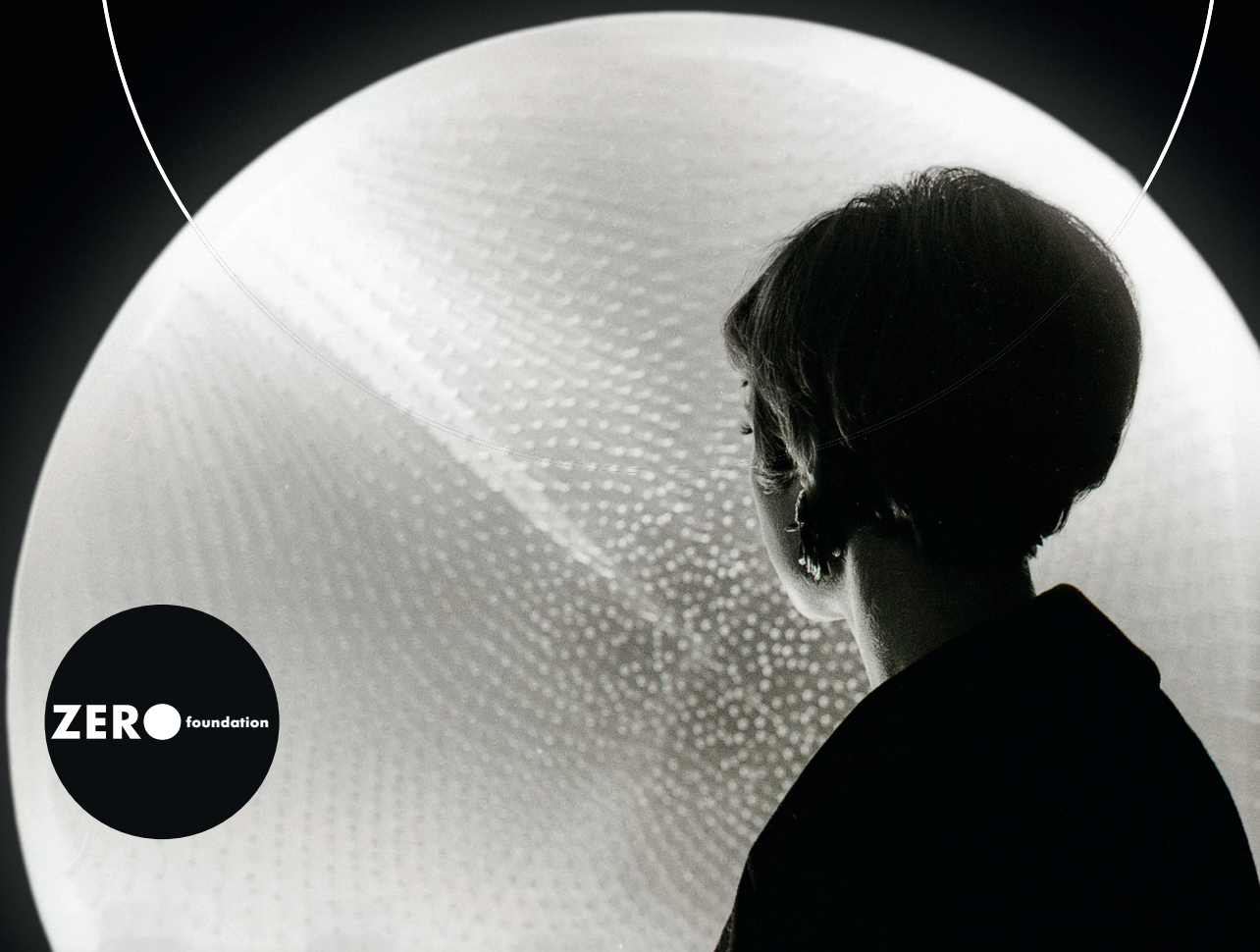
BETWEEN THE VIEWER AND THE WORK

ENCOUNTERS IN SPACE

ESSAYS ON ZERO ART



ZERO foundation

Between the Viewer and the Work: Encounters in Space

ESSAYS ON ZERO ART

EDITORIAL NOTE

We write "ZERO" in capital letters when the name refers to the international art movement and "Zero" when it refers to the artists Heinz Mack, Otto Piene, and Günther Uecker.

Between the Viewer and the Work: Encounters in Space

ESSAYS ON ZERO ART

Proceedings of the international conference
held at the Kunstakademie Düsseldorf, October 18–19, 2018,
on the occasion of the event *ZERO: Please turn!* organized
by the ZERO foundation, Düsseldorf

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Top Robert Fleck, Kunstakademie Düsseldorf
Bottom Barbara Könches, ZERO foundation
Photos Melanie Stegemann

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Photos Melanie Stegemann

Top Margriet Schavemaker, Amsterdam Museum; Julia Robinson, New York University; Luke Skrebowski, University of Manchester; Ulli Seegers, Heinrich-Heine-Universität Düsseldorf
Middle Cornelia Escher, Kunstakademie Düsseldorf
Bottom Johan Pas, Koninklijke Academie voor Schone Kunsten Antwerpen
Photos ZERO foundation, Düsseldorf

Top Zabet Patterson, Stony Brook University
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Bottom In the front row (*left to right*): Elena Manzoni di Chiosca, Blumenthal family, Heinz Mack, Christine and Jacob Uecker
Photos Melanie Stegemann

Preface: Encounters in Space

BARBARA KÖNCHES

On April 5, 2019, Peter Weibel, curator and CEO of ZKM | Center for Art and Media in Karlsruhe, opened the exhibition *Negative Space*, an overview of sculpture from the last hundred years. The thesis behind this amazing exhibition may be briefly summarized as follows: the traditional sculpture broke free from the marble socle and the cast bronze of historical monuments at the beginning of the twentieth century, and, from Russian Constructivism until today, a sculpture no longer exists as a closed body, a volume, a mass, but as a field of dynamism, of moving power, of internal force.

As a kind of epiphenomenon, the interest of art historians has shifted from the *motivation of the artists* to the *motivation for the spectator*. If the marble sculpture has indeed burst into fragments, then what is now important is no longer only the will of the author to recombine the parts but also that of the audience to reconstruct an artwork.[1] Take a piece like László Moholy-Nagy's *Licht-Raum-Modulator* (Light Space Modulator) of 1930, or, more contemporarily, a video installation. While interdisciplinary work lying in the interstices between architecture, theater, performance, philosophy, expanded cinema, media theory, and fine art has been widely discussed over the last fifty years,[2] the ZERO movement has been greatly under-represented in these conversations, both as a result of their rather short-lived reputation among US art critics and the fact that most modern and postmodern art theory was written after the mid-1960s.[3] An attempt to fill this lacuna is one of the reasons behind *Between the Viewer and the Work: Encounters in Space*.

A second motivation for this publication is the observation that it was in 1958 that Allan Kaprow used the term "happening" for the first time to describe his ideas about the participation of the audience in his art, without using words such as "theater," "performance," "game," or "total art."[4] That same year the ZERO artists Heinz Mack and Otto Piene published the magazine *ZERO 2* (*Vibration*) and organized, on October 2, the evening exhibition *Vibration* in their Düsseldorf studio building on Gladbacher Strasse 69. Although the audience was not part of an installation, they were surrounded by artworks organized around grids and patterns. In none of the paintings could be found a subjective artist's ego as with the Informel, and in none of the paintings was there a hierarchy within a single image. While Kaprow gave the audience an instruction to act, ZERO gave them entry to a loss of orientation by looking at art. Yet both — as much Kaprow as the ZERO

1 I described the terms and theory of "art" and "aesthetics" in detail following the theories of Hans-Georg Gadamer, Herbert Read, Immanuel Kant, Gerhard Gamm, Umberto Eco, Pierre Bourdieu, Arthur C. Danto, David Hume, Wieland Schmied, Franz von Kutschera, Ernesto Grassi, and the "rhetoric" of Aristotle in my publication *Ethik und Ästhetik der Werbung: Phänomenologie eines Skandals* (Frankfurt am Main: Peter Lang, 2001), pp. 149–82. My point is that art always needs a profound understanding and an ethical awareness of the audience.

2 Just thinking of authors like Charles Jencks, Jean-François Lyotard, Erika Fischer-Lichte, Judith Butler, John Austin, Hélène Cixous, Jacques Derrida, Gilles Deleuze, Rosalind Kraus, Jean Baudrillard, Henri Lefebvre, George Maciunas, Gene Youngblood, Peter Weibel, Benjamin H. D. Buchloh, Friedrich Kittler, Peter Burger, and so on et al.

3 See François Cusset, *French Theory: How Foucault, Derrida, Deleuze, and Co. Transformed the Intellectual Life of the United States* (2003), trans. Jeff Fort (Minnesota and London: University of Minnesota Press, 2008).

4 See Philip Ursprung, *Grenzen der Kunst. Allan Kaprow und das Happening; Robert Smithson und die Land Art* (Munich: Schreiber, 2003), 43.

artists—removed *the genius artist's ego from the reception of art*.[5]

Also in 1958, Guy Debord published in Paris the pamphlet *Nouveau théâtre d'opérations dans la culture*. He proposed arranging situations involving artists and a completely unknown, random, and unaware public. He also planned to film the situations for an archive.[6] In the rather opposite direction, the Zero artists Heinz Mack, Otto Piene, and Günther Uecker were invited in 1962 by Gerd Winkler to take part in a documentary film, for which they organized a great event at the Rheinwiesen in Düsseldorf.[7] As with Debord's ideas, ZERO art and events on the shore of the Rhine were attractive to "nearly a thousand visitors, who stayed until well past midnight."[8]

The European postwar avant-garde abandoned the art space, galleries, museums, and studios very early on in order to make the *daily environment the playing field for their interventions and public performances*. And the following aspect is also new: between the art and the viewer you no longer find the art institution, but public space.[9] It is this change that provides a third aspect for scrutiny with respect to ZERO art between the artist and the viewer.

Let me present a fourth and final argument as to why a theme such as *Between the Viewer and the Work: Encounters in Space* is worthy of discussion. In 1959, while driving in a car from Antwerp to Düsseldorf, Yves Klein, Heinz Mack, and Otto Piene talked about their upcoming plans. Otto Piene recounted this episode in an exhibition catalogue for the Galerie Seide, published in 1960: "I suggested that parachuting should be an exercise that is performed nearly every day, with the goal of empowering people to control, or at least to influence, the period of hovering in the air as they wish, so that they do not simply endure this state, but are in a position to achieve it consciously and deliberately. … Yves Klein said that this agrees well with his view that people must develop the ability to fly on their own, without technical aids, above all by developing enhanced sensitivity. … Heinz Mack suggested building a construction which would allow people to move like a pendulum or rotate. It would thus neutralize the normal sense of statics and call forth a new 'equilibrium' and with it, a new attitude to life."[10]

The ZERO movement dreamed of shaping natural forces like clouds, air, or gravity as one would a sculpture, of painting the earth like a canvas. "They ask: can the project be realized? / I answer: yes!" With these words begins Heinz Mack's 1959 written concept "The Sahara Project."[11] Although the artist was absolutely sure about this from the outset, many art historians, up to and including those of the present day, refer to the Sahara Project as utopian and ZERO art as a utopian idea.

The word "utopia" derives from the Greek and means "no (or not) place": a place that does not exist in reality. For Expressionism, Futurism, and Surrealism, for example, outer space was never-never land, a fantastical idea. Yet after World War II, that changed: descriptions of the macrocosm

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5 See Umberto Eco, "Form as Social Commitment," in *The Open Work* (1962), trans. Anna Cancogni (Cambridge, MA: Harvard University Press, 1989), 122–57; Jürgen Claus, *Expansion der Kunst* (Reinbek bei Hamburg: Rowohlt, 1970), 20–24; Laszlo Glozer, *Westkunst. Zeitgenössische Kunst seit 1939*, exh. cat. Museen der Stadt Köln (Cologne: DuMont, 1981), 217–33.

6 See Roberto Ohrt, *Phantom Avantgarde*, 2nd ed. (Hamburg: Edition Nautilus; Berlin: Lukas & Sternberg, 1997), 175; Libero Andreotti and Xavier Costa, eds., *Situationists: Art, Politics, Urbanism*, exh. cat. Museu d'Art Contemporani de Barcelona (Barcelona: Actar, 1996).

7 See Dirk Pörschmann, "'M.P.U.E.' Dynamo for ZERO: The Artist-Curators Heinz Mack, Otto Piene, and Günther Uecker," in *The Artist as Curator: Collaborative Initiatives in the International Zero Movement*, ed. Tiziana Caianiello and Mattijs Visser (Ghent: AsaMER; Düsseldorf: ZERO Foundation, 2015), 35.

8 Ibid.

9 The very first have been the Gutai movement in Japan. In 1955 they showed outside in the "Experimental Outdoor Exhibition of Modern Art to Challenge the Mid-Summer Burning Sun," Ashiya Park, 1955. See *Gutai: The Spirit of an Era*, exh. cat. National Art Center Tokyo (Tokyo: National Art Center, 2012).

10 Otto Piene, "Vergangenes—Gegenwärtiges—Zukünftiges," in *Das Einfache, das schwer zu machen ist*, exh. cat. Galerie Seide (Hannover: Galerie Seide, 1960), n.p. / Nachlass Otto Piene, ZERO foundation. Translated by Gloria Custance.

11 Heinz Mack, "The Sahara Project," trans. Rory Spry, *ZERO*, no. 3 (1961), n.p.

and microcosm were no longer restricted to the imagination and science fiction novels; they had become research fields of science that, with advances in technology and information systems, extended human perception into outer space.

The avant-garde art of the late 1950s recognized this and applied it consequentially. The former concept of spaces, including the spaces of museums and art galleries, were regarded as merely special examples of a space that was universal. Günther Uecker expanded the number of objects that could be shaped by art, and so the street in front of the gallery became a kind of objet d'art, just like a stool or a piano, albeit with far larger dimensions. A film or a documentary could also be shaped by art.

The *Encounters in Space* could also literally be: *art and natural science both make their research on the Earth, about the Earth.*[12]

As the culmination of the conference *Between the Viewer and the Work: Encounters in Space*, this publication marks the beginning of an ongoing discussion about ZERO art. We are very much looking forward to continuing this discussion about what happened in the space between the audience and the art.

Before I thank all the people who so generously provided their invaluable assistance for the event *ZERO: Please turn!*—the conference was a part of it—I would like to first thank the founders of the ZERO foundation: Heinz Mack, Otto Piene, and Günther Uecker, their families, the city of Düsseldorf, and the foundation's board of directors: Chairperson Friderike Bagel, Claus Gielisch, Felix Krämer, Harry Schmitz, and Jürgen Wilhelm. I would also like to extend my gratitude to the Friends of the Düsseldorf ZERO foundation. Without friends life would not be half as good. Very heartfelt thanks go to Hubertus Schoeller, the chairperson, and all the ZERO friends.

I sincerely thank Mayor Thomas Geisel and Head of Cultural Affairs Hans-Georg Lohe of the City of Düsseldorf for their support over the last eleven years and the exceptional assistance for the ZERO Weekend. The Ministry of Culture and Science of the state of North Rhine-Westphalia has made it possible for us to exhibit the work of young artists around Hüttenstrasse and the Fürstenplatz. For this, I would like to express our warmest thanks to Minister Isabel Pfeiffer-Poensgen. Warmest thanks also go to the Kunststiftung NRW. I am well aware that the Kunststiftung NRW only supports projects that meet their exacting standards, so we are grateful for the confidence they placed in us, and we thank President Fritz Behrens and Secretary General Ursula Sinnreich.

For the financial assistance that made this meeting possible, I would like to thank the Landschaftsverband Rheinland (Rhineland Regional Council), and in particular the head of the Department of Culture and Cultural Conservation, Milena Karabaic. Grateful thanks also go to the Netherlands Embassy in Berlin and the Netherlands Consulate General in Düsseldorf, especially Monique Ruhe and Lene ter Haar, for supporting the open-air exhibition of young artists' work.

Many thanks also to the speakers and writers: keynote speaker Julia Robinson, Cornelia Escher, Zabet Patterson, Seth Riskin, Ulli Seegers, and Luke Skrebowski. Also to Johan Pas and Margriet Schavemaker who skillfully chaired the conference sessions. Big thanks go to Francesca Pola for the film premiere of *Piero Manzoni and ZERO: A European Creative Region*.

Also thanks to the team of ZERO foundation: Tiziana Caianiello, Katrin Lohe, Laura Weber, and Thekla Zell.

Last but not least, I would like to thank the Kunstakademie Düsseldorf, its chancellor Jörn Hohenhaus, and Professor Robert Fleck for the opportunity to hold our meeting at the academy on October 18–19, 2018, in the place where nearly seventy years ago three young students—Mack, Piene, and Uecker—began their studies, never dreaming of how successful they would all become.

