussion of the overall trajectory of Burnham's thought, see Luke Skrebowski, "Jack Burnham Redux: The Obsolete in Reverse?," *Grey Room* 64 (Fall 2016): 88–113. The four "moments" in Burnham's thought that I discuss here, as well as some of the discussion of the biographical details about Burnham's life, derive from material that I present in this article.

be read more locally as contextualizing the artistic problems that Burnham attempted to deal with in his own early-career art practice. While he is now best known as a theorist, Burnham started his career as an artist and it was in light of his attempts to work his own way out of the problem space of Art Informel and Abstract Expressionism, as well as the formalist theories of art associated with them, that his engagement with European New Tendency art originated. Burnham's engagement with the European art of the period distinguished him from the majority of his American peers who were, as Donald Judd aptly noted in a review of an early Zero show in the United States, "relatively inattentive to new European developments."⁷

56 Burnham studied at the Boston Museum School of Fine Arts (majoring in commercial design and silversmithing, with minors in sculpture and painting) and split his degree studies into two phases—1952–54 and 1956–57. In between he took two years to study for an associate in engineering degree in architectural construction at the Wentworth Institute in Boston between 1954–56 (then, as now, a vocationally oriented college). Burnham subsequently went on to study at the Yale School of Art, taking both a BFA and an MFA in 1959 and 1961 respectively. Burnham's training was thus distinctively hybrid, combining art and the (applied) sciences, the practical and the fine arts. It was also shaped by the de-radicalized "Cold War" version of Constructivism propagated by Naum Gabo in the United States as well as by a broader engagement with the reformulated postwar terms of the historic avant-gardes as influentially disseminated in the US via the New Bauhaus refounded in Chicago and by Josef Albers's Bauhaus-influenced pedagogy at Yale.

Burnham worked as an artist from 1954 to 1968 but supported his practice by a mixture of full- and part-time employment as an architectural draftsman and designer (1957–58), a corporate sign fabricator and painter (1956–68), and an

educator (1959–68). Although he had five one-man shows between 1965 and 1969 and participated in a number of group shows between 1957 and 1978 (with most concentrated between 1965 and 1970), none of Burnham's solo shows (and only one of his group shows) were in New York and his career as an artist did not take off. He began teaching as an assistant professor of art at Northwestern University in 1964, having also served as an instructor at Yale, Wesley College, and Northwestern between 1959 and 1964. Burnham subsequently worked principally as an art educator, theorist, and critic, holding a contributing editorship at *Artforum* (1971–72), an associate editorship at *Arts Magazine* (1972–76), as well as a contributing editorship to *The New Art Examiner* (1976–83), while progressing from assistant to associate professor of art at Northwestern in 1969, and to full professor by 1974, before transferring to the University of Maryland as chair of the art department in the 1980s, where he taught until his retirement.

That *Beyond Modern Sculpture* emerged out of issues that he had grappled with in his own artistic career can be seen from the author's revealing inclusion of a description of his own work within his general history, under the heading of "Recent Use of Light in American Art":

Certainly most of the early Light Art in the United States stems from European-born artists. ... In 1954 the author began to use incandescent light as back lighting for various wood and cardboard reliefs. The author's first experiments with neon light were begun in 1955, partly as a result of György Kepes's example. The work shown is one of a series of hanging constructions using neon created during the 1950s. ... Subsequent projects, beginning in 1959, have included experiments in photo-kinetics, or light motion phenomena. These include light walls using the principle of apparent motion, color-modulating consoles using fiber-optic wires. ...

7 Donald Judd, "Mack, Piene, Uecker" (1965), in *Complete Writings 1959–1975* (Halifax: The Press of Nova Scotia College of Art and Design, 1975), 157.

and programmed constructions using electro-luminescent Tape-Lite.⁸

It is a modest, descriptive paragraph, illustrated with a single image of his 1956 work *Atom* (fig. 3). Nonetheless it demonstrates the coterminous and mutually informing character of Burnham's artistic and intellectual work in the early part of his career. While Burnham only explicitly names the influence of György Kepes on his art in this passage, his practice and his thinking about its wider historical conditions of possibility was deeply indebted to other "European-born" influences:

Between 1956 and 1965 young artists in Western Europe reacted to Tachist painting (gestural abstraction). The New Tendency in art somehow went beyond preoccupation with the painterly gesture; it went into the dynamic *apart-from-thingness* characterized by scientific concern with fields of energy. Artistically, this awareness found expression through the following question: what material aspects of a work of art influence its appearance besides obvious considerations of how mediums are individually manipulated?⁹

For Burnham, the New Tendency in European art moved away from Art Informel and Abstract Expressionism's existentially invested artistic acts that combined the gestural and the aleatory in signature techniques (Pollock's dripping, Rothko's staining, etc.). In its place Burnham notes that the New Tendency took a growing interest in employing what he termed "circumstantial events" playing out across monochrome fields—within which he numbered "the shadows created by the raised surface of a painting, the reflective glass protecting

a drawing, or the diffusion properties of emitted light."¹⁰ These "circumstantial events" formed the ground for a more thoroughly "post-painterly" form of abstraction. Here the surrounding environment acts on the work to produce surface effects. The formerly transcendental space of the picture plane is reconceived as a site for the dynamic play and display of light particles affected by forces (refraction, diffusion, reflection, etc.) rather than a static record of the physical movement of particles of paint (however initially energetic). Instead of constituting "an arena in which to act" (in Harold Rosenberg's famous words), the artwork is reconceived as an arena in which actions are always already occurring. Here the canvas acts as a "receptor surface" but not in Leo Steinberg's celebrated "Pop" sense of the term.¹¹ The New Tendency's attention to the play of forces linking the work and its physical environment quickly led to the rejection of the idea that art inhered in discrete objects mortgaged to their authorizing mediums. As Burnham put it, there was

a slowly growing awareness that art was not bound by frame or pedestal, but, in terms of its effective control of surrounding space, enjoyed considerable power to expand into its immediate environment. That quality of aesthetic isolation which had so long characterized both the art work and its subject was in the process of vanishing. A growing desire was to extend phenomenal appearances as far as the eye could see. . . . As mutually exclusive mediums even the terms painting and sculpture began to lose their importance.¹²

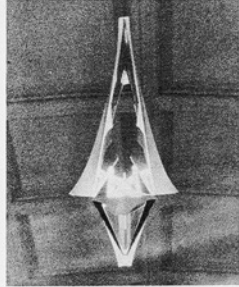
8 Jack Burnham, *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century* (New York: George Braziller, 1968), 302.

9 *Ibid.*, 238.

10 *Ibid.*

11 Harold Rosenberg, "The American Action Painters" (1952), in *The Tradition of the New* (New York: Horizon Press, 1960), 23–39; Leo Steinberg, "Other Criteria: The Flatbed Picture Plane" (1968), in *Other Criteria: Confrontations with Twentieth-Century Art* (Oxford: Oxford University Press, 1972), 61–98. There is a risk that this development involved not only a productive break with the tired subjectivism of Abstract Expressionism but also a less constructive displacement of its residually engaged Existentialism by a politically quiescent Phenomenalism. I cannot deal with this issue other than by marking it here due to constraints of space, but a proper response would, I suggest, necessitate a careful reassessment of the status of the monochrome in relation to its recovery in reconstruction-era West Germany. It would also necessitate a comparison with the Minimalists' parallel attention to phenomenology and their own ambiguous relationship with Constructivism.

12 Burnham, *Beyond Modern Sculpture*, 238–39.



111. Jack Burnham, *Atom*, 1956.

New York artist, Dan Flavin, has used fluorescent fixtures and incandescent bulbs for painting reliefs, and in the past several years for environmental compositions (FIG. 112). Flavin's thinking has steadily matured until he is probably the most accomplished American working in this medium. These works have a directness and purity which are partly due to the fact that their creator does not hide their mundane origins. He relies on context and juxtaposition. Where before this meant the painted background of his reliefs, increasingly it includes all spaces and surfaces near or distant from the lights. Unlike many exhibitions by Light artists, Flavin's constructions work together, and if they impinge upon one another they are meant to do so. Flavin takes very much a phenomenalist position in regard to seeing one of his environments; there is no ideal viewpoint, but many, some distant, from which to see each work and several at the same time. Corners, ceilings, floors and the ends of walls come alive in the context of a Flavin composition. This back lighting and reflection is very much a part of the piece. The artist's room at the "Kunst-Licht-Kunst" exhibition, Eindhoven, Holland (1966), entitled *Greens Crossing Greens* is probably the most successful environment using light yet devised.