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12 See *Kunstforum* 85, "Kunst und Wissenschaft" (October 1986); Horst Bredekamp, "Die Kunstkammer als Ort spielerischen Austauschs (1993)," in *Bilder bewegen. Von der Kunstkammer zum Endspiel* (Berlin: Wagenbach, 2007), 121–35; Martin Kemp, *Bilderwissen. Die Anschaulichkeit naturwissenschaftlicher Phänomene* (Cologne: DuMont, 2003); Barbara Könches and Peter Weibel, eds., *unSICHTBARes. Kunst-Wissenschaft* (Bern: Benteli, 2005).

Introduction: Please Turn …

TIZIANA CAIANIELLO

The conference *Between the Viewer and the Work: Encounters in Space* took place on October 18–19, 2018, at the Kunstakademie Düsseldorf to open the event *ZERO: Please turn!*, organized by the ZERO foundation to celebrate its tenth anniversary and the sixtieth anniversary of ZERO. Even if we were aware that the title *ZERO: Please turn!* could sound obscure, we chose it not only because a work by Otto Piene in our collection is entitled *Please turn* (fig. 6) but also because it can be completed in different ways that fit the topics of the conference, as we shall see below.

A general tendency toward abandoning painting can be witnessed in the art around 1960: from two-dimensional pictures to relief-like objects and assemblages, spatial installations and the integration of performative elements, the works increasingly encroach on the space of the viewer and demand different grades of participation. The expansion of the work into the space was a precondition for the reduction of the gap between work and viewer. As Frank Popper, a pioneer in the study of kinetic art, wrote in 1975, "it is precisely the *conjunction* of these two problems — that of the environment and that of the spectator — which is of … vital importance for the overall development of contemporary art."[1] What role does the international ZERO movement play in this development? Although the literature about ZERO has increased significantly in recent years — not least thanks to the efforts of the ZERO foundation[2] — ZERO's involvement in the expansion of the artwork into space and in breaking barriers between the viewer and the work had not as yet been adequately explored.[3] Thus the conference was dedicated to this subject. In the following, I'll introduce some topics of the conference.

PLEASE TURN … THE PAGE!

In 1958, sixty years before the event *ZERO: Please turn!*, the artists Heinz Mack and Otto Piene "turned the page" by publishing in Düsseldorf the first issue of the magazine *ZERO*, which would be the catalyst for a new artistic movement (fig. 1).[4] Three years later, in 1961, appeared the third and last issue of the magazine, which contained the contributions of over thirty artists from ten different countries (fig. 2). Included were, among others, the French artists Yves Klein and Arman, the Italians Lucio Fontana and Piero Manzoni, the Swiss Jean Tinguely and Daniel Spoerri, the Europe-based South Americans Almir Mavignier and Jesús Rafael Soto, in addition to German artists. The issue provides an excellent overview of the international art movement that turned away from Art Informel and was then named ZERO after the magazine. This pivotal document of the ZERO movement already advocates for narrowing the gap between the viewer and the work. Sticking out from the last page of the issue were a sunflower seed and

1 Frank Popper, *Art: Action and Participation* (London: Studio Vista, 1975), 7.

2 See, among others, the following books edited by the ZERO foundation: Dirk Pörschmann and Mattijs Visser, eds., *4 3 2 1 ZERO* (Düsseldorf: Richter/Fey, 2012); Tiziana Caianiello and Mattijs Visser, eds., *The Artist as Curator: Collaborative Initiatives in the International ZERO Movement, 1957–1967* (Ghent: MER. Paper Kunsthalle, 2015); Dirk Pörschmann and Margriet Schavemaker, eds., *ZERO*, exh. cat. Martin-Gropius-Bau, Berlin; Stedelijk Museum Amsterdam (Cologne: Walther König, 2015).

3 The subject of the conference was discussed at the meeting of the Scientific Board of the ZERO foundation in Söll, November 16, 2017.

4 The three issues of the magazine *ZERO* are reprinted in facsimile in Pörschmann and Visser, *4 3 2 1 ZERO*.

fig. 1 Cover of the magazine *ZERO*, no. 1, 1958
Heinz Mack records, ZERO foundation, Düsseldorf

fig. 2 Cover of the magazine *ZERO*, no. 3, 1961
Heinz Mack records, ZERO foundation, Düsseldorf

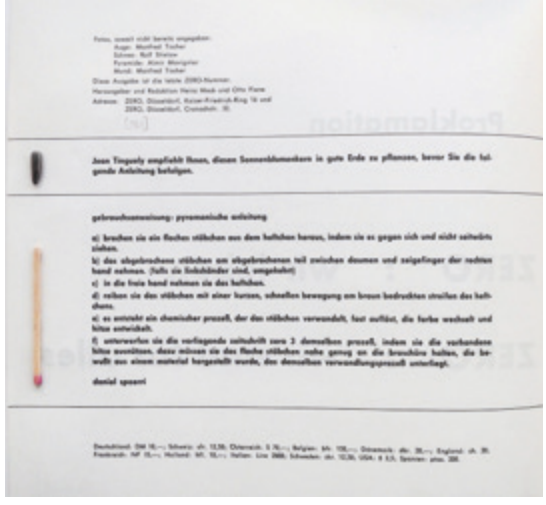

fig. 3 Contribution by Daniel Spoerri and Jean Tinguely to *ZERO*, no. 3, 1961

fig. 4 *ZERO: Edition, Exposition, Demonstration*, Galerie Schmela, Düsseldorf, 1961
Photo Paul Brandenburg / Heinz Mack records, ZERO foundation, Düsseldorf

a match accompanied by instructions for their use: the sunflower seed should be planted in good soil; after that, the match should be used to burn the magazine (fig. 3). These instructions, written by the artists Jean Tinguely and Daniel Spoerri, require the reader's intervention.

In 1969, Piene retrospectively provided background information on his own contribution to the third issue of *ZERO*: "When I was writing my ZERO 3 text in 1961, I wanted to give it the title 'Expansion.' Then, I changed my mind and named it 'Ways to Paradise.' The means I discussed were various means that lend themselves to expansion of art works and expansion of art: light, smoke, fire. The physical spaces that I suggested were all spaces and spots that permit expansion: large rooms, spherical rooms, the sky."[5]

In the same issue of *ZERO*, Heinz Mack published his *Sahara Project*, which, conceived in 1959, could be realized only in 1968. With this project that was documented in the 1969 film *Tele-Mack*, Mack intended to break out of the narrow museum space and create an interplay of art and nature, using the strong light of the desert to enhance the radiant effect of the artworks (fig. 5).

According to Piene, the expansion of works into space also implicates a stronger impact on the viewers: "I do not believe that expanding pieces expand only in order to demonstrate physically and three-dimensionally what painters and sculptors have suggested in their conventional work during the Style Age. Expansion means that works of art go to people, become more visible, communicate with more viewers/participants."[6] As a matter of fact, for the presentation of the third issue of the *ZERO* magazine, Mack and Piene, together with Günther Uecker who henceforth collaborated with them, organized an action in front of the Galerie Schmela in Düsseldorf that would attract numerous spectators. Some of the spectators were directly involved in the action—or "demonstration," as it was called at the time—making, for example, soap bubbles and helping to make a balloon rise in the air (fig. 4). Already at an early stage, Mack, Piene, and Uecker also used television to present their art to a wide audience. In 1962, they staged a demonstration at the Rhine in Düsseldorf specifically for the shooting of the documentary film *0 × 0 = Kunst*, directed by Gerd Winkler for broadcaster Hessischer Rundfunk. Unexpectedly, on that occasion nearly a thousand people convened.

These examples show that some key artistic developments of the 1960s—such as the elaboration of new strategies in painting, the increasing use of performance or performative elements, and the expansion of the work into space—can be tracked down not only in already acknowledged contexts such as Fluxus but also in the ZERO network. The archives of the ZERO foundation provide ample evidence of this. According to Julia Robinson, author of the keynote in this publication, it is time to "turn the page" in ZERO studies. She encourages the consideration of the collected archival material from broader theoretical perspectives and launches a methodological discussion.

5 Otto Piene, in *Otto Piene: Elements*, exh. cat. Howard Wise Gallery (New York: Howard Wise Gallery, 1969), n.p.
6 Ibid.

fig. 5 Heinz Mack in the Tunisian Desert, 1968
Still from the film *Tele-Mack*, 1969
Camera E. Braun

PLEASE TURN … ON!

At the end of the 1950s, a number of artists began to expand their artworks not only into space but also into time, including movement, predefined sequences, and process in their works. Consequently, duration in real time, which had been characteristic of theater and film, found its way into other art forms.

The ZERO movement contributed to this general tendency by creating kinetic works and multimedia installations with performative characteristics. Such artworks explicitly included the space of the viewer, and differed from traditional works of sculpture in that they dissolved the boundaries between the work and the viewer's environment, making use of light and real movement. These works are not closed objects but—according to the definition formulated by the artist and art historian Jack Burnham in 1968—can be defined as open "systems": "The object denotes sculpture in its traditional physical form, whereas the system (an interacting assembly of varying complexity) is the means by which sculpture gradually departs from its object state and assumes some measure of lifelike activity."[7] In the context of ZERO, many artists made use of motors, light spots, and time switches, which—when turned on—gave life to the works.

The formative influence of early ZERO's work on the evolution of Burnham's theory of systems aesthetics is analyzed in the present volume in Luke Skrebowski's contribution, "Jack Burnham, ZERO, and Art from Field to System." As Skrebowski emphasizes, Burnham focused particularly on the use of field structuring in paintings, sculptures, and reliefs by Mack, Piene, and Uecker that—according to him—opened art up to its environment.

PLEASE TURN … THE WHEEL!

The works created in the context of ZERO can stimulate different levels of participation: from objects that heighten their observer's perception to works that require a direct intervention of the spectator like *Please turn*, which was created by Otto Piene in 1961 (figs. 6–7). This work invites the viewer to slowly rotate the perforated disc illuminated by spotlights. Light projections thus start to move on the wall, and the spectator participates in the creation of a Light Ballet, causing the spatial limits to disappear.

This work does not constitute an exceptional case in the context of ZERO, as the following examples show. For the Edition MAT (Multiplication d'Art Transformable), which was curated by Daniel Spoerri in 1959, Mack conceived a square relief that could be rotated by the viewer to create different light reflections.

In 1961, Mack then realized an installation intended to be used by children, the so-called *Farborgel* (Color Organ), for a school on Rolandstrasse in Düsseldorf. Turning a wheel, the viewer rotates planks painted in different spectral colors so that the color combination changes (fig. 8). Uecker also created an installation for the school that involves the spectator, who can rotate the white discs that compose the work to create variations of light and shade (fig. 9).

While these works can be modified by the viewer, *Base magica – Scultura vivente* (Magic Base – Living Sculpture) by Piero Manzoni (1961) turns the viewer into the work itself, as soon as the viewer steps on it. The pedestal—an element that was traditionally used to separate the space of the work from the space of the viewer—identifies in this case the work of art with the viewer (fig. 10). The relationship between Piero Manzoni and ZERO was addressed at the conference through the preview of the documentary *Manzoni and ZERO*, introduced by the Italian scholar Francesca Pola.[8]

7 Jack Burnham, *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century* (New York: George Braziller, 1968), 10.

8 See Francesca Pola, *Piero Manzoni and ZERO: A European Creative Region* (Milan: Mondadori Electa, 2018), accompanied by an USB stick with *Piero Manzoni and ZERO*, video documentary, 52 min., devised, written, and edited by Francesca Pola in collaboration with Fondazione Piero Manzoni (Turin: Zenit Arti Audiovisive, 2018).

fig. 6 Otto Piene, *Please turn*, 1961, at the exhibition *Nul*, Stedelijk Museum Amsterdam, 1962
Photo © Manfred Tischer, The Estate of Manfred Tischer, www.tischer.org

fig. 7 Otto Piene, *Please turn*, 1961 Donation Otto and Elizabeth Piene, ZERO foundation, Düsseldorf
Photos Franziska Megert

fig. 8 Heinz Mack, Installation for the Rolandstrasse primary school, Düsseldorf, 1961
Photo Gunnar Heydenreich

fig. 9 Günther Uecker, Installation for the Rolandstrasse primary school, Düsseldorf, 1961
Photo ZERO foundation, Düsseldorf

PLEASE TURN … AROUND!

Environments — in other words, works that take up physical space and can be entered — activate the viewers who are stimulated to explore the space of the work. Early examples of environments were created by Lucio Fontana, who was an important reference for the artists of the ZERO network. It was to him that Mack, Piene, and Uecker dedicated the installation *Lichtraum (Hommage à Fontana)* (Light Room [Homage to Fontana]), which they created for Documenta 3 in 1964 in Kassel (fig. 11). The programmed Light Rooms by Mack, Piene and Uecker — like the automatic Light Ballets by Piene — combined the dimension of time (the programmed sequence) with the immersion of the viewer in the space made of light. Although the spectators — as in a cinema — cannot change the programmed sequence, their attention is not focused on one screen, as the light projections pervade the whole space. In contrast to the situation in cinema and theater, viewers thus need to look around to get an impression of the entire environment. They can move freely in the space and interact with each other.

fig. 10 Piero Manzoni, *Base magica - Scultura vivente* (Magic Base - Living Sculpture), 1961
Photo © Fondazione Piero Manzoni

The environmental aspects of the works from the ZERO context present parallels and connections with approaches in the architecture of the time, as Cornelia Escher demonstrates in her contribution "GEAM and ZERO: Spaces between Architecture and Art." The architects of the Groupe d'etudes d'architecture mobile (GEAM) developed a concept of architecture based on change that enhanced the bodily experience of space.

To this day, the ZERO experiments with light and space retain their topicality, as the interview by Margriet Schavemaker with the artist Seth Riskin (director of the MIT Museum Studio) in this publication shows. In Riskin's Light Dance performances, the movement of light instruments mounted on his body lets viewers perceive the architectural environment as fluid and transmits the performer's body experience to them. According to Riskin, artistic experiments with light and perception can offer inputs for neuroscientific research on vision, permitting art and science to learn from each other.

PLEASE TURN … TOWARD THE FUTURE!

The artists from the ZERO movement had an optimistic vision for the future and believed in the possibility of shaping it. In order to create a better world, it was essential to engage the public. And it was under these premises that spatial works involving the spectator were created. The latter was not only a viewer anymore, since the works activated different senses, also making use — in some cases — of technology in order to expand the sensibility of human perception. According to Ulli Seegers, author of the essay "*Art for All*: Lines of Tradition and Development of a Central Narrative of Art since ZERO," the opening of art to a broad audience and to participation after World War II had precursors that can be traced back to the nineteenth century. However, the ZERO artists — in contrast to the uses of art for educational purposes and political propaganda in the nineteenth century and during the National Socialist period — created open works that do not convey a predefined meaning, but rather offer a constellation of elements that the interpreter can freely combine, so that different relationships and

fig. 11 Mack, Piene, Uecker, *Lichtraum (Hommage à Fontana* (Light Room [Homage to Fontana]), Documenta 3, Kassel, 1964
Photo Gitta von Vitany / Otto Piene records, ZERO foundation, Düsseldorf

configurations are possible.[9] In the case of ZERO, the author did not die,[10] instead becoming more hospitable: to the same extent that the personality of the artist stepped back, the recipient was invited to take a more active role.

Although the faith of some ZERO artists in technology could in certain expressions appear, in retrospect, naive,[11] according to Piene ZERO strived after a balanced relationship between technology, nature, and human being—an objective that is still particularly relevant today: "One of our most important aims proved to be the attempt to reharmonize the relationship between man and nature… not putting the artist into the position of a fugitive from the 'modern world' but rather having the artist use the tools of actual technical invention as well as those of nature."[12] The artistic use of "technical invention" should thus prevent technology from becoming monopolized by governments, who develop and deploy it particularly for aggressive ends, and contribute to its shaping for peaceful intents.

The further development of the art of individual artists from the ZERO network after 1966 confirms their interest in environmental experiments that involve the spectators in new ways, exhibiting both breaks and continuities with the ZERO period. Thus, although Mack, Piene, and Uecker ended their collaboration as early as 1966, and this year is generally considered to be the end date of the whole ZERO movement, the symposium also took the late 1960s into consideration.

A clear break in the collaboration between Mack, Piene, and Uecker and the subsequent development of their work represented the impact of New York City, the prototype of a modern metropolis. In 1964, Mack, Piene, and Uecker went for the first time to New York, where they had an exhibition at the Howard Wise Gallery.[13] After this show as a trio, each of them had at least one solo exhibition there and continued to be promoted as a "member of Group Zero," even after 1966, with their participation in several group exhibitions at the same gallery until 1969. While this experience indeed provoked a response in their work, Mack, Piene, and Uecker also left important traces on the New York art scene. For example, Andy Warhol appropriated some of the visual effects and technical devices from Piene's Light Ballet for his multimedia show the *Exploding Plastic Inevitable*, first presented in April 1966.[14] The

9 For the definition of "open work," see Umberto Eco, *The Open Work*, trans. Anna Cancogni (Cambridge, MA: Harvard University Press, 1989); Italian original: *Opera aperta* (Milan: Bompiani, 1962).