What has separated American Light Art from most European experiments is its uninhibited adoption of commercial and advertising technique. Particularly in the use of neon and fluorescent lighting, American experiments have displayed a purity of means that is probably a more accurate statement of *what light is*, at our stage of technology, than all the lyrical Neo-

fig.3 Burnham, *Beyond Modern Sculpture*, p.303

7. ABENDAUSSTELLUNG

WIR ERLAUBEN UNS, SIE ZUR 7. ABENDAUSSTELLUNG
DAS ROTE BILD ERGEBENST EINZULADEN
 ZUR EINFÜHRUNG SPRICHT **KLAUS J. FISCHER**
 AM DONNERSTAG, 24. APRIL 1958, 20 UHR, IN DÜSSELDORF, GLADBACHER STR. 49

ZUR AUSSTELLUNG ERSCHEINT DIE ERSTE NUMMER DER ZEITSCHRIFT **ZERO**
UNTER DEN AUSGESTELLTEN BILDERN SIND 12 UHREN VON: GALERIE SCHMELZ, GALERIE 22, GESELLSCHAFT DER FREIEN JÜNGER KUNST

BARTELS	FISCHER	NAVIGNIER
BECKMANN	FORST	NEUENHAUSEN
BENKATH	GIACELLI	OVERCOTT
BLECKERT	GRIDER	PIENE
BOERS	GRAUBNER	RITZERT
BRINKEN	KOENIG	SALENTIN
BRUNING	V. WUENDERSBERG	SCHULZE
BRUST	JUNGHANS-GRÜSICH	SERFAN
BÜSSE	SAUFMANN	SIEPMANN
CLOSSTRATH	KLAFHECK	SPREß
DAHREN	KLEINT	STELLEN
ENDERT	KREUTZ	THEILER
EPFLE	LOCKEROTH	VECKER
ERS	MACK	VYSS
FAIGLE	MATHIEU	

fig.4 Invitation card for the seventh evening exhibition
Das rote Bild (The Red Picture), 1958
 Heinz Mack records, ZERO foundation, Düsseldorf

How, though, did Burnham understand the particular achievement of the Zero group in light of broader artistic attempts to escape the confines of painting and sculpture?

FROM FIELD TO SYSTEM

Burnham dates what he terms the crystallization of the European New Tendency to the late 1950s and its premiere to “some one-night exhibitions (1957) held by Otto Piene and Heinz Mack of Düsseldorf.”¹³ On Burnham’s account, it was not until the seventh of these evening exhibitions, *Das rote Bild* (The Red Picture), in 1958—the first to incorporate Uecker—that the programmatic character of the New Tendency project became clear (fig. 4). According to Burnham, *Das rote Bild* announced “a post-Tachist ‘beginning,’ an attempt to purify and reestablish the ties between human nature and the fields of energy which emanate from the painted surface.”¹⁴

It should be noted here that Burnham’s account of the New Tendency is a self-avowedly schematic one and does not attempt to present a detailed historical account of various artists and groups comprising it and their respective struggles:

The author has tried to circumscribe with thumbnail descriptions of a few artists a European-wide artistic ideology that evades precise naming and style categorization. This is due to the history of New Tendency shows, alliances, splits, and antagonisms. Viewpoints are very important. According to where one stood at a given time, important names have been left out or some names included that may not belong. With the first general New Tendency exhibition at the Museum of Contemporary Art at Zagreb (1961), many diverse groups of young artists were thrown together

for the first time. By 1963 at a second show in Zagreb of the same title these same groups of artists were engaged in fierce ideological discussions that resulted in permanent schisms.¹⁵

Burnham does, however, situate the Zero group within (his reading of) the wider category of the New Tendency, which he asserts comprises two major, but bifurcated, streams, noting a “split” between “those groups and individuals who stressed experimental objectivity, anonymity, perceptual psychology, and socialism, and those who stood for individual research, recognition, poetry, idealism, immateriality, luminosity and nature.”¹⁶ Burnham put the French Groupe de Recherche d’Art Visuel (GRAV), the Italian Gruppo N and Gruppo T, some Munich artists, and various artists of the communist countries in the first stream, and the Zero group, the Dutch NUL group, other Munich artists, and “sundry individuals” in the second.¹⁷ He did however nuance this distinction noting that:

The division was not firmly drawn up. Ideological alliances shifted from year to year between 1958 and 1966. Generally, Group Zero and NUL venerated Fontana, Yves Klein and Soto, while they had little feeling for Vasarely. The Italian New Tendency artists have all felt the guiding influence of Fontana and Piero Dorazio. The Groupe de Recherche d’Art Visuel was, of course, strongly influenced by Vasarely. Soto was overlooked by those more scientifically oriented for personal art-political reasons, though he was initially important to all. Also, because of their Dada bent, Tinguely, Armando and Yves Klein were scorned by those allied to scientism.¹⁸

13 Ibid., 249.

14 Ibid.

15 Ibid., 246. For a more detailed account of this period and its legacy, see Margit Rosen, ed., *A Little-Known Story about a Movement, a Magazine, and the Computer’s Arrival in Art: New Tendencies and Bit International, 1961–1973* (Cambridge, MA: MIT Press, 2011).

16 Burnham, *Beyond Modern Sculpture*, 247.

17 Ibid.

18 Ibid.

For Burnham, the distinctive contribution of the Zero group within the broader context of the New Tendency was to begin the drive “to escape the confines of painting and sculpture by bringing them together into relief form via field dynamics.”¹⁹ More broadly—beyond the category of relief alone—he holds these artists’ major contribution to be in their use of what Burnham termed “repetitive field structure” across both their static and their kinetic works.²⁰ The repetitive field structure was, according to Burnham, the signature device that the Zero group used to reflect on the relational ontology of the work. This is because repetitive field structure discloses the way in which the artwork subsists in the relationship between the object and the environment and in relation to the viewer (fig. 5). It was this seminal insight into the power and relevance of field structure as a way out of Art Informel and Abstract Expressionism that, according to Burnham, constituted the crucial insight around which the Zero group “crystallized” and in which its principle achievement lies:

By 1958 this desire was crystallized in West Germany as Group Zero. . . . Piene wrote of his fascination with reflecting water, wind-swept grain fields and wartime searchlights playing over cloud banks. These nonmechanical and very ordinary phenomena became the more lyrical basis of new tendency perceptualism. Stimulating conversations with Yves Klein and Jean Tinguely in Paris strengthened these feelings. Heinz Mack in particular used the rippled and cut surface of sheet aluminum as a great sparkling, ever-changing landscape of reflection. A nature-oriented synthesis with uncomplicated technology typifies the work of Piene, Mack, and Günther Uecker,

the inner circle of Group Zero. Increasingly their work became concerned with light play. Color was reduced to white, silver, or other monochromatic applications.²¹

Burnham is thus very clear about the specific achievement that he takes to define the Zero group within what Tiziana Caianiello has called the wider ZERO network’s “fields for experiment.”²² Having considered Burnham’s reading of the distinctive character of the Zero group’s artistic achievement, we can now track the way in which it fits into his broader account of the shift from an art focused on isolated objects to an art focused on relational systems. While Burnham’s first book addressed sculpture, his systems essays produced a post-medium-specific account of art. The Zero group’s mobilization of field structure and field dynamics thus function as a crucial intermediary phase in the transition that Burnham mapped between the ontology of medium-specific art and the ontology of art in the expanded field. Indeed, Burnham explicitly acknowledged the influence of Piene’s ideas in a letter to the artist and Nan Piene written in 1967, prior to the publication of *Beyond Modern Sculpture* (fig. 6):

I feel that what you say about light, that it is essentially a form of energy, is most true, particularly for the future. Systems are a combination of energy-information-matter exchanges. More and more we are moving out of the shaped matter phase, and into the controlled uses of energy and information for art forms. I think it is important to stress, if one looks at this thing in a long-range view, that light is simply a small fraction of the energy continuum, and that artists in the future will be after the exploitation of other fragments of it which can be made sensually apparent.²³

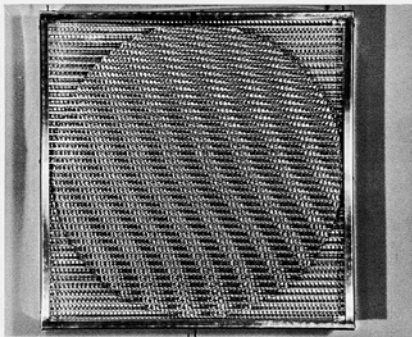
19 Ibid., 249.

20 Ibid., 252.

21 Ibid., 249.

22 Tiziana Caianiello, “Introduction,” in *The Artist as Curator: Collaborative Initiatives in the International ZERO Movement, 1957–1967*, ed. Tiziana Caianiello and Mattijs Visser (Ghent: MER. Paper Kunsthalle, 2015), 7.