10 See Roland Barthes, "The Death of the Author," trans. Richard Howard, *Aspen*, nos. 5–6 (1967), http://www.ubu.com/aspen/aspen5and6/threeEssays.html#barthes.

11 It is always difficult to make generalizations in the case of ZERO, since it included very different positions. For example, Jean Tinguely's machines can hardly convey a faith in technology. Differences can be recognized even among Mack, Piene, and Uecker. Uecker's *New York Dancer* (1965), for example, makes use of a motor, but it can hardly be interpreted as a glorification of technological progress.

12 Otto Piene, "The Development of the Group 'Zero'," in *ZERO*, ed. Heinz Mack and Otto Piene (Cambridge, MA: MIT Press, 1973), xxiii, edited reprint of the text originally published in *The Times Literary Supplement*, London, September 3, 1964.

13 *Zero* [alternative title: *Group Zero*]*: Mack, Piene, Uecker*, Howard Wise Gallery, New York, November 12–December 5, 1964.

14 Joseph D. Ketner II, "Electromedia," in *Aldo Tambellini: Black ZERO*, exh. cat. Chelsea Art Museum (New York: Boris Lurie Art Foundation, 2011), 41. Ketner, *Witness to Phenomenon: Group ZERO and the Development of New Media in Postwar European Art* (New York: Bloomsbury, 2018), 194.

light projections by Piene also found a response in the context of the multimedia discos that gained currency in the then contemporary New York scene.[15] The art collective USCO played a major role in this context. They were involved, for example, in the conception of The World, an early discothèque located in a former airplane hangar in Long Island's Garden City, which opened in April 1966 and offered a multimedia show with cutting-edge technologies. The USCO presented work in different group exhibitions in which Mack, Piene, and Uecker also participated, such as *KunstLichtKunst* in Van Abbemuseum Eindhoven in 1966 and several exhibitions at the Howard Wise Gallery. Zabet Patterson's contribution, "Turning On: Technological Circuits in USCO and Zero," compares the different ways in which the artists from Zero and USCO used light, space, and time to effect perceptual transformation.

While in March 1967, Piene, together with the Italian American artist Aldo Tambellini, opened New York's Black Gate Theatre, which presented multimedia performances (fig. 12), New York developments inspired Uecker in July of the same year to create—with the participation of other artists, such as Mack—a disco in Düsseldorf: Creamcheese. At Creamcheese, artists combined art and entertainment in order to reach a broader audience than traditional institutions such as museums and theaters. Through very loud music, strobe lighting, and projections, patrons were exposed to a sensory overload intended to expand their consciousness, and help them to penetrate into unconscious levels of their minds. The year 1967 marked the beginning of the student revolt in West Germany. Only a few days before the opening of Creamcheese, a policeman killed the student Benno Ohnesorg during a demonstration against the state visit of the Shah of Iran in West Berlin. Although Mack, Piene, and Uecker had already used light and music in their

fig. 12 Otto Piene, *The Proliferation of the Sun*, Black Gate Theatre, New York, 1967
Photo unknown, Otto Piene records, ZERO foundation, Düsseldorf

Light Rooms and ZERO festivals, Creamcheese clearly testified to a changed situation. While the Light Rooms from the ZERO period were quite meditative, the psychedelic disco aimed to challenge perception habits and conventional ways of thinking. The simultaneous projection of images from different contexts was intended to encourage a critical attitude, and at that time no contradiction was seen between the sensory overload and the exhortation to take a stand.[16]

Finally, despite all the contradictions in ZERO's relationship with new technologies and with the viewer, we can agree with Frank Popper, who concluded his investigation about participation in the work of kinetic artists, including several artists from ZERO, with these words: "Even if they have not entirely been able to bridge the gap between science, technology and art, nor between the productive system, the political issues which spring from it and the creative process, they have nevertheless helped to lay the foundation of a new art, a truly DEMOCRATIC ART."[17]

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15 Tina Rivers, "*The Proliferation of the Sun*: Group ZERO and the Medium of Light in 1960s America," in *The Medium of Light in the Context of the Neo-Avant-Garde of the 1950s and 1960s*, ed. Andrea von Hülsen-Esch and Dirk Pörschmann (Düsseldorf: University Press, 2013), 75–106.

16 Tiziana Caianiello, *Der "Lichtraum (Hommage à Fontana)" und das Cremcheese im museum kunst palast. Zur Musealisierung der Düsseldorfer Kunstszene der 1960er Jahre* (Bielefeld: Transcript, 2005), 95–163.

17 Popper, *Art: Action and Participation*, 12.

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0 / 60 / 10
Turn … slowly, extremely
Calibrating ZERO to Changing Time(s)

JULIA ROBINSON

I should start by explaining my title, which obviously picks up on the title of the event *ZERO: Please turn!* and the expressed aims of this conference. *Please turn!* seems to urge us to turn a page, historically, naming that as the present task. In addressing ZERO at sixty, and the challenges of the ZERO foundation at ten, the turning and calibration I announce have to do with a body of work that has *changed* in the decades since its creation — as every historical object does — and which is arguably more different today than it has been in any preceding decade. The task now, in part, would seem to be to take up these various *times*: the ZERO moment and its historical backdrop in modernism, the perspectives we have built up since, as historians, and the impact of contemporary visual experience on an art movement so engaged with a technically or technologically inflected visuality. There are pressing questions associated with each phase. In the first: Can we deepen this history by further interrogating the specific legacies of modernism taken up by the Zero / ZERO artists? In the second: How do we develop and expand the context of this network in its own time? What would be the effect of considering the aims and strategies defined by the Zero group in relation to contemporaneous initiatives with which their project is not typically aligned? And following from this, at the third level: Can we go further in differentiating the mechanical, kinetic, and optical models of the period (e.g., Tinguely through GRAV), to bring out the specificity of Zero's vision of spectatorial engagement? And the flipside of the latter: How do we approach the fact of all this being seen today with new eyes? Inevitably, changing technology has changed Zero — to an extent that urges special attention, indeed precision, vis-à-vis the methodology and terminology adopted in its ongoing study and theorization.

While attempting to address a complex set of issues, I hope this paper can also be of practical value. To this end, I would wish to say something at the outset about the driving force of the foundation since 2008 — or one of them — namely, the archive. Of course the importance of the collection goes without saying, as the ambitious array of exhibitions mounted — from the Kunstpalast's *ZERO: Internationale Künstler-Avantgarde der 50er / 60er Jahre* (Düsseldorf, 2006) in the moment before the foundation's founding, through to the Guggenheim's *ZERO: Countdown to Tomorrow, 1950s – 60s* (New York, 2014), the ZERO foundation's *ZERO: Die internationale Kunstbewegung der 50er und 60er Jahre* (Martin-Gropius-Bau, Berlin, 2015), and the Stedelijk Museum's *ZERO: Let Us Explore the Stars* (Amsterdam, 2015) almost a decade later — have amply shown us. But what I want to say about the archive concerns a more subtle, if no less powerful, impact. The historical work on Zero / ZERO initially required creating a detailed "map" of its activities, and this has been invaluable to the scholars who have made use of it. In all of this, the archive cannot but be, for lack of a better word, *foundational*.[1] The first phase of study is, inevitably, at the level of the "what":

1 If this language of the archive's "foundational" status at the foundation seems circuitous, verging on the tautological, that effect is intended. In a Foucauldian (or Broodthaersian) sense, I seek to highlight the way in which archives — particularly very complete ones — risk doing more than aiding the writing of a history, to the point of defining its terms or circumscribing them. This is less to say that the ZERO archive is such a case, than that, after a decade of its centrality in putting all the history in place, the kind of study/theorization in its next chapter might shift.

getting it all on the record. And a significant percentage of the existing scholarship on ZERO reads like this: as accounts of what happened, who met who, exhibitions, demonstrations, and publications. What is exciting at this moment of *turning the page*, so to speak, is the chance to focus on the stakes of all that is now in place, theoretically, and from new, perhaps broader perspectives. If all histories entering the larger narrative and canon of modern and contemporary art have first to be solidified and defended — and we have seen this in many *newer* 1960s histories ranging from Fluxus to the *other* minimalisms (e.g., originating in sound or dance rather than sculpture), inter alia — the *subject* becomes newly thrilling when the "what" becomes "so what?" At this point, with the luxury of having enough in place to move on, the questioning can shift to the "why?" / "why does it matter?"

In terms of the bigger picture, the immense amount of new scholarship on 1960s topics, which has so enriched and complicated the field over the past decade or so, has obviously changed the stakes of ZERO studies as well. And the work the ZERO foundation has accomplished in the same period, leading to groundbreaking exhibitions and publications, has created many new openings for wider research. It is clearer than it ever has been, for instance, how many of the key artistic strategies we associate with the advanced art of the 1960s were present in the founding Zero / Düsseldorf context at the turn of that decade. The early activity of Otto Piene and Heinz Mack now reads differently. Not only at the level of their own art but in terms of all they initiated: the implications of the Abendausstellungen (evening exhibitions) and collective publications, and the so-called network approach. We can see more clearly than ever how much this anticipated. But rather than continuing to compare like with like, or staying within the frame the ZERO network created, I would like to start things off by sketching out a broad field of examples, touching on issues concerning the further theorization of Zero / ZERO more than the group themselves and their works. I state this up front, as a kind of caveat. So my paper is framed in a manner that is intentionally tentative and open-ended. Coming at the start, this seemed only appropriate; conclusions will come later.

In the interests of thinking through the task of historical mapping, and certain critical questions in ZERO studies going forward — focused through a dual sense of contemporaneity, *its* time and ours — I have structured what follows via three criteria. Chosen expressly to open up topics this conference has named as subjects, and ideally to spark an initial set of questions for our collective consideration, I think they drop us into some core issues. They are:

(1) The Monochrome
(2) Performance / The Performative
(3) The Immersive

Each comes with its own *baggage*, some heavier than others. Obviously, the monochrome is a well-trodden topic, which is why it may need some fresh thought. And of course "the monochrome" stands as a summary category for the larger one of "painting" as the conduit of much 1960s iconoclasm and invention. The topic fans out when we consider expanded strategies of non-composition, seriality, "found effects" (more ambient than those derived from a palette), canvas as object (to be penetrated), and so on, which countered the gestural, expressive painting of the time. I will address this admittedly vast topic first by touching on some foundational modernist examples that may be valuable to think anew, or reposition. And other postwar interventions prior to and at the time of ZERO — both oft-cited and under-acknowledged — will serve as reference points, as a way of getting more out of the models defined by the Zero artists.[2] Again, we are ultimately not so interested in the "what" — or *firstness*, at the level of chronology — but the "why

2 If Yves Klein's example is unavoidable, how is it and the monochromes in ZERO affected by considering those in Gutai (e.g., by Atsuko Tanaka), or others by the small contingent of women artists in this period (e.g., Yayoi Kusama)? In this case, difference, and independence, make for provocative as well as productive counter-models.

does it matter?": the motivations and stakes of each statement in painting. Lastly, as much as the topic of the monochrome provides a common base for discussion — as it has for quite some time — its greater interest, to me, concerns how any presumption of *sameness* almost instantly brings out difference. Or it should. To get at this I will touch on an issue that is virtually inextricable from the monochrome — and entrenched in the comparison default of art history more generally — but which seems to plague new histories in a special way: the problem of "pseudomorphism." This is a trap for curators as much as art historians. Think of all the white paintings that have been marshaled to contextualize the *achromes* of Piero Manzoni, in shows as well as books. An example is the Museum of Modern Art (MoMA) exhibition *There Will Never Be Silence* (2013–14), where a collection piece (Barnett Newman's *The Voice*, 1950) was used as context for the second, graphic version of John Cage's *4'33"* (1952/53).[3] The second criterion, performance/the performative — on which I was asked to speak — will involve a kind of pedantic cleaning up of definitions on which we may or may not be able to agree. The term "performance" remains fairly clear, simply as a genre, even if there is nothing generic about it in the decade we are considering. More complicated is "performativity," a term that is now so used and abused as to have become almost meaningless. But it can do good work for us — both terms can, in tandem — if we can sharpen up their application. As you may have noticed, the term "performative" has shifted from a noun to an adjective in recent years. Initially drawn from its coinage in linguistics, *the performative* signified a kind of utterance, which, depending on the speaker and the context, can change a reality, even the status of the subjects implicated, by a slight of language. In its current (adjectival) sense, it has come to refer to just about anything that enters the realm of performance. In the process of this change and broadening of the word's application — something that happens all the time in language, and is not a negative per se — it has hemorrhaged meaning, and its original precision; we can glean neither historicity nor efficacy from the general usage of "performative" today. Perhaps this problematization will be productively developed in light of Margriet Schavemaker's essay in the *ZERO: Countdown To Tomorrow* catalogue.[4] My sense is that since the ZERO project cannot be considered "performance art," notwithstanding the fact that the key figures created events, street activities, and room-scale installations — all of which sought to change the conception of painting and the conditions of perception art engendered — the efficacy of *performativity* is perhaps more useful in reading their activities than *performance*.

The third criterion, "the immersive," seems key to thinking through Zero's relationship to technology in its time (versus ours); its dominance as a topic among these papers suggests as much. I would simply like to open things by asking how the term is motivated now, when we use it. To ponder this in preparing my lecture, I took out the vast tome of the multivolume, miniscule typed, Oxford English dictionary, and its appended updates, to look back at how the word was used in the past. In fact, I was pressed by the nagging feeling that it might not have been used at all in the 1960s, at least not in any sense related to its current application. It probably does not surprise you that a large proportion of the definitions had to do with being literally underwater (submerged), marinated, or baptized. A search of newer sources essentially convinces one of the dating of "immersive's" present use to a post-digital, post-video game, and post-internet era. The discussion often touches on the kind of experience needed — almost drug-like, said one source — by millennials. So we have something of a gap, then, when we retroactively

3 Was the thought that the museum did not own a set of Robert Rauschenberg's *White Paintings* — the example Cage himself cited as his inspiration — so the white Newman would do?

4 Margriet Schavemaker, "Performing Zero," in *Zero: Countdown To Tomorrow, 1950s–60s*, ed. Valerie Hillings, exh. cat. Solomon R. Guggenheim Museum (New York: Guggenheim Museum Publications, 2014), 44–55.

baptize Zero with this "hot" idea. *Hot* has to do with the vast number of announcements and PR statements one sees every week that tout the quality of being "immersive" as the main draw for an exhibition or performance. I would like to use the opportunity of this topic being so strongly present on the conference agenda to begin some collective work on both critiquing and historicizing it. Without such an effort, the *soup* of an ahistorical, undifferentiated "immersive" could run from Louis Daguerre's dioramas to Pipilotti Rist.

And here I would want to attend to Zero's standard periodization: 1957/58 to 1966. The reason for this is that one might persuasively argue that Otto Piene veers in a direction that could carry this descriptor, for some, in 1967. But can we call the 1950s and early 1960s "immersive"? If pushed, one might find an example or two in Gutai that could (tenuously) fit the bill. But I would want to see this debated further. Gutai's exhibition concepts, and works, remain fairly exceptional for their time. Even in the early 1960s one is hard-pressed to think of works that would qualify as "immersive." In part because of the need, first, to break through the viewing conditions of painting into literal space, that moment would seem to warrant some distinction, and reaffirmation, of its activated constructions of room-scale installations. While some would not agree that "immersive" conjures a passive spectator, I tend to think this becomes the case by the degrees — in the exhibition format — and that those degrees have to do with the extent of the technology. I do not consider happenings and environments (1959–64) in the United States or museum installations like *Bewogen Beweging* (1961) or even *Dylaby* (1962) immersive. Just as the first uses of the stimuli of light at the hands of Zero artists — whether from reflective materials or flashlights and bulbs — still seem to engender different, more active, one-to-one encounters, even in the midst of wall-to-wall installations. In the later 1960s — in part as a result of drug culture and discos (to put it too simply) — the immersive as a condition becomes somewhat more plausible, even if it still seems that the concept was not quite comparable to its recent applications.

THE MONOCHROME

Given the proliferation of the monochrome in the ZERO context — in exhibitions from *Das Rote Bild* in 1958 through *Monochrome Malerei* in 1960, among others — it seems worth starting this discussion with some general examples to bring issues into focus that seem critical to thinking about ZERO's deployment of painting in general and the monochrome in particular.