23 Jack Burnham to Otto Piene and Nan Rosenthal Piene, July 15, 1967. Otto Piene records, 2.I.2760, ZERO foundation, Düsseldorf. Burnham corresponded on numerous occasions with Otto and Nan Piene and sought and received advice and contacts from them, both in terms of helping him to develop the artistic career that he was still pursuing at the time of correspondence (Otto Piene effected an introduction to Howard Wise for Burnham) and in terms of seeking publication opportunities for his work (Nan Piene allowed Burnham to use her name as a supporter in his approach to potential publishers with his *Beyond Modern Sculpture* manuscript).



97. Heinz Mack, *Light Dynamo No. 2*, 1966.

In all the examples listed above, the principle of field structuring departs from older concepts for making sculpture or sculptural reliefs. As Soto suggested, it is the *relationships* between these elements, *not the elements themselves* which produces a new kind of optical situation. The field, even within the borders of the Kinetic relief, was the plastic beginning for a new sense of artistic extension; it became the symbol of an artistic yearning for immateriality, though only achieved so far on the most provisional and iconic terms.

Theory and Practice in the Kinetic Revival

The point has been made that most Constructivist sculpture could have been fabricated before the Industrial Revolution, that it was the conditioned willingness of society to accept the images influenced by scientific idealism which constituted the real artistic transformation. In a similar sense, a good deal of contemporary Kinetic Art could have been constructed by an ingenious eighteenth-century toy maker. This is not meant to depreciate the Kinetic movement but to stress that in an open society art mainly stems from the psychic drives of individual artists. When numbers of artists move into an area where tremendous technical and aesthetic difficulties remain,

262

fig. 5 Burnham, *Beyond Modern Sculpture*, p. 262

2205 Maple Avenue, Apt., C-2

Evanston, Illinois

July 15, 1967

Dear Otto and Nan:

Many thanks for your letter Otto. The reason I did not send the slides was that I was not sure of where you would be, or whether the address you gave me would get them to you. As it is, I am sending the Haacke monograph which was finished finally after many delays in late spring. The slides will be sent shortly. I have some new ones also in the throws of being processed and if any of these come out I shall have a few duplicates made for you.

Firstly, congratulations on your shows and new set-up in Dusseldorf. It sounds ideal.

I have read both your's and Nan's articles with great interest. In fact, Nan's article and Willoughby's chronology are the two pieces that I have used as a sort of self-correcting guide for my section on light. Nan's research of the present-day artists using light and Willoughby's of rather obscure past artists give their pieces a comprehensiveness which mine lacks. But because I am dealing with other problems besides historical completeness and comprehensiveness, I am not too worried about. In Nan's article, I rather detected many of your ideas about the nature of light -- which is almost to be expected. I think you have grasped certain essentials about the subject while others are still at the stage of using light as a kind of luminescent oil pigment or uncontrolled attention getter. Intuitively, I feel that what you say about light, that ^{it} is essentially a form of energy, is most true, particularly for the future. Systems are a combination of energy-information-matter exchanges. More and more we are moving out of the shapped matter phase, and into the controlled uses of energy and pure information for art forms. I think it is important to stress, if one looks at this thing in a long-range view, that light is simply a small fraction of the energy continuum, and that artists in the future will be after the exploitation of other fragments of it which can be made sensually apparent. Moreover, I thought the last section of Nan's article was thoughtful as an allover view of the present and future handling of light by artists. Her thoughts on the potential sensitivity of viewers to light phenomena interest me. I am convinced by observing the Milwaukee version of the Light/Motion/Space show, that most people, including museum directors, don't know a god-dammed thing about light

62

fig. 6 Letter from Jack Burnham to Otto Piene and Nan Rosenthal Piene, July 15, 1967
Otto Piene records, ZERO foundation, Düsseldorf

or its relative effects on other pieces, even light bounced from walls and floors; if they did, they would do a bit of work with a lightmeter while setting up a show. Your Light Cocoon was devastated by a Tadlock next to it, plus the fact that its entire area was illuminated by reflected light from all the bright neon pieces on the other side of its partition. The last night that I was in Milwaukee I was at a cocktail party where, after many hours of drinking, the museum people present, except for the director, admitted that the show was an unmitigated mess, a carnival in which the masses responded with indiscriminate enthusiasm. I'm convinced that lights shows, or at least the ones held in this country, are great for museum attendance, but tough on the works of many artists. The Eindhoven experiment last year seems like a level of sensibility to aim for. I have reports of the Paris "Lumiere et Mouvement" show, and the catalogue. Its certainly looks comprehensive from the French side, but I suspect that it is another carnival. Am I wrong?

My thank for your mention of me in Arts magazine. I think your rewriting of the Harvard Lecture certainly puts the emphasis on the manipulation of the ephemeral. Your piece is a kind of laxative for the constipated museum, but one, no doubt, that the busy trustee will be the last to take or heed the effects of. Unfortunately, most of the sensory liberation of the 20th Century means making lots of money for someone, little of it happens as Ives Klein's ideal would have had it.

Also I must thank you for several other courtesies. I did talk with Howard Wise and show him some pictures after you mentioned me to him, but evidently my work isn't zappy enough for him. Actually, I have known Wise from past experiences and it strikes me that he is a schmuck with his shotgun pointed in the right direction. I feel that my destiny does not lie in his hands -- probably fortunately.

Also I heard from Jean Lipman. She read a part of my book on bases and a section on cybernetic art, but evidently wasn't bowled over by it. However, she kept a section on robot art and might do something with it, but I rather doubt it.

Also I have heard from Kepes and have had an exchange of letters with him -- due to you. He is very cautious, it seems to me, about divulging the plans for his center, but perhaps by now he has learned to suspect incipient enthusiasm on projects of this kind -- which is probably the wisest tact. He did mention that

Harold Tovish was part of his inner circle. All I can say is that knowing Tovish's work from my Boston days, I can respect him as a competent academician; yet it is a little bit difficult to see him shaping any future merger between technology and art., or for that matter getting away from those dammed brass robots which he has been manufacturing for the past twenty or so years. Maybe Tovish has something up his sleeve, but this year's Whitney Annual didn't seem to show it. Its Kepes show, but it seems to me that there are at least five or six younger artists in the U.S. whose conceptions are reaching out at an accelerated rate, and in this direction: Von Schlegell, Haacke, Collie, Grosvenor, Howard Jones, Levine, Seawright, Breer, Apple to name the ones that come to mind. They vary in ability and scope, naturally, but they are not afraid of technics and they handle it with some poetry.

Braziller is doing the book, and so far, I am very happy with their designing plans. Braziller will take a mock-up cover of it to the Frankfurt Buchmesse to look for French, German or English publishers. I will use an enlargement of the portrait and Corona which Nan sent me -- with just the piece, and because I didn't know when I would hear from you, I borrowed a photo of your light-ballet taken at a German show in 1965. It is not my first choice but it will do. I would prefer a good photo of one of the earlier night shows. I must have all my pictures for Braziller by next month; could you send me something very quickly by airmail if you want a change? Also you will be getting release slips fairly soon.

I want to thank you for offering to look at my manuscript. Since you were traveling and I knew you were busy, and Braziller was anxious for me to begin the rewriting, I had to ask Hans Haacke to check various facts about the European New Tendency -- we still don't agree on interpretations, but it is done, and it must be to the designer by the middle of August. I am afraid that there will be parts of the book that can and will be pulled apart, but I am sure there will be other editions of it, and parts will be corrected and adjusted with time.

Already the book is having some impact. I am lecturing at the Guggenheim Nov. 12 in the first of four lectures connected with their fall sculpture show. Also I have a tentative date to lecture out at the Los Angeles Museum in the fall. And four magazines have asked for review copies.

My plans for the book, Art and Systems, grow and I feel confident about that, but another two year stint of writing doesn't exactly intrigue me.

My best wishes to you and Nan — Jack

The process of historical transformation in the ontology of art mapped by Burnham thus featured an intermediary phase and runs:

- Art as Object
- Art as *Field*
- Art as System

The use of field structuring in painting, sculpture, and relief by the Zero group, according to Burnham, opened art up to its environment in ways that preceded, but were also distinct from, Minimalism's attention to light, space, and the viewer's field of vision, and intimated the post-object-specific, relational ontology that would subsequently be realized, according to Burnham, in "systems" works articulated within the post-medium-specific expanded field.