Concerning the trap of similarity, it is worth clarifying the issue of pseudomorphism. As it has been diagnosed most aptly with examples in abstract painting, it should bear on analogies that have likely annoyed the ZERO artists over the years. Originally defined by Erwin Panofsky, the term had to do with formal analysis when confronted with "morphologically analogous … even identical" looking examples, which happen to be "entirely unrelated from a genetic point of view."[5] In one lucid explanation of this, Yve-Alain Bois gives the examples of works by Cage and François Morellet. I will risk the friction this might cause — introducing an artist associated with GRAV in the context of ZERO — on the off chance that it can be productive as a case of false alignment. Morellet's painting *5 lignes au hasard* (Five Random Lines; one of a series) dated 1971 is juxtaposed with an excerpt from Cage's score material for the piece *Music Walk* (1958), which in fact premiered in Düsseldorf in September of that year at Jean-Pierre Wilhelm's Galerie 22. The similarity of patterns achieved by the artist and the composer is of course utterly striking. Both are the product of chance, as Bois points out. What we then need to know is that although Morellet made the painting in 1971, he initiated the series as sketches in 1958, the same year as Cage; they remained unpainted for years because there was no interest in them.

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5 Erwin Panofsky, cited in Yve-Alain Bois, "Chance Encounters: Kelly, Morellet, Cage," in *The Anarchy of Silence: John Cage and Experimental Art*, ed. Julia Robinson, exh. cat. Museu d'Art Contemporani de Barcelona (Barcelona: MACBA, 2009), 188.

So the dates line up, but can this justify making any more of a connection between these very different works? How could that difference best be described? Bois puts it succinctly: one is autonomous, as a painting, even though it is part of a series, which all use the same template; one is not, as only part of a score, which will come together with other parts in a different chance configuration every time it is used.[6] But both had their chance and systems of permutation in common. This said, neither composer nor artist knew anything about the other at the time, or ever, which is only the tip of the iceberg as to why remarkable likeness is utterly flawed as an argument.

Now let's consider two exuberant monochromes, which bookend the decade we are considering. Barnett Newman's 1951 *Vir Heroicus Sublimis*, with its vast expanse of deep red, and Andy Warhol's 1963 *Orange Car Crash Fourteen Times*, in a more orangey red, are of course nothing alike. First of all, we have to note that Newman's is one painting, divided; Warhol's is two paintings joined, only one of which is a pure monochrome, whatever *pure* might mean in Warhol's case. It is their *unlikeness*, arguably, that allows us to track a certain trajectory of the aspirations tied to the monochrome, and a radical shift in its status from one decade to the next. Granted, this is an extreme pairing. In any case, what do we have? In the Newman, a chromatic and spatial plenum resulting from deep moral thought about the subject of painting in the aftermath of war, an utterly precise parsing of the field by the vertical dividers ("zips"), and the artist's stipulation that the vast canvas be viewed at a very short distance, thus implicating the viewer in the luminous red field more profoundly than would a standard (pictorial) distance. By contrast, Warhol's "monochrome" canvas seems shockingly empty, to a degree that is difficult to articulate, but which puts it in a different universe from the Newman. For Warhol it was one of the "blanks," as he called them; a frame for nothing much that takes up space and time, like frames at the end of a film reel, or the interruption of a commercial break. "It just makes them bigger," he said, "and mainly makes them cost more." Of course this is not to argue that monochrome, as a profound statement in the 1950s, is null and void in the 1960s; it is simply two limit cases. As we contend with what became a very crowded field, it may help us think precisely about how each different monochrome functions at the moment it is formulated.

To put the problem of historical limits and possibilities in the postwar period somewhat differently, it is instructive to ponder the challenge put by one master of the monochrome, Ad Reinhardt: "Some day every artist has to choose between Malevich and Duchamp."[7] In Europe, one imagines the decision could equally have been between Kazimir Malevich and László Moholy-Nagy. So how do we make sense of the monochrome model that was introduced to future ZERO artists in 1957?[8] Although Yves Klein is always acknowledged in the ZERO context for making the monochrome matter in a new way, it seems worthwhile to keep thinking about *how* he made it matter. Certainly, he arrived in Düsseldorf riding a wave, with five shows having *invested* his invention, including the one he came for, as the inaugural exhibition of the Galerie Schmela.[9] But let's go back a bit further: How did Klein have the hubris to introduce the monochrome as new, when he was well aware of its history? As members of the emergent generation, Klein and Jean Tinguely contended with the dominance of painting in 1950s Paris, while working with and against the major

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6 *Music Walk*, an indeterminate score, was created in parts to be assembled by the performer.

7 This story is relayed by Mel Bochner. Reinhardt said this to him and Robert Smithson on the streets of New York in the 1960s. He recalled that, by that point, the two young artists wondered: Why choose?

8 I say ZERO here to mark the discovery by Manzoni, with Klein's show at Galleria Apollinaire (Milan, January 2–12, 1957), and by the Zero artists at Galerie Schmela (Düsseldorf, May 31–June 23, 1957).

9 *Yves: Propositions monochromes*, Galerie Colette Allendy, Paris, February 21–March 7, 1956; *Yves Klein: Proposte monocrome, epoca blu*, Galleria Apollinaire, Milan, January 2–12, 1957; *Yves le monochrome*, Galerie Iris Clert, Paris, May 10–25, 1957; *Yves le monochrome*, Galerie Colette Allendy, Paris, May 14–23, 1957; *Yves. Propositions monochromes*, Galerie Schmela, Düsseldorf, May 31–June 23, 1957.

modernist legacies—a particularly European pressure.[10] Tinguely paid his homage with titles like *Méta-Malévich*. Yet it seems the monochrome qua monochrome would not be as significant to him as the tactile, palpable surface incident the Russians called "faktura," and Suprematism's sense of movement.[11] Klein tended not to salute the masters of his own century. He would speak generally of "the painters," referring to more proximate contenders, while Pierre Restany took the role of citing modernists (such as Malevich) to defend Klein against them.[12] Of course, the inventor of the *Black Square* and *White on White* did not pose the only threat to the enterprise of reinvention in the 1950s; Malevich was a purist, a utopian who kept on painting, *from Zero*, as he once put it. Rather, it was the breakaway Constructivist Aleksandr Rodchenko, whose *statement* of 1921—in the form of three monochromes in red, yellow, and blue—called the end to the myth altogether.[13] Next to that triumvirate, Klein's blue, gold, and rose appear as a calculated reprise—to say the least.

After beginning with multiple colors in the mid-1950s, Klein narrowed the field to blue before widening it again. The 1957 "Blue Period," as he called it (without naming Picasso), ushered in his "invention" with fanfare. In the first half of that year, installations in London, Milan, Paris, and Düsseldorf were each staged differently, including staggered hanging, the accompaniment of 1,001 blue balloons, the presentation of pure pigment, blue gas, and even an empty space with only the artist present.[14] Thus Klein managed to resuscitate the monochrome in a manner as dramatic as it was arbitrary. And arguably, the extent of the arbitrariness was directly proportional to how interesting his project became for others. It was what he said about his paintings, and how he put them in play/on display—not to mention the messianic conviction with which he did this—that renewed the form. Inventing what we could potentially call the *postmodern monochrome*, Klein cleared the slate. After him, it seemed possible to define that model as almost anything one said it was. Here we find ourselves in the territory of performativity. The point being that one cannot have one without the other in the case of Klein.

The interesting thing about acknowledging Klein's impact in this way is that, almost as soon as we do so, we notice that there is no example in Zero that does anything remotely like what he does with the monochrome.[15] In this sense, as it proliferates as a form, we begin to see that the idea of "the monochrome" obscures more than it reveals. A show like *Das Rote Bild* (The Red Picture, April

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10 To specify this point, there was modernist pressure on the generation of Abstract Expressionists in New York—as there was for the Informel artists. But in the next generation, those born in the late 1920s and after, lingering pressures in Europe—tied to a long history of dominance in painting—were not felt in the same way by American artists. Pablo Picasso was still a figure for Jackson Pollock, in other words, but not for Allan Kaprow.

11 It also should be said that Constructivism (à la Tatlin) would become more important for Tinguely than Suprematism.

12 In Restany's 1956 text "La minute de vérité" (The Minute of Truth), written for Klein's show at Colette Allendy, henoted that his work was "somewhat removed, no doubt, from what is called 'the art of painting.'" He distinguished Klein's work from Art Informel, and the "senseless attempt to bring the dramatic (and now classic) adventure of Malevich's square to higher power." (Author's translation of original document. Yves Klein Archives, Paris.) New in Klein's paintings was that "there is precisely neither square nor white ground." This same text, as we know, was read aloud at the Schmela opening the following year.

13 As Rodchenko put it, "I reduced painting to its logical conclusion and exhibited three canvases: red, blue, yellow. I affirmed: it's all over. Basic colors. Every plane is a plane and there is to be no more representation." Cited in Yve-Alain Bois, *Painting as Model* (Cambridge, MA: MIT Press, 1993), 238.

14 This refers to the shows at Galleria Apollinaire in Milan, January 1957 (staggered hanging), and the two in Paris, at Iris Clert (with the 1,001 balloons, *Sculpture aérostatique*) and Colette Allendy (where he showed, among other things, loose pigment in a vat on the floor, a board of gas jets, *Feu de bengale*, and demonstrated the significance of the artist's presence in an upstairs space).

15 I say this for Zero, meaning the artists from Düsseldorf, but there may be cases in ZERO (meaning the larger network); Manzoni comes to mind. His *Achromes* begin with a similar investment in the sheer presence of the painted object—even if this changes. At the level of medium, there are important differences of course—and we are still speaking of the 1950s: Klein's "pure pigment" and Manzoni's kaolin channel very different aims and effects.

24, 1958) is just one clue to how many very different talents could adopt the form for a single occasion. Paintings whose dominant color was red by over forty artists: a nightmare of an event for the pseudomorphism police. This continues through the white monochrome, whose examples through the larger ZERO network are of course legion. This is not a reason to ignore the use of just one color—though when more is at stake the *genre* itself can seem incidental—or forget that it stood for something in the postwar period. Even as artists transitioned into new materials, media, and effects, it is worth asking why they often kept it as a point of departure. What pressures this extensive field of activity, however, is still superficial aesthetic coincidence—the point I am trying to reach with the shorthand of pseudomorphism—and the persistent need to differentiate aims. The point of intersection between painting and the statement *on painting* still seems crucial to locate in reading the monochromes in ZERO. But "ready-made" factors play in as well, and prove vital to the cancellation of *expression*. For what else are the stencil patterns of Otto Piene, the play of reflections drawn from the given properties of metal in Heinz Mack, or even the nails whitewashed by Gunter Uecker, except surrogates for no longer desirable, handmade, painterly *incident*?

I would suggest that revisiting some unconnected examples, which are nonetheless often linked, might be productive at this juncture. Namely: the white matrices painted by Piene and Mack in the late 1950s, and those of Yayoi Kusama from roughly the same time. The works of two close peers pursuing related (but not aligned) tracks in Düsseldorf, and a young woman artist who had recently relocated from Japan to New York, just based on the circumstances in which they were created, are incomparable. The palpable difference between the stencil and other more mechanical means of composition in the work of the German artists versus the organic "nets" of Kusama also makes them entirely different undertakings—despite their shared, perforated *whiteness*—as does their dramatic difference in scale. In particular, Kusama's first, truly vast canvases were conceived under the impact of Abstract Expressionism, and Newman in particular; Piene and Mack's paintings, to my knowledge, never exceeded the dimensions of the easel.[16] This may reflect the fact that *their* nemesis, like Klein's, was Informel, which likewise remained mostly at a certain scale. Moreover, the mechanized, anti-expressive structures of Piene and Mack—in their different ways—contrast so starkly with the painstaking process of Kusama's net paintings, despite their semblance of a related structure. But as dialogues tend to go, one cannot but note that after Kusama showed with the ZERO artists—another basis for the tendency of comparison, if not pseudomorphism—she went on to rename this work *Infinity Nets*. Finally, one might ask where comparability—of monochromy, for instance—reaches the limit of its capacity to generate something. For a random example at the other extreme: the well-known (staged) photograph of Uecker, with a television covered in nails spraying it white in 1963, no longer prompts questions about the white monochrome.[17]

PERFORMANCE / THE PERFORMATIVE

Performance and performativity crisscross the ZERO activity at a very interesting moment—just ahead of a decade when performance begins to reposition the work of art. A simple question I had reflected on to open up this subject was: What did the "evening exhibitions"—for which a day and an hour were given—do at the time to the standard format of the art exhibit, which typically spans around a month? If the conditions for an exhibition and a performance, or simply

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16 Kusama is an interesting comparison because she appears in multiple contexts. In the period in which she showed with the ZERO artists at the Stedelijk, her net paintings became *Infinity Nets*. It also seems that the mirrored works she saw at that time might have pushed her in the direction of her own mirrored environments. For the impact of Newman, see Midori Yamamura, *Yayoi Kusama: Inventing the Singular* (Cambridge, MA: MIT Press, 2015).

17 The "object" calls to mind the exhibition that year in Germany of Nam June Paik's first "prepared TVs." And once the object/technology element eclipses painting/sculpture, associations—more and less obvious—begin to proliferate: Mack's *Lichtkuben* (Light Cubes), for instance, in relation to Hans Haacke's *Condensation Cubes*—and the list goes on.

an opening versus the run of an exhibition, collapse here to form the event, surely it changed the energy and even the urgency around what took place.[18] And this may be one place to begin a genealogy of staging in Zero, that would extend to the staging of artworks in dramatic spaces, and the total installations that would ultimately develop. Here the *event structure* of the showing of painting paves the way for a dramatic reframing of the conditions of seeing and perceiving works of art.[19]

The *image* of Mack dressed up in a suit and tie, and Piene in "smoking" attire, replete with white bowtie—so far from the paint-splashed artist in street clothes—also constitutes a decision at the level of style / formality. Piene had said that Klein's sense of his status as a real artist had made an impression on them, and that in the German art world younger artists were not taken seriously. Perhaps the formal attire was a bid to change that. They were not alone in this. Cage was well aware that the more counter-conventional the presentation the more formally one had to present oneself. The Fluxus artists would follow suit—pardon the pun. As we know, through the decade of the 1960s the self-styling of artist groups became more conscious.[20]

So how does the performative play into this? To extend the definition I gave briefly at the outset, the performative was coined by J. L. Austin in the context of linguistics. Austin's 1955 lecture series at Harvard University, published as *How to Do Things with Words*, took its title from his infamous characterization of performatives as statements that *do something*—as opposed to "just saying something." *What* they do depends on the speaker, and the context. From one moment to the next, a judge can say something and define a person as guilty or innocent. Saying "I do" can get you married—and so on.[21] So what if an artist defines a cobalt blue painting as a ravishingly unprecedented manifestation of art, and of a new "sensitivity"? Austin classes performatives as "masqueraders," which seems to suit the theatrics we are seeing here as what I have been calling a kind of *staging* of painting. The more classic example of a performative in twentieth-century art is Marcel Duchamp taking an everyday object and designating it a work of art, which he could do because he was an artist. If I did it the effect would not be quite the same. And Duchamp's act, his nomination of the readymade, was reiterated, over and over—like a kind of performance or re-performance, in his interviews and in the literature. Thus, we have accepted that original gesture and statement historically. This meeting of art, action, and statement is the sense in which I am trying to apply the concept of the performative here. If it has succeeded in changing art's conventions many times since Duchamp, by what means has it done so? How, for example, do the paintings in ZERO intervene in the history of painting, and how it was heretofore defined? How do the various acts in relation to art (extending Klein's *staging*)—from Piene's use of light, to Uecker's firing arrows, even to Mack's expedition to the Sahara—add a performance that may change conceptions enough to have a performative effect?

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18 After thinking about how this raises the stakes of the exhibit to a moment in time, and how that introduces performance qualities that have an effect on the traditional format of the gallery exhibition, I read that Lawrence Alloway had made a similar point in the 1970s. That, however, does not negate the relevance of that Zero strategy in the present context.

19 Visitors to Düsseldorf and the Zero scene—like Tinguely or Daniel Spoerri—surely contributed to this amplification via the event. One thinks of the name Tinguely came up with for a show of what were essentially still sculptures, or at least wall-bound hybrids of painting and sculpture: a "concert." See *Konzert für 7 Bilder und andere Skulpturen*, 1959. Spoerri's participation on that occasion (reading poetry) was, as we know, just one small instance of his widespread involvements at the time. And, as the circularity of a small art world tends to play out, Spoerri would also comment that he had been present to hear Cage, presumably in 1958, and it changed everything for him.

20 Examples are Warhol with the Velvet Underground, and the image that seems to be modeled on this, Seth Siegelaub's group shot of the four conceptual artists presented at the exhibition *January, 5–31, 1969* (1969).

21 J. L. Austin, *How To Do Things With Words* (1952/1966), ed. J. O. Urmson and Marina Sbisà (Cambridge, MA: Harvard University Press, 2000). The basic examples of performative utterances that Austin gives are: (1) "I do" in a wedding ceremony; (2) "I name this ship *Queen Elizabeth*" (as a bottle is broken over its bow); (3) "I bequeath"; (4) "I bet." Ibid., 5.