ZERO BEYOND ZERO

Burnham's publication of his first systems essay, "Systems Esthetics," in 1968, coincided with him stopping making his own work as an artist. Nonetheless, he continued to pursue the same artistic problems that he had previously worked on directly (in dialogue with the European avant-garde), only now by the proxy means of his writing and teaching practice. After ceasing to make art, Burnham turned in his "systems essays" to a concerted attempt to theorize what he took to be successful contemporary art. And it was in these essays that Burnham first attempted to combine systems theory and critical theory in a new project to produce a post-formalist aesthetics that better characterized the stakes and achievement of vanguard art understood as a relational totality and a complex of components in interaction—that is, as a system. In developing this account, he would come to be particularly influenced by Hans Haacke's work of the early 1960s that modulated the concerns of the European and American avant-gardes

of the period (Haacke moved between Europe and the United States between 1961 and 1964 for his studies before emigrating permanently to New York in 1965 where he both taught and practiced). Haacke showed in six ZERO exhibitions between 1962 and 1965,²⁴ and his early work used field structuring as a way to open the work to its environment. If we compare, for example, Heinz Mack's *Lamellae-Relief* (1959–60, fig. 7) and Haacke's *A7 61* (1961, fig. 8), the formal and conceptual debts to Zero in Haacke's early work is clear (both works employ a highly reflective relief form to explore field structure).

Haacke, however, subsequently went beyond Zero group precedent by directly incorporating environmental systems into his work in his "weather boxes" series, of which the *Condensation Cube* (1963–65) is now by far the most well-known example and which was first shown as part of the *Nul* exhibition at the Stedelijk Museum Amsterdam in 1965. Haacke was working his way out of both kineticism and medium-specificity by way of the Zero group's attention to field structure and the way that it opened art to its environment, a project that the artist expanded from the play of light to the play of other physical systems in mutually constitutive relation with the work: compare, for example, in this respect, Mack's *Light Tower* (1960) and Haacke's *Rain Tower* (1962). For Haacke, the project became to make work that directly reacted to its environment, and Burnham's theory of systems aesthetics helped, as he put it, to "distinguish certain three-dimensional situations which, misleadingly, have been labeled as 'sculpture.'"²⁵ In this sense, Haacke's early work involved what might be considered an immanent development of aspects of the thought and practice of the Zero group, including after its formal cessation in 1966. An instance of Zero beyond Zero even. Furthermore, Burnham's Zero-influenced theorization of systems aesthetics is itself finding an afterlife

24 *Nul*, Stedelijk Museum, Amsterdam, 1962; *ZERO in Gelsenkirchen*, Künstlersiedlung Halfmannshof, Gelsenkirchen, 1963; *ZERO*, New Vision Centre, London, 1964; *ZERO*, Institute of Contemporary Art, University of Pennsylvania, Philadelphia, 1964; *ZERO Avantgarde 1965*, Lucio Fontana's studio, Milan, 1965; *Nul 1965*, Stedelijk Museum, Amsterdam, 1965. The list includes only the first venue of each exhibition.

25 Hans Haacke, "Untitled Statement" (1967), in *Hans Haacke*, ed. Jon Bird, Walter Grasskamp, and Molly Nesbit (London: Phaidon Press, 2004), 102.

today as we move deeper into a “techno-ecological” paradigm in which the development of production technologies is blurring the lines between physical, digital, and biological systems, and thus between the social and the natural, and between art and life, in ways that contemporary artists are once again at the forefront of exploring.²⁶

REFERENCES

Beniger, James R. *The Control Revolution: Technological and Economic Origins of the Information Society*. Cambridge, MA: Harvard University Press, 1986.

Burnham, Jack. *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century*. New York: George Braziller, 1968.

Burnham, Jack. “Systems Esthetics.” *Artforum* 7, no. 1 (September 1968): 31–35.

66 Caianiello, Tiziana. “Introduction.” In *The Artist as Curator: Collaborative Initiatives in the International ZERO Movement, 1957–1967*, edited by Tiziana Caianiello and Mattijs Visser, 7–15. Ghent: MER. Paper Kunsthalle, 2015.

Haacke, Hans. “Untitled Statement” (1967). In *Hans Haacke*, edited by Jon Bird, Walter Grasskamp, and Molly Nesbit, 102–3. London: Phaidon Press, 2004.

Hörl, Erich, and James Burton, eds. *General Ecology: The New Ecological Paradigm*. London: Bloomsbury Academic, 2017.

Judd, Donald. “Mack, Piene, Uecker” (1965). In *Complete Writings 1959–1975*, 156–58. Halifax: The Press of Nova Scotia College of Art and Design, 1975.