One element we should consider in this, since language is crucially operative: the role of the many artist statements and quasi manifestos in the ZERO context. Central to the avant-gardes of the early twentieth century, these statements *in language* that give force to those *in art* return with a vengeance in the postwar period. In addition to the statements of Klein, and those Mack and Piene had already produced starting in 1957 (though the two *ZERO* magazines of 1958), Tinguely advances a particular mode of performativity and performance when he comes to Düsseldorf in 1959. His *Für Statik* statement, and the idea for distributing it by throwing it from the window of a plane, could hardly be less of a dramatization.[22] In developing our definition, we could call the photo shoot Tinguely arranged—with the documents and a plane that apparently never took off—performative. As for the statement itself, its language is so odd and contradictory that the sheer arbitrariness of the performative may be the only explanation of its "meaning." It also followed the model of the manifesto, perhaps the original document that was deployed (by artists) because it *does something with words*. The context, of course, always reinforces the words, even when they defy the usual preconditions for immediately legible meaning. This might be said for the 1963 poem/manifesto by Mack, Piene, and Uecker, which begins "Zero ist die Stille," and ends with the self-reinforcing tautology, "Zero ist Zero."

The outdoor "Demonstrations" of ZERO in 1961 and 1962 extend the dual functioning of the performance and the performative, first of all with this title, which coincides with the notion of the political demonstration, as does the site of the street as the locus of the action (whether protest or festival). It is not possible to enter into detail in the limited scope of this paper, but certain aspects of these events seem ripe for future thought. The shuttering of the Galerie Schmela, as a kind of temporary withdrawal of its function of showing art in a conventional way, with the painted text privileging "Edition" and "Demonstration" (literally) over the exhibition ("Exposition") is interesting as an obstacle in space and a parentheses in time. The difference in slickness, if not professionalization, between the 1961 event and that of 1962—with the mediatization in mind—is also striking as a fairly early instance of such consciousness in the 1960s.[23] At another level, it seems that the 1961 "Demonstration" proved significant for artists who witnessed it and would go on to be key figures in Fluxus (such as Nam June Paik and Wolf Vostell), and for the activist practice of Joseph Beuys. Certainly, the modest performance activities in New York lofts and small gallery spaces (1959–61) that were one basis for Fluxus were far removed from the street actions of ZERO. And Paik was surely a "bridge" figure in this, mounting his own elaborate performances in this period in Germany before Fluxus began.[24] Interestingly, to circle back to the subject of the manifesto, when Fluxus founder George Maciunas contacted Joseph Beuys to help secure the Kunstakademie in Düsseldorf for performances, Beuys asked him if this new movement had a manifesto. Maciunas wrote one in reply. And finally, to circle back to the subject of painting,

22 At some level, Tinguely gets his performative approach from his friend Klein—that is, the sense of performing something into being, ceremonially changing its status. Klein's meticulously kept press books tracking every exhibition—openings, the installation, the media response, etc.—partake of the performative less obviously in revealing Klein's vigilant calculation of his own *effect*. The patent (*brevet d'invention*) as a document falls more squarely into this category of the performative as *legislative*. Klein sought to patent his color, and Tinguely his *Méta-Matics*. Though the manifesto is such a document, in and of itself, context always instantiates it, and Tinguely's idea to situate it within an event exemplifies this.

23 Margriet Schavemaker raises this issue in her essay "Performing Zero." While her focus is largely in relation to the story of performance in the decade of the 1960s, my point has more to do with a media sense that was not present in the American context in the same way, for one thing because there was not the same coverage of culture in the United States as there was in Europe. Fluxus gets televised in Germany but not in New York, for example. There are several fairly isolated exceptions with the TV appearances of John Cage (on game shows in Italy and the United States in 1959 and 1960), and later Charlotte Moorman (who was, after all, an accomplished musician). It is largely with Warhol that this media consciousness becomes part of the understanding of the art.

24 Fluxus is launched at Wiesbaden with a series of concerts in September 1962.

one salient difference — among many — between ZERO and Fluxus is that the latter were not painters; in fact, many had abandoned painting and performance had replaced it.[25] Nonetheless, the impact of the Zero concept of announcing an art movement, and specifically a magazine (as Fluxus originally was conceived), through real-time events has not been explored as an early example that momentarily aligns these otherwise quite different groups.

THE IMMERSIVE[26]

When does an engagement with the ambient conditions of the work of art become immersive? I think this question is provocatively addressed by the pairing of Otto Piene's Light Ballets from the early 1960s and *The Proliferation of the Sun*, which Piene presented for the first time in 1967. In the first category of works, the viewer enters the space and actively moves through it, looking attentively, following the tracery of the light as it activates the architecture, and prompts the movement and discovery of the perceiver. In the second, viewers lie back on a carpeted floor, and allow the imagery to wash over them. In between, we might cite the *Lichtraum (Hommage à Fontana)* (Light Room [Homage to Fontana]) by Mack, Piene, and Uecker of 1964, which still seems to preserve something of the one-to-one discovery, and even the perception, associated with sculpture, because of the physical encounter with objects (sculptural forms as light sources) that anchor the installation. Moreover, the relatively simple, isolatable technology sets up a palpable (or graspable) relay of cause and effect, which is still phenomenological, still felt with the body. This aspect tends to disappear with the escalation of the immersive, and most decisively with the end of analog technology.[27]

I don't have instant answers, but I feel it's worth closing by posing some questions. What are the conditions of the immersive? Can we call them technological / gauge them by this criterion? Are they defined solely in terms of the spectator / spectatorial experience? And what are the implications? Are there particular historical moments when they can be read as political?

Attractive as it may now be to apply "immersive" to the Zero installations, I wonder: Can we accept the perceptual lurch that the use of this term — overwhelmed as it is by its present meaning — presupposes for such vastly different eras of technological experience? Can we actually speak of the "immersive" *at all* in the analog moment? Or is this to impose a heavily exploited twenty-first-century brand to invigorate a distant precursor? When attributed to Zero, the immersive

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25 Schavemaker mentions in her essay this ephemeral aspect that leaves no commodity, which is typically associated with performance activities of the 1960s. Her example is Allan Kaprow, who made a point of not having any residue (art) after his happenings.

26 The exception to my sense of the idea of immersion (if not quite "the immersive") being used at all in the 1950s is Yves Klein: "Then I immersed myself in the monochrome space, in everything, in the boundless pictorial sensibility." Yves Klein, "Overcoming the Problematics of Art" (1959), in *Overcoming the Problematics of Art: The Writings of Yves Klein*, trans. Klaus Ottmann (Thompson, CT: Spring Publications, 2007), 45.

27 In the interests of time and space — pun intended — I will end this series of thoughts with a brief indication of the exhibitions that help us track the idea of the "immersive." Exhibitions of course constitute a veritable subtext of ZERO. But let's map a slightly wider context, which precedes, exceeds, and includes the group. Since there is not the time to discuss each, I hope the list will be indicative of a certain progression, and serve as a basis for considering the kind of engagement — from one-to-one, or when the works remain discrete objects, even in a room-scale installation, through to a more diffuse or passive experience. For those who know the exhibitions, the logic will be clear, or at least food for thought. For those who do not, the list (only partial) may offer some ground for further investigation. *Le Mouvement*, Galerie Denise René, Paris, 1955; Gutai's outdoor exhibitions, Ashiya, 1955, 1956; Yves Klein, *Proposte monocrome, epoca blu*, Galleria Apollinaire, Milan, 1957; *Vision in Motion – Motion in Vision*, Hessenhuis, Antwerp, 1959; Otto Piene, *Lichtballett* (performance), Galerie Schmela, Düsseldorf, 1959; *Bewogen Beweging / Rörelse i konsten*, Stedelijk Museum Amsterdam / Moderna Museet Stockholm, 1961; *Dylaby*, Stedelijk Museum Amsterdam, 1962; *Lichtraum (Hommage à Fontana)*, Documenta 3, Kassel, 1964; *The Responsive Eye*, Museum of Modern Art, New York, 1965; Paul Sharits, *Wrist Trick* and *Dots 1 & 2* (films), 1965; *Mack: Forest of Light*, Howard Wise, New York, 1966; Andy Warhol, *E.P.I. (Exploding Plastic Inevitable)*, Dom, New York, 1966; Otto Piene, *The Proliferation of the Sun* (performance), Black Gate Theatre, New York, 1967; John Cage, *HPSCHD*, University of Illinois, 1969.

condition would seem to forfeit modernist painting's complex DNA for the first postmodern forays, along with the perceptual encounters likely aspired to: an experimental, participatory engagement scintillatingly magnified for the not-yet-(sub) merged subject. In assessing the stakes of Zero, then and now, such questions seek to calibrate the scope of that art's intervention in the pre-digital age — to strengthen the framework we have for what came later.

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Art for All: Lines of Tradition and Development of a Central Narrative of Art since ZERO

ULLI SEEGERS

"'4 3 2 1 ZERO' is the countdown of a generation of artists who want to reach the light and the stars. From complaining about the dark past they want to reach a dimension of free possibilities. The new and the unseen attracts them. They want to overcome the heaviness of the earth, and art becomes the place of their dreams. … Heinz Mack and Otto Piene also dream of a better world. Should they dream of a worse?"[1] Dirk Pörschmann and Mattijs Visser begin their foreword to their 2012 reprint of the three *ZERO* magazines with a rhetorical question with reference to Otto Piene:[2] How could one dream of a worse world if it wasn't a nightmare?

The young family fathers Mack and Piene, on the other hand, dreamed a very concrete dream when they lit their first rocket for a better world on April 11, 1957, with the first of a total of nine *Abendausstellungen* (evening exhibitions). In their backyard studio in Gladbacher Strasse, which the two art teachers had shared with Kurt Link, Hans Salentin, and Charles Wilp since 1955, they began a series of exhibitions "which consisted only of a vernissage at night without the exhibition lasting any longer."[3] A total of eight artists presented their works to a first small group of spectators on this evening. The background to this form of presentation was extremely pragmatic, as it responded to the lack of exhibition possibilities: "When in the middle of the fifties the activity of the younger artists in Düsseldorf increased more and more, no gallery proved to be willing or able to take real interest in their work and imagination."[4] With the evening exhibitions, however, a new era began, because it was the starting signal for highly successful artists' careers and the beginning of the first international art movement of the postwar period that came from Germany.

On the occasion of the seventh evening exhibition in April 1958, the first issue of *ZERO*, a magazine edited by Otto Piene and Heinz Mack, appeared. The catchy name ZERO was found as the "result of months of search": "we looked upon the term … as a word indicating a zone of silence and of pure possibilities for a new beginning as at the countdown when rockets take off—zero is the incommensurable zone in which the old state turns into the new."[5] In fact, the self-organized studio exhibitions transformed the previous state of artistic breadlessness into a new one of public recognition and appreciation. So it is no wonder that shortly after the eighth evening exhibition and the second issue of *ZERO* magazine, Alfred Schmela also became aware of the young Zero artists: already in May 1959, the first public performance of Piene's Light Ballet took place in the gallery, where later, in summer 1961, the legendary international exhibition *ZERO: Edition, Exposition, Demonstration* was also to be held. From then on, Günther Uecker actively cooperated with Mack and Piene and the three artists became the core of the movement.

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1 Dirk Pörschmann and Mattijs Visser, "Vorwort," in *4 3 2 1 ZERO*, ed. Dirk Pörschmann and Mattijs Visser (Düsseldorf: Richter/Fey Verlag and ZERO foundation, 2012), 7 (unless otherwise noted, all translations are by the author).

2 "Yes, I dream of a better world. / Should I dream of a worse?" Otto Piene, "Ways to Paradise," trans. Rory Spry, *ZERO*, no. 3 (1961), reprinted in *4 3 2 1 ZERO*, ed. Pörschmann and Visser, n.p.

3 Otto Piene, "The Development of the Group 'Zero,'" in *ZERO*, ed. Heinz Mack and Otto Piene (Cambridge, MA: MIT Press, 1973), xxiii, edited reprint of the text originally published in *The Times Literary Supplement*, London, September 3, 1964, 812–13.

4 Ibid.

5 Ibid.

fig. 1 *ZERO: Edition, Exposition, Demonstration*, Düsseldorf, 1961
Stills from *Hier und Heute*, WDR, broadcast July 6, 1961

The term ZERO soon developed into an international brand and also turbocharged their careers. Until the end of their cooperation in 1966, more than fifty ZERO exhibitions took place in Europe and the United States; around 130 artists took part.

The aesthetic improvement of the world, on the other hand, was less active and more characterized by silence. The artistic striving was aimed at paradise, the new and the unknown. Mack and Piene saw postwar art overloaded with burden from which art had to be cleansed. After the terror of the Nazi dictatorship and the horror of World War II, the artists sought a new beginning, a 'zero hour' that would be as unburdened as possible by the past. Otto Piene described the optimistic and completely future-oriented attitude of the Zero artists in April 1961 as follows:

> For the generation of the Dubuffets and Tapiès, for the entire generation that preceded us, war and the earth were the decisive experience: earth, matter, sand, clay … for them, that was protection, security, the world, the refuge in the hole, in the trenches, in the shelter, the last dwelling in the terrible threats of war. For us, who experienced the war only on the fringes, this experience no longer applies. … or, differently, the war and thus also the earth were not our decisive experience. That's why we didn't feel fixed to the earth in our art, we don't care to bring its matter onto the canvas. What's the point? Our decisive experience is a time that dreams of astronomical, cosmonautical adventures in which man is able to leave the earth, to overcome gravity. We are interested in light, we are interested in the elements, fire, air currents, the unlimited possibilities to create a better, a brighter world.[6]

The artistic interest of the neo-avant-garde was thus not directed toward earthly reality, but toward cosmic, infinite possibilities. The program was thus set out and the aim was "the purification of color as opposed to the informel and neo-expressionism; the peaceful conquest of the soul by means of calm, serene sensibilization."[7] No longer was the subjective-individual gesture regarded as an adequate artistic expression of the postwar period, but rather the supra-individual, objective, and universalist; Zero proclaimed the "new idealism"[8] of an optimistic worldwide art characterized by luminous monochromy. Instead of deploring the political situation, the artists strove for a change, not a revolutionary one, but one with the cautious means of aesthetic sensitization. On their mission of re-harmonizing "the relationship between man and nature," they employed little art-related phenomena and materials such as "air, light, water, fire as means of expression and form" because the artist is not "a fugitive from the 'modern world'"; he uses "the tools of actual technical invention as well as those of nature."[9] The Zero artist thus not only adopts technical achievements such as engines, plastic foils, and aluminum, but also all ephemeral natural elements. In the new ZERO world, nature and technology are thought together in a beautiful and bright vision. The central keywords of the Zero group were therefore: color, light, space, movement, vibration, beauty, purity.

Heinz Mack's search for this new world, the very zone between the two states of no more and not yet, manifested itself in grids, rhythms, and structures. Later he 'painted' with the light that got caught on aluminum leaves, broke into corrugated glass, or was reflected by mirrors. Otto Piene remained faithful to the canvases, but also worked them with fire instead of paint alone. Soon Günther Uecker joined in and contributed his nail pictures to the movement. Like Mack's light steles and Piene's soot paintings, they are considered icons of postwar art today. "The work of ZERO seemed to say: The earth is habitable. A beginning is always possible. It's never too late. ZERO wanted

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6 Otto Piene (1961), cited in Wieland Schmied, "Etwas über ZERO," in *4 3 2 1 ZERO*, ed. Pörschmann and Visser, 11.

7 Piene, "The Development of the Group 'Zero,'" xxiii.

8 Otto Piene (1963), cited in Schmied, "Etwas über ZERO," 14.

9 Piene, "The Development of the Group 'Zero,'" xxiii.

to encourage us," Wieland Schmied emphasized.[10] Art should become the vehicle to make the dream of a better world a reality. The utopia of a more beautiful, brighter, and harmonious world is connected with the dream of the future new human being, who would ideally be put into a higher state by and with art and transformed sustainably.

Therefore, it was all the more important to address a broad public. In order for art to reach as many people as possible, the Zero artists developed extensive advertising measures that, from today's perspective, make artists appear to be real marketing experts: "The Zero artists wrote treatises, organized exhibitions and public events, published their own magazines or used the classic print media and the new medium of television to reach a broad public. They gave interviews, and with each statement new questions arose, to which they could give further answers."[11] At the end of the third and last issue of the *ZERO* magazine there was a logical "proclamation": "ZERO: we are for everything" (fig. 1, bottom).

In the spirit of a professional corporate identity, they designed iconic images, lettering, and layouts with a recognition effect. In addition, there were colorful hot-air balloons and costumes for women who carried the logo onto the street. The Zero artists also turned celebrating into a marketing tool. They did not celebrate simply for social reasons, but always as an expression of their philosophical ideas. The beginning of the ZERO festival culture was marked by the event *ZERO: Edition, Exposition, Demonstration*, on July 5, 1961, in front of and in the Galerie Schmela, where the third issue of the *ZERO* magazine was presented (fig. 1).[12] This event was recorded by the television broadcaster Westdeutscher Runfunk (WDR).[13] Günther Uecker painted a white circle about five meters in diameter on the cobblestones in front of the gallery. Helpers were busy filling a transparent plastic balloon with hot air, which then rose in the night sky above Düsseldorf's old town. The spectacle was accompanied by soap bubbles, which young women and men with ZERO cardboard dresses blew into the air. The gallery was boarded up. An oversized white arrow on the house wall pointed its tip at the word ZERO. The gallery was accessible in small groups only. Everywhere inside, ZERO could be read, and every time a customer bought issue 3 of *ZERO* magazine, the old cash register rang provocatively loud.