Piene, Otto. “The Development of Group Zero.” *Times Literary Supplement*, September 3, 1964. Reprinted with minor changes as “The Development of the Group ‘Zero.’” In *ZERO*, edited by Heinz Mack and Otto Piene, xxiii–xxv. Cambridge, MA: MIT Press, 1973.

Rosen, Margit, ed. *A Little-Known Story about a Movement, a Magazine, and the Computer's Arrival in Art: New Tendencies and Bit International, 1961–1973*. Cambridge, MA: MIT Press, 2011.

Rosenberg, Harold. “The American Action Painters” (1952). In *The Tradition of the New*, 23–39. New York: Horizon Press, 1960.

Shanken, Edward A. “Reprogramming Systems Aesthetics: A Strategic Historiography.” In *Proceedings of the 2009 Conference on Digital Arts and Culture*. Berkeley and Los Angeles: University of California Press, 2009. Available at <http://escholarship.org/uc/item/6bv363d4>.

Skrebowski, Luke. “Jack Burnham Redux: The Obsolete in Reverse?” *Grey Room* 64 (Fall 2016): 88–113.

Skrebowski, Luke. “On Pierre Huyghe’s Umweltanschauung: Art, Ecosystems Aesthetics and General Ecology.” *Grey Room* 77 (Fall 2019 [forthcoming]).

Steinberg, Leo, “Other Criteria: The Flatbed Picture Plane” (1968), in *Other Criteria: Confrontations with Twentieth-Century Art*, 61–98. Oxford: Oxford University Press, 1972.

26 On the emergence of a new techno-ecological paradigm, see Erich Hörl and James Burton, eds., *General Ecology: The New Ecological Paradigm* (London: Bloomsbury Academic, 2017). For a discussion of its engagement in contemporary art, see my “On Pierre Huyghe’s Umweltanschauung: Art, Ecosystems Aesthetics and General Ecology,” *Grey Room* 77 (Fall 2019 [forthcoming]).



fig. 7 Heinz Mack, *Lamellae-Relief*, 1959–60

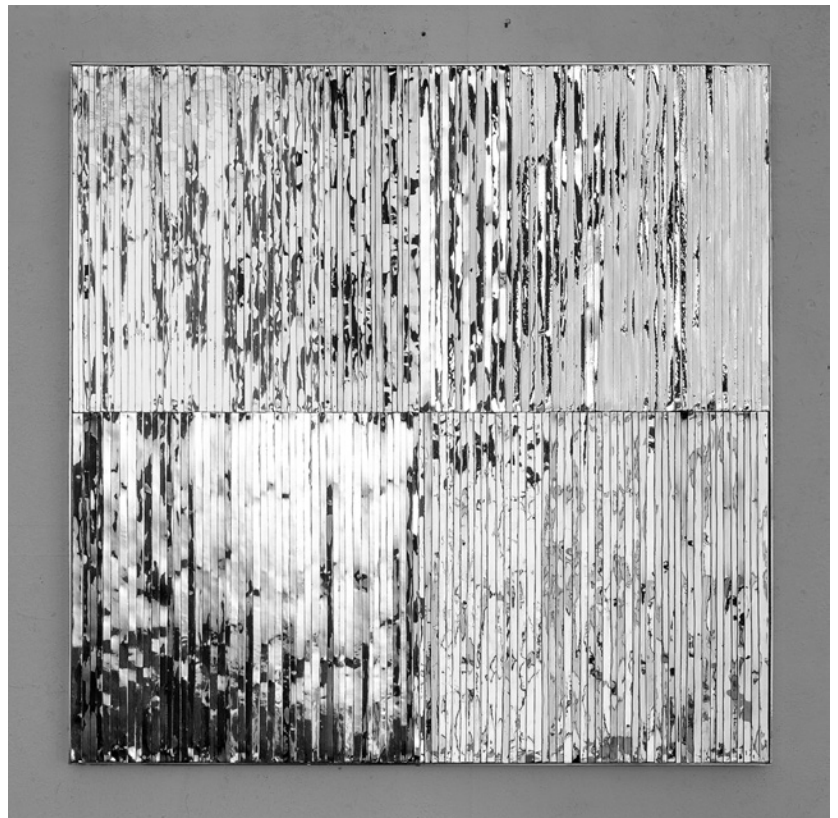


fig. 8 Hans Haacke, *A7 61*, 1961