On the one hand, the ZERO artists recognized a kind of foretaste of paradise in earthly celebrations. On the other hand, a party was a perfect setting to generate attention. In this way, every exhibition and every action turned into a costume party to which everyone was always invited. There were celebrations on the banks of the Rhine in Düsseldorf, happenings in the old town, and even the Rhineland carnival (fig. 2) became a ZERO zone under Mack, Piene, and Uecker. The optimistically buoyant openings and campaigns turned into dynamic self-advertising with a high infectious factor. The 'party principle' guaranteed, in addition to a high influx, the hoped-for media response: hundreds of photos were taken that, in a time without a noteworthy public for contemporary art and without a real art market, provided some kind of media dissemination.

It may not be a coincidence that the group disbanded just at the moment when success actually came. After remarkable exhibitions in Amsterdam, Krefeld, Hannover, Washington, and New York, and participation in the third Documenta in Kassel in 1964, the "inner circle," as Piene called the three Düsseldorf initiators, ended the Zero group in November 1966 with a last major joint exhibition in Bonn and a rousing party at Rolandseck railway station in Remagen (fig. 3). This Zero

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10 Schmied, "Etwas über ZERO," 14.

11 Dirk Pörschmann, *Evakuierung des Chaos. ZERO zwischen Sprachbildern der Reinheit und Bildsprachen der Ordnung* (Cologne: Verlag der Buchhandlung Walther König, 2018), 164.

12 Tiziana Caianiello, "Ein 'Klamauk' mit weitreichenden Folgen: Die feierliche Präsentation von *ZERO 3*," in *4 3 2 1 ZERO*, ed. Pörschmann and Visser, 511–26.

13 Reportage in *Hier und Heute*, broadcast July, 6, 1961.

fig. 2 Heinz Mack, Otto Piene, and Günther Uecker at the Shrove Monday parade, Düsseldorf, 1964
Photo sacha / ZERO foundation, Düsseldorf

fig. 3 *Zero-Mitternachtsball* (Zero Midnight Ball), Bahnhof Rolandseck, Remagen, 1966
Photo Werner Kohn / ZERO foundation, Düsseldorf

midnight party also became a spectacular event.[14] "No one should feel excluded. ZERO was not only 'for everything', but should also be there for everyone. ZERO evoked a sense of community. The exhibitions radiated enthusiasm, which carried away."[15] We are for everything! ZERO is good for you! Art for all! The desire to unite art and life into a Gesamtkunstwerk is already an old dream of the modern avant-garde, which undoubtedly found precursors in Romanticism and the life reform movements of the turn of the century. Art should encompass all areas of life, even penetrate into people's everyday lives, and, as it were, shape them from within. In the neo-avant-gardes of the 1950s and 1960s, the old dream came to new life until it culminated in Beuys's catchy dictum "Every person is an artist!" The concept of art had expanded many times and made possible the development from panel paintings to objects in space and ephemeral process and action art. The dissolution of the boundaries of the image has repeatedly been associated with an increasing democratization. In only one decade, the understanding of art has fundamentally changed. With the use of seemingly unartistic, everyday materials and performative techniques, the formerly separate genres have merged into one another. The field of art, like the universe and the emerging space flight, seemed to be in infinite expansion.

Only one year after the dissolution of the Zero group, in 1967, another revolution followed that many also associate with the democratization tendencies in art of the 1960s. In Cologne, a completely new presentation and distribution format for art was emerging with the Kunstmarkt Köln as a precursor of today's Art Cologne, the first fair for contemporary art. While established art dealers like Daniel-Henry Kahnweiler in Paris turned away disgustedly from so much ingratiation of the art trade to the popular market, others joined in the praise of an actual "art for all": the fair as an egalitarian event without elitist inhibitions for the masses. However, the demand for an art for all in renunciation of academic, exclusive forms of image and expression is by no means an achievement of the postwar period, as will be shown in the second part of this essay. The question of democratization would also have to be renegotiated.

When the art magazine *Die Kunst für Alle* (Art for All) was founded in Munich on October 1, 1885, nobody suspected that it would develop into an unusually successful and long-lived magazine.[16] The publisher Friedrich Bruckmann had already moved his publishing house in the 1860s to Bavaria, where he found ideal conditions. Munich developed into a center of the internationally operating art reproduction industry. The mass distribution of art became a lucrative source of income for numerous artists and was characterized by considerable sales success. Art had become available to everyone for the first time through the reproduction industry. While the high-quality art prints were affordable only for the bourgeoisie, the low-priced postcards also served the lower layers of society with picture motifs of all kinds. Friedrich Bruckmann had recognized the importance of reproduction photography, and in 1865 affiliated his company with his own photographic institute and a print shop. In 1884, Bruckmann founded the "Photographic Union" in order to be able to apply color reproduction. It was only through this new process that the technical prerequisites were met for putting a long-planned project into practice: the publication of *Die Kunst für Alle*, the first major illustrated art magazine.

With *Die Kunst für Alle*, a completely new type of magazine came onto the market, in which photographic image reproductions played a central role

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14 Thekla Zell, "'The Ship ZERO Is Casting Out Its Anchor, and the Voyage Is Over': *Zero in Bonn* and a Final Midnight Ball," 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), 397–427.

15 Schmied, "Etwas über ZERO," 16.

16 Here and in following I refer to the central essay by Sabine Brantl, "Die Kunst für Alle," in *Ein Blick für das Volk. Die Kunst für Alle*, ed. Jochen Meister and Sabine Brantl (Munich: ART-Dok, 2006), 1–7, http://archiv.ub.uni-heidelberg.de/artdok/volltexte/2006/102.

for the first time. It also played a pioneering role in terms of content: it was the first magazine in Germany to focus almost exclusively on contemporary art and appeal to a broad audience. Sabine Brantl discovered that its low price was equivalent to the entrance fee for a visit to a museum at that time. The journal was initially published every fortnight, from mid-1943 only every two to three months. It held its own on the market for an unusually long time and was almost unrivaled. In 1944, *Die Kunst für Alle* was discontinued due to the restrictions caused by the war.

First publisher and editor-in-chief was seventy-one-year-old Friedrich Pecht. After his studies at the Akademie der Bildenden Künste München and a less successful activity as a freelance painter, he appeared as a publicist from 1853 and became one of the leading art critics of his time. Pecht had been working on the definition of an art for all since the 1860s and had explained this term in several articles. For him, art for all was a synonym for popular and national art. The title was not at all new; even before the publication of *Die Kunst für Alle*, a series of works with this title had appeared. Between 1861 and 1866 the collective work *L'Art pour tous* was published in Paris, large-format sample sheets from the arts and crafts sector. As a patriot, Friedrich Pecht strongly emphasized the German nationality and also shaped the journal as an author. Like many German critics of his time, Pecht propagated the replacement of Paris and French art. In contrast to the "French fashions,"[17] he turned to the German, the down-to-earth, which was to find its appropriate expression in a popular realism.

In 1888, *Die Kunst für Alle* had a circulation of 15,000 copies, which was to increase to an average of 18,000 by 1910. It became the market leader in its field. In the meantime, new art magazines such as *Pan* in Berlin or *Deutsche Kunst und Dekoration* in Darmstadt had come onto the market targeting a similar program as *Die Kunst für Alle*.

After Friedrich Pecht's departure in 1903, *Die Kunst für Alle* became more modern and international. Some articles were written by authors such as Julius Meier-Graefe, Alfred Lichtwark, and Hugo von Tschudi. They stood up for the artists of the Secession and the Impressionists. Especially Lovis Corinth, Max Slevogt, and Max Liebermann were appreciated in detailed reports. These three artists were seen as representatives of modern art after 1900. The magazine also focused on international exhibitions and artists such as Vincent van Gogh and even the young Pablo Picasso. In addition, there were reports increasingly about the Berlin art scene. However, the art of the avant-garde, today's classical modernism, was still almost completely ignored. Die Brücke was almost disregarded; some articles on Der Blaue Reiter appeared but no pictures. *Die Kunst für Alle* consistently represented its path of moderate progress and consolidated a pictorial taste that was decisive for a large majority for decades. In February 1933, in the first issue after the Nazis came to power, an article with the significant title "Die neue Stunde in der Kunst" (The New Hour in Art) was published by the editor Wilhelm Michel. The magazine obviously expected from the new rulers a new age in art as well.

At the same time, *Die Kunst für Alle* contained folk-educational slogans and catchwords such as people, health, beauty, purity, race, and space. They formed part of essays from the beginning and in all the Nazi years. For today's reader, the terms therefore provide a direct connection to the so-called Third Reich. These terms became buzzwords of the Nationalsozialistische Deutsche Arbeiterpartei (NSDAP, National Socialist German Workers' Party) and finally keywords in Hitler's speeches on art and cultural policy. But they had already been in use since the nineteenth century and were firmly anchored in the vocabulary of a nationally oriented art journalism. The idea of a renewal of art based on national origin and national identity ultimately paved the way for the art propaganda of the Nazi press that arbitrarily divided art into "German" and "degenerate." *Die Kunst für Alle* defined itself as an art magazine for

17 Friedrich Pecht, cited in Brantl, "Die Kunst für Alle," 3.

fig. 4 *2000 Jahre deutsche Kultur* (Two Thousand Years of German Culture) parade, Munich, 1937
Photo Presse-Photo GMBH / Rijksmuseum Amsterdam

the masses. Sabine Brantl hinted at the fact that it has not yet been analyzed which social strata the readership of *Die Kunst für Alle* actually consisted of, but one who undoubtedly belonged to its readership was Paul Ludwig Troost, the architect of the museum Haus der Deutschen Kunst (House of German Art) in Munich. Shortly before his death in 1934, he criticized that "the journal's attitude did not fully correspond to the Führer's line."[18] With the construction of the Haus der Deutschen Kunst, a generally binding German art was to manifest itself, the implementation of which was guaranteed by Nazi art policy. Die *Kunst für Alle* also promoted the art of German painters but refrained from the inflammatory methods characteristic of the Nazi press.

Until 1935, *Die Kunst für Alle* had published works by artists who were later defamed as "degenerate," such as Otto Dix and Lyonel Feininger. In 1932, a protest against the closure of the Bauhaus was even held. It was a point of view that would have displeased not only Paul Ludwig Troost. From the opening of the Haus der Deutschen Kunst in July 1937, the journal regularly reported on the annual *Große Deutsche Kunstausstellungen* (Great German Art Exhibitions), but it held back any exuberant praise. The propaganda exhibition *Entartete Kunst* (Degenerate Art) in the Munich courtyard in 1937—Hitler's declaration of war on modernism and abstraction—was not mentioned by the magazine at all. It thus formed a certain counterweight to magazines such as *Münchner Mosaik. Kulturelle Monatsschrift der Hauptstadt der Bewegung*, and—in particular—*Die Kunst im Dritten Reich*. Thus *Die Kunst für Alle* was neither a reactionary battle paper nor did it go into opposing the art desired and prescribed by the party. Until its closure in October 1944, it remained a moderate organ of the bourgeois center that held still.

The ceremonial presentation of the German art to be promoted in the newly opened Haus der Deutschen Kunst was juxtaposed with the so-called degenerate art on the opposite side of the street. Hitler's concept of the two propaganda exhibitions in Munich in 1937 shows that the dictator made strategic use of parades and celebrations. A parade through the center of Munich was the highlight of the festival, which was held under the motto "Two Thousand Years of German Culture" (fig. 4). The program booklet stated, "With the figures from the distant and near past of German culture, we ourselves as a whole people walk in the parade of German capability, of German history. And we walk through the streets of a city consecrated forever by the sacrifice of the National Socialist fighters and victors."[19] The three-kilometer-long parade with thirty decorated carriages, 500 riders, 2,000 women and 2,500 men in historical robes thus became an incarnation of the art for all demanded by Hitler. The art is carried literally by the whole people, from the past into a new age, within the framework of a huge festival. In 2017, on the occasion of the eightieth anniversary of the gigantic art spectacle, numerous new publications have been published on the popularization of art and aesthetics in the Nazi era.[20] The demand of art for all becomes clear under the conditions of a dictatorship—beyond a democratic society and beyond the freedom of art. Art becomes recognizable as an ideological means, as a folk festival with an event character, as a collector's item and trophy, as a prestige object of performances, as an object of public reverence or contempt, and finally as an object that everyone could afford—at least in the form of a reproduction.

From Hitler's aesthetic dictatorship we come back to ZERO with a wide jump. We have seen from history that the call for an art for all that is close to the people and easily accessible to everyone has by no means been an invention of the extended concepts of art since the 1950s and 1960s, but goes back to a tradition that has its roots in nineteenth-century nationalism. The later connection to democracy

18 Paul Ludwig Troost, cited in Brantl, "Die Kunst für Alle," 5.

19 Mario-Andreas von Lüttichau, "*Deutsche Kunst* und *Entartete Kunst*: Die Münchner Ausstellungen 1937," in *Nationalsozialismus und "Entartete Kunst": die "Kunststadt" München 1937*, ed. Peter-Klaus Schuster (Munich: Prestel Verlag, 1987), 88.

20 See, for example, Karin Hartewig, *Kunst für alle! Hitlers ästhetische Diktatur* (Norderstedt: Books on Demand, 2018).

is thus only a relative one and requires critical legitimacy. ZERO in particular had explicitly turned away from the individual subjective in Art Informel and turned to the objective universalistic. It is the harmonious-classical greatness and universality to which the Zeroists feel connected, not the special, deviant, and abnormal. It is an art that, in the total affirmation of technological progress, reflects the spirit of the postwar decades, in which successes in space technology led to unexpected fantasies of omnipotence. Piene, too, bears witness to this in his text "Wege zum Paradies" (Ways to Paradise), which from today's point of view is sometimes highly disturbing:

> My greatest dream is the projection of light into the vast night sky, the probing of the universe as it meets the light, untouched, without obstacles—the world of space is the only one to offer man practically unlimited freedom. … Up to now, we have left it to war to dream up a naive Light Ballet for the night skies, we have left it to war to light up the sky with colored signs and artificial and induced bursts of flame. … Why do we not pool all human intelligence with the same securities which attend its efforts in time of war, and explode all the atom bombs in the world for the pleasure of the thing, a great display of human perceptions in praise of human freedom?[21]

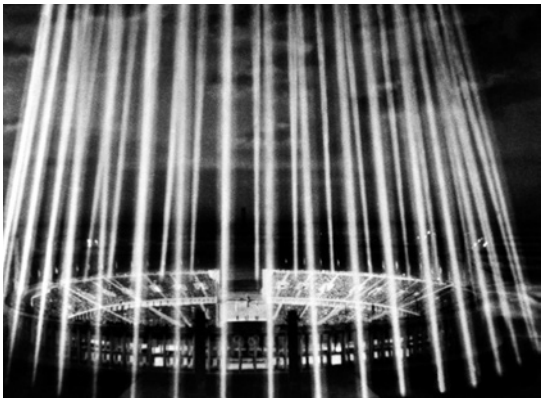

fig. 5 Albert Speer, *Lichtdom* (Light Dome), Berlin, 1936
Still from the film *Olympia* by Leni Riefenstahl

In Piene's "paradise on earth," atom bombs rise out of pure pleasure—a real nightmare.

From today's point of view, the gigantomania in light symbolism is also highly irritating, here again assuming light metaphysical undertones in an unpleasant tradition (fig. 5). Thus, Piene assured in the same place that he wishes himself so many and so strong spotlights "to light up the moon." And: the person who has "paradise in him" "follows the beams of light which he makes, they envelop him and the universe, the light passes through him, and he through it."[22] Huge floodlights, rotors, atomic bombs, vibrations, sound waves, movement—the technical euphoria leads art out of the galleries and out into the street or into space. Art for all into space!

Surprisingly, the Zero artists—as seen in Piene's statement about their attitude cited in the first part of this text—felt 'only marginally' affected by the war; the war—so it was said—was not their "decisive experience." On the other hand, Heinz Mack admits an unconscious influence in a conversation he had with Tim Ackermann on the occasion of the great ZERO exhibition in Berlin in 2015: "In Riefenstahl's film *Olympia* you see at the end the *Light Dome*, of which I didn't know at the time that it was by Albert Speer. The visual spectacle reminded me of the bomb attack on Krefeld—which was also a light dome and whose afterglow and subsequent explosions I was able to photograph with my Agfa camera. Well, all this has probably already had unconscious consequences on my preoccupation with light."[23] In his most recent dissertation, however, Dirk Pörschmann was able to demonstrate convincingly that Mack and Piene "remained prisoners of a language that they thoroughly judged to be 'Nazi-centered.'"[24] And

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21 Piene, "Ways to Paradise," n.p.

22 Ibid.

23 Heinz Mack, "Wir hatten einfach keine Vorbilder mehr!," interview by Tim Ackermann, *Weltkunst*, special issue "ZERO. Abenteuer ohne Grenzen" (Spring 2015): 6.

24 Pörschmann, "Evakuierung," 163.

fig. 6 Ludwig Erhard reading from his book *Wohlstand für alle* (Prosperity for All), 1957
Photo Doris Adrian / Bundesarchiv

fig. 7 Sigmar Polke, *Sekt für alle* (Champagne for All), 1964, Froehlich Collection, Stuttgart

he notes, "It is remarkable that Piene, who was socialized like Mack in the so-called Third Reich, used this terminology in the postwar period to justify Zero's art."[25]

It is these contradictions that make ZERO so ambivalent today. The works oscillate between cheerful, optimistic openness on the one hand and radical exclusiveness on the other. "Zero defined a zero point that not only never existed, but was also inherent in the consciousness of tradition and the past."[26] The 'new mankind' should turn to the future with strength and joy, and the 'new age' should leave behind everything small and small-minded.

From 1933 to 1945, the perfidious dream of a better and more beautiful world for a few became a nightmare for many. In the postwar period under minister Ludwig Erhard, the demand 'art for all' initially became a pure economic program for the development of the social market economy (fig. 6) that in turn animated German pop artists such as Sigmar Polke to ironic refractions (fig. 7). In the 1970s, the formula was extended to art in public space,[27] even to all culture,[28] or served as a political slogan for the cultural policy of the Social Democratic Party (SPD).[29] Art for all—a demand with very different contents and contrary intentions.

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25 Ibid., 161.

26 Ibid., 165.

27 Uwe Lewitzky, *Kunst für alle? Kunst im öffentlichen Raum zwischen Partizipation, Intervention und Neuer Urbanität* (Bielefeld: Transcript Verlag, 2005).

28 Hilmar Hoffmann, *Kultur für alle. Perspektiven und Modelle* (Frankfurt am Main: Fischer Verlag, 1979).

29 See, for example, the exhibition *Kunst für Alle. Multiples, Grafiken, Aktionen aus der Sammlung Staeck*, Akademie der Künste, Berlin, 2015.

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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]

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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.

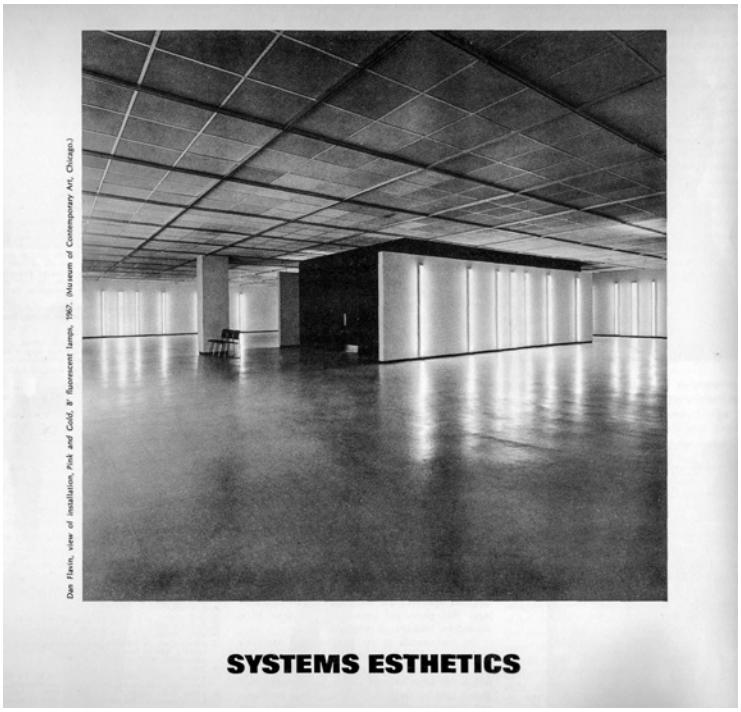

fig. 1 Jack Burnham, "Systems Esthetics," *Artforum* 7, no. 1 (September 1968)

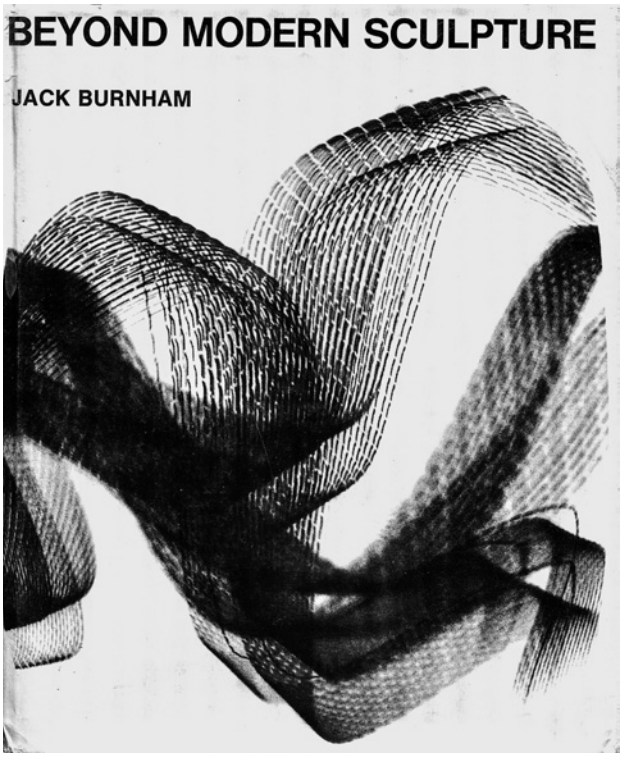

fig. 2 Jack Burnham, *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century*, New York: George Braziller, 1968

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]

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 electroluminescent 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]

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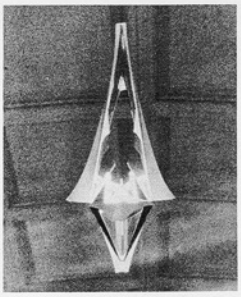
8 Jack Burnham, *Beyond Modern Sculpture: The Effects of Science and Technology on the Sculpture of This Century* (New York: George Braziller, 1968), 302.

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 notonly a productive break with the tired subjectivism of Abstract Expressionism but also a less constructive displacement of its residually *engagé* 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-

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

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]

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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]

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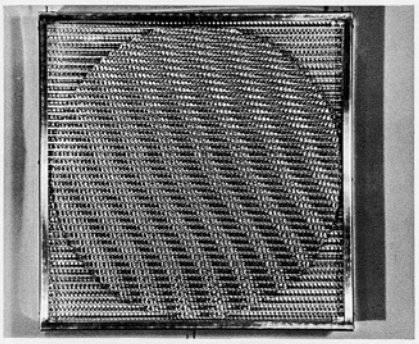
19 Ibid., 249.

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,

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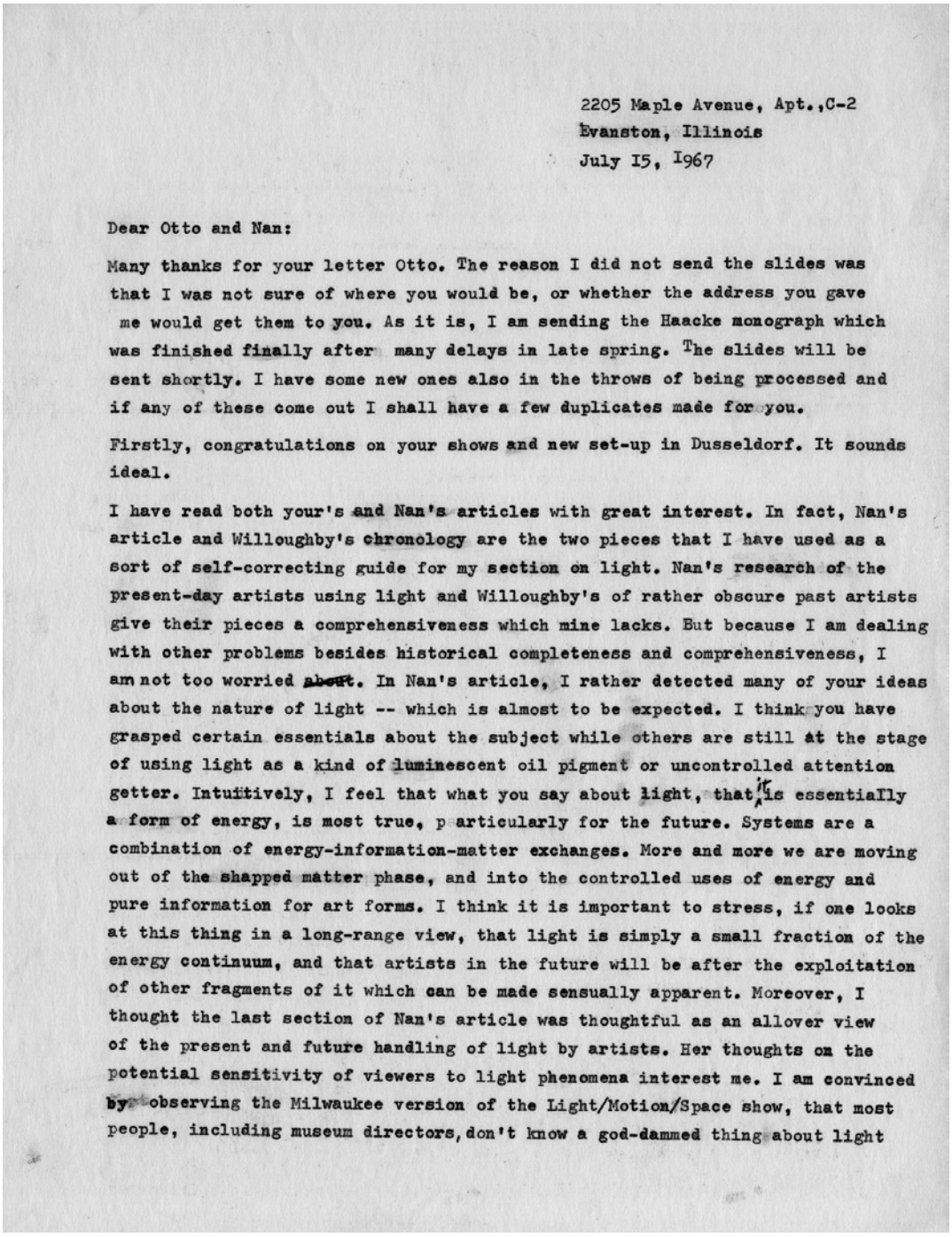
fig. 5 Burnham, *Beyond Modern Sculpture*, p. 262



2205 Maple Avenue, Apt.,C-2
Evanston, Illinois
July I5, I967

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, p articularly 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

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. You piece is a kind of laxitive 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 lies 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 bowed 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 years 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 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 Frankfort 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.

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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, Haaacke'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]

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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 UUmweltanschauung: Art, Ecosystems Aesthetics and General Ecology," *Grey Room* 77 (Fall 2019 [forthcoming]).

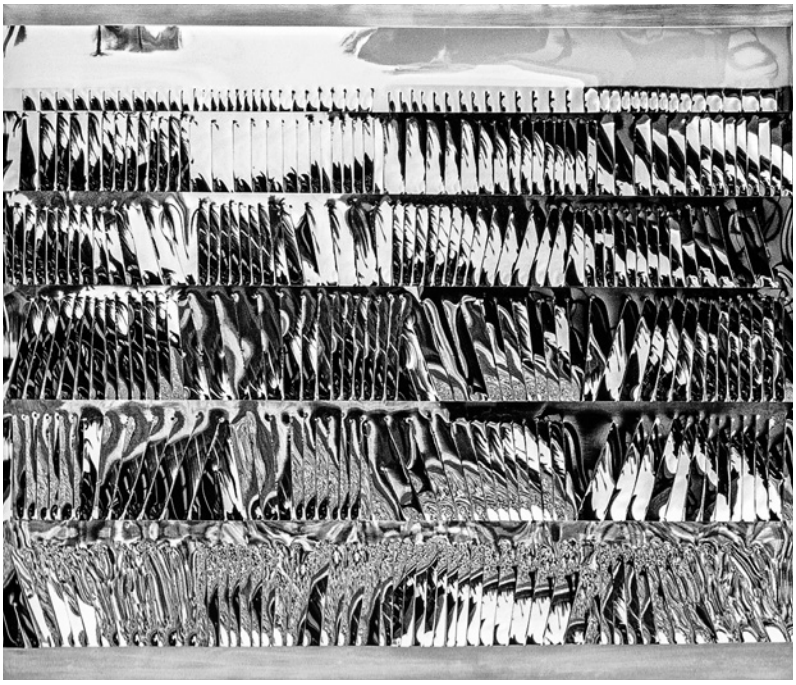


fig. 7 Heinz Mack, *Lamellae-Relief*, 1959–60

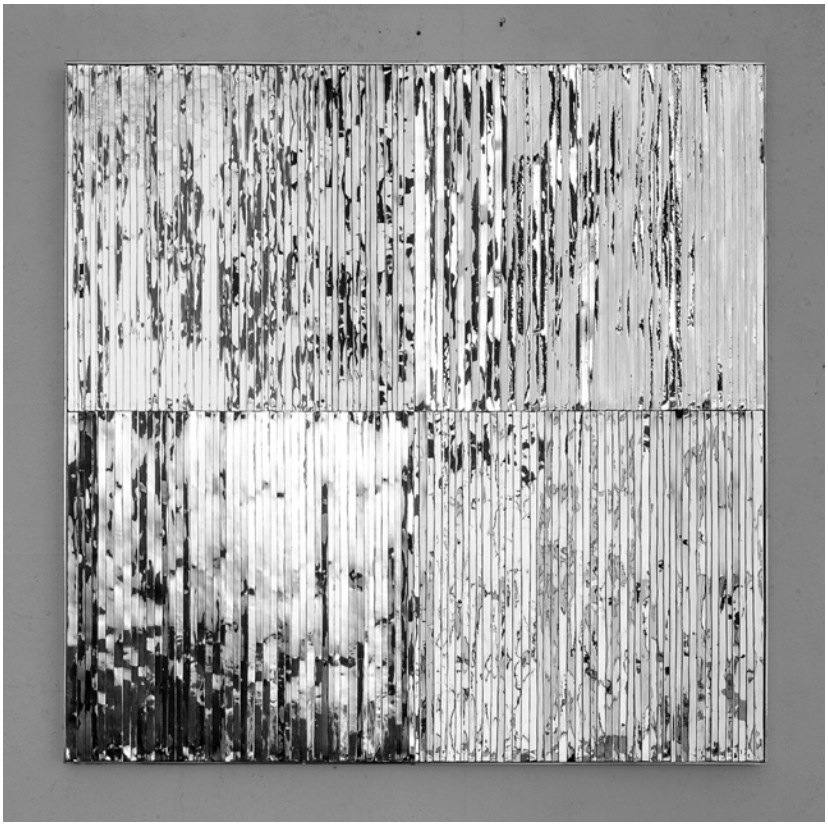


fig. 8 Hans Haacke, *A7 61*, 1961

GEAM and ZERO: Spaces between Architecture and Art

CORNELIA ESCHER

In 1961, the Museum Morsbroich in Leverkusen staged the exhibition *30 junge Deutsche. Architektur, Plastik, Malerei, Graphik* (30 Young Germans: Architecture, Sculpture, Painting, Graphic Design). To back up the narrative of the show, the young museum director Udo Kultermann, an art historian with a special interest in architecture, claimed that the arts were an aesthetic manifestation of the zeitgeist. He presented the objects on display in the exhibition as statements for a new concept of space shared by the disciplines.[1] "Space" and the meaning it was taking within the debate of the arts was indeed a crucial topic at the time, though Kultermann didn't further elaborate on this point.

Here, I will scrutinize Kultermann's assumption and specify the parallels one might observe between artistic and architectonic approaches at the time. To do so, I will focus on the Groupe d'études d'architecture mobile (GEAM), an avant-garde network of young European architects that was closely connected with the art scene. Through their work on flexible and changeable forms, but also through their collaborations with artists, GEAM architects developed ideas of an architecture relying on an aesthetics of change, which revolved around bodily sensations. Their proposals for a "mobile architecture" did indeed come close to some of the concepts and practices in Zero's art, and culminated in the understanding of architecture as an environment.

ART AND ARCHITECTURE: THIRTY YOUNG GERMANS IN MORSBROICH

In order to come closer to a definition of shared grounds and spatial concepts in art and architecture of the European avant-garde around 1960, I will begin with the event that provoked Kultermann's thesis, the exhibition *30 junge Deutsche*, which was also the site for one of the major intersections between GEAM and Zero. The show featured works by the German architects and GEAM members Frei Otto, Eckhard Schulze-Fielitz, and Günter Günschel, and the Zero artists Otto Piene, Heinz Mack, and Günther Uecker. Its hanging was apparently realized in a rather conventional mode and didn't — at least in the sources I could look at — include original strategies for arranging the works in space — a tendency that would be explored in exhibitions curated by members of the ZERO movement later on.[2] Nevertheless, an imaginary walk through the exhibition can help to get a grip on the major topics and the shared ground between architecture and art.

To reconstruct the exhibition, I mainly rely on newspaper articles, which are an interesting source, as we can also understand how the exhibition was perceived by a certain public. The overall echo toward the exhibition was far from favorable — and even more so for the second venue, the Kunstmuseum St. Gallen, where the exhibition was presented afterward. The reactions were somewhat typical for an attitude that was still very reserved toward abstract art in general, an attitude that was not so uncommon in Germany and Switzerland at the time.

1 Udo Kultermann, ed., *30 junge Deutsche. Architektur, Plastik, Malerei, Graphik*, exh. cat. Städtisches Museum Leverkusen Schloss Morsbroich (Leverkusen, 1961).

2 Tiziana Caianiello and Mattijs Visser, eds., *The Artist as Curator: Collaborative Initiatives in the International ZERO Movement 1957–1967* (Ghent: MER. Paper Kunsthalle, 2015).

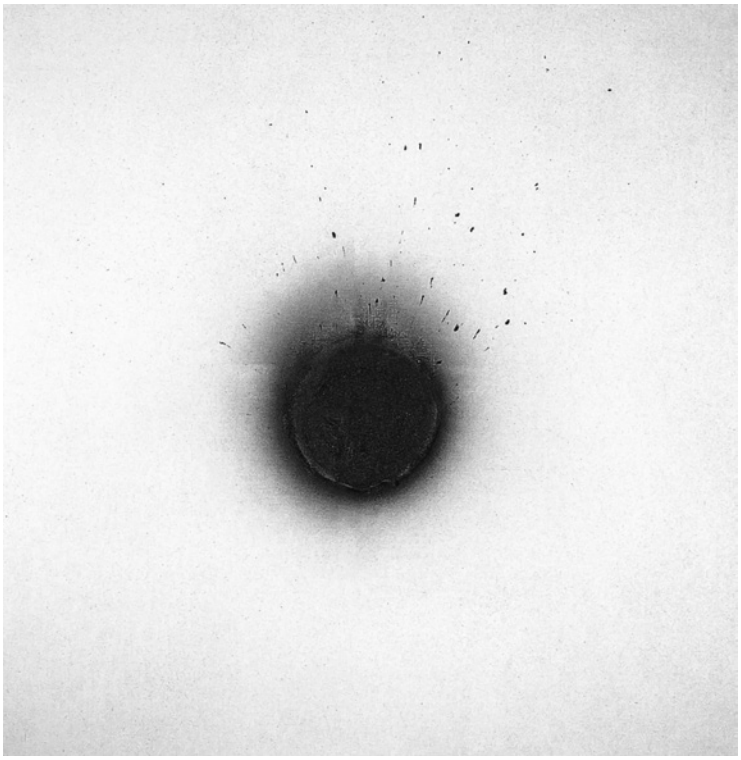


fig. 1 Otto Piene,
La lune en rodage, 1961

fig. 2 Frei Otto,
Roof for the 'Tanzbrunnen',
Cologne, 1957
Photo unknown / Stadtarchiv
Konstanz, W I, L. Stromeyer & Co.,
no. 644

The art critic John Anthony Thwaites — one of the more favorable voices — described the exhibition as follows: "Entering the exhibition space, one has the impression of light, lightness, and space. Also of a certain harmony. After a first tour, you notice that some things stand out: Otto Piene's *La Lune en rodage*, a round mark of smoke on a large white support glowing hypnotically along the corridor (fig. 1), the photograph showing a detail of an airport building by Eckhard Schulze-Fielitz hanging next to it, then an oil painting, white on gray, by Heinz Mack, whose wave structures have poetics and precision. Nearby, a large-scale photograph of the star-shaped tent covering the 'Tanzbrunnen' in Cologne, by Frei Otto (fig. 2)."[3]

By looking at these images, we can identify certain similarities: artists and architects relied mostly on non-colors and focused instead on light, physical processes, and material appearances. The presentation in the museum context had effects on the interpretation of the works, which might have contributed to highlight these similarities. It invited architects to bring the aesthetic aspects of their designs to the fore and made them focus more decisively on their means of representation. In the photograph by Schulze-Fielitz, we cannot grasp the building itself but rather the play of light and shadow on triangular volumes as it was imagined by the architect; in fact, it was not a realized building, but a model photograph, showing Schulze-Fielitz's conceptual intentions. At the time, Schulze-Fielitz consciously used art spaces to take a distance from architecture practice, and to explore projects that left the realm of daily routine. He successfully presented the model for his project *Raumstadt* (Space City) — a utopian proposal for a city in the air — in gallery spaces, such as the Galerie van de Loo in Essen, where he presented together with André Thomkins, or the Galerie Brusberg in Hannover, where his project was shown alongside works by the kinetic artists Takis, Jesús Rafael Soto, and Harry Kramer. The fact that the model was put on display in these contexts and the way it was represented in photographs made its status ambivalent: Was it still a model, or rather an abstract sculptural work?

Similarly, the pairing of artists' works with architecture and graphic design in the exhibition made them appear in a different light — at least in the eyes of the audience. In his opening speech in St. Gallen, Kultermann had described the effect of new materials on architecture. According to Kultermann, new materials led to new formal solutions, which linked ornament directly to construction and statics. By consequence, critics interpreted artworks in the exhibition notably as applied art or experiments with materials. This tied in with critical or hostile positions toward abstract art, which fundamentally questioned the artistic value of the works on display.[4]

Piene's presentation of his Light Ballet was labeled a "laboratory of an insane engineer" in the daily newspaper *Appenzeller Zeitung*, and was measured against contemporary experiments in lightning techniques for theater.[5] On similar grounds, one of the critics claimed that the show had failed to demonstrate the potential of modern art. He stated that "when leaving the museum, the exhibition continues. The sand on the paths in front of the museum, the rain falling onto the asphalt ground, paint the most beautiful point-images." As the exhibition failed to show more than physical processes, he concluded, it was playing into the hands of the adversaries of modernity.[6]

This last quote is interesting as it points both to a misunderstanding and helps us to capture an essential point: if Zero artists were interested in physical processes, they nevertheless highlighted

3 John Anthony Thwaites, "30 junge Deutsche in Schloß Morsbroich," *Deutsche Zeitung mit Wirtschaftszeitung*, May 12, 1961 (unless otherwise noted, all translations are by the author).

4 On the hostility toward abstract art, see, for example, Antje Kramer, *L'Aventure allemande du Nouveau Réalisme: Réalités et fantasmes d'une néo-avant-garde européenne* (Paris: Presses du réel, 2012), 42.

5 P. M., "Bodenlose Raumexperimente. 30 junge Deutsche im Kunstmuseum St. Gallen," *Appenzeller Zeitung*, July 27, 1961.

6 F. L., "Deutsche Kunst auf dem Nullpunkt. Zur Ausstellung im Kunstmuseum St. Gallen," *Tagesanzeiger für Stadt und Kanton Zürich*, August 2, 1961.

their own artistic authorship. To underline the latter, they used terms such as "expression" and "sensibility" and confirmed that the works originated from manual creation instead of mechanic work. If we twist the critic's argument around, the quote may also uncover that one of the aims of the exhibition was actually reached: from his interested observation of "rain paintings" outside the museum, we could also conclude that the tour through the exhibition had transformed the critic's sense of vision and made him more receptive toward the aesthetic processes in his immediate environment.

GEAM: NETWORKS AND OPEN FORMS

If we cannot fully grasp the spatial concepts of GEAM and Zero from the exhibition in Schloss Morsbroich, we can still see a parallel interest in processes, which was, as we will see, doubled by a reflection on authorship. For GEAM architects, the desire for a "mobile architecture," and more specifically Oskar Hansen's concept of "open form," included a reconsideration of the roles of architect and inhabitant or visitor. These concepts brought together the very concrete concerns emerging from the practices of social housing, and a more aesthetic approach influenced by discussions from the art world.

In its origins, GEAM was modeled after the internationalist forum for modern architects, the CIAM, the Congres internationaux de l'architecture moderne.[7] By the mid-1950s, this forum experienced a crisis, as it had grown from a small avant-garde group to a truly internationalist forum: a congress with representatives from the different member states, whose positions were somewhat neutralized due to the wide scope of questions and attitudes it represented.[8] Thus, the meetings of CIAM came to an end and some of its members continued the discussion in smaller groups, such as Team 10, which established itself as the legitimate heir of CIAM thought, and GEAM.[9] These groups formed more flexible networks that served to exchange ideas, but also to increase public attention, and, in the case of GEAM, to get in contact with interested professionals such as journalists, gallerists, or museum directors. The small-scale, internationally networked groups in fact seem to have worked somewhat similar to the ZERO network, spanning all across Europe in a rather loose formation.

The architects also maintained networks that were interconnected with the art world in order to accommodate their own works in various galleries and museums. In 1961, GEAM put together a group exhibition under the title *L'architecture mobile* (Mobile Architecture), which toured around European cities. After a presentation in Paris, it was shown at the Galerie Seide in Hannover. On this occasion, the gallery edited a folder containing two booklets: the first was realized with the help of GEAM member Günter Günschel and presented the group's projects; the second, probably by Adam Seide himself, included theoretical texts and prints by the artists Dietrich Helms and Rolf Hartung (fig. 3).[10] Later that same year, the exhibition was on view in Morsbroich, in parallel to the exhibition *30 junge Deutsche*. GEAM member Werner Ruhnau was well acquainted with Kultermann. Earlier in 1961, he had drawn Kultermann's interest toward the work of Mack and Piene, initiating the first meeting, which, as we read in Kultermann's report to Ruhnau, seemed to have been very intense and ended late at night.[11] An initiative to present GEAM's exhibition in the Stedelijk Museum in Amsterdam, in parallel to the exhibition *Nul*, in which Uecker, Mack, and

7 Cornelia Escher, *Zukunft entwerfen. Architektonische Konzepte des GEAM (Groupe d'Études d'Architecture Mobile) 1958–1963* (Zürich: gta Verlag, 2017), 43–49.

8 On the evolution of CIAM and its crises see Marilena Kourniati, "L'Auto-dissolution des CIAM," in *La Modernité critique. Autour du CIAM 9 d'Aix en Provence*, ed. Jean-Lucien Bonillo, Claude Massu, and Daniel Pinson (Marseille: Imbernon, 2006); Kees Somer, *The Functional City: CIAM and the Legacy of Van Eesteren* (Rotterdam: NAi Publishers, 2007).

9 On Team 10, see Max Risselada, Dirk van den Heuvel, and Victor Joseph, eds., *Team 10, 1953–81: In Search of a Utopia of the Present* (Rotterdam: NAi Publishers, 2005); Annie Pedret, *Team 10: An Archival History* (London: Routledge, 2013).

10 Adam Seide, ed., *Mobile Architekturen*, Kleine Mappe der Galerie Seide, 17 (Hannover: Galerie Seide, 1961).

11 On Kultermann and Ruhnau, see also Escher, *Zukunft*, 265–66.

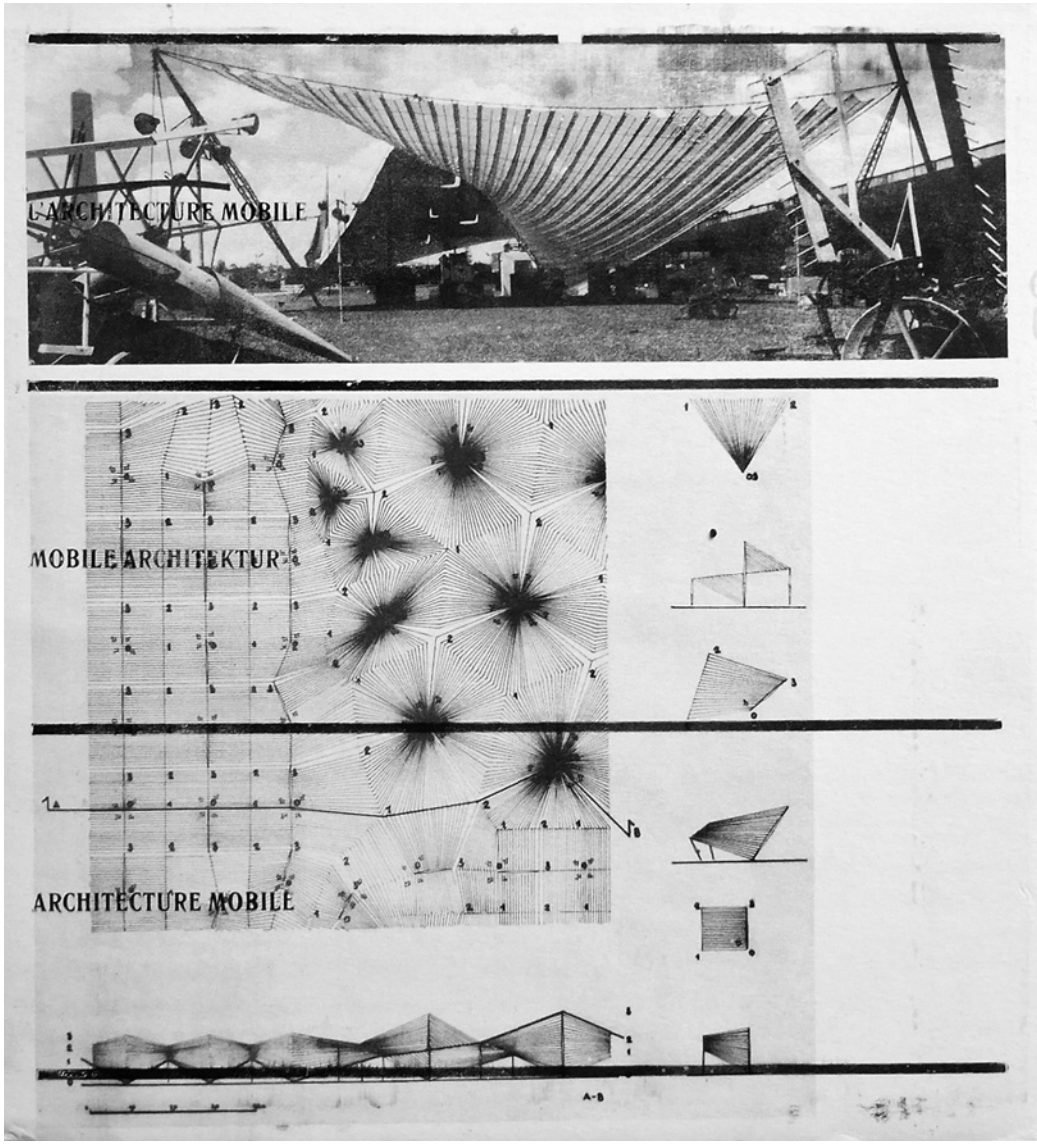
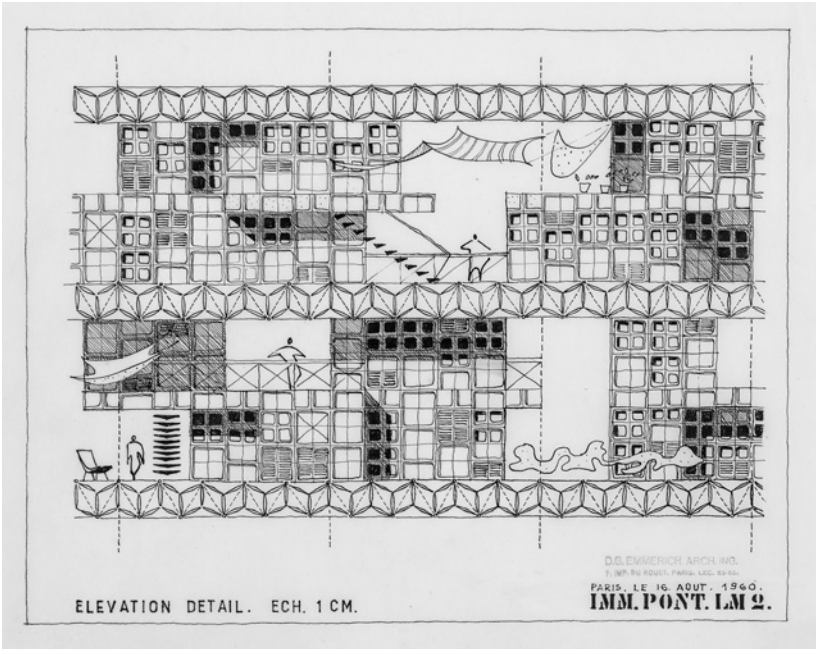


fig. 3 Cover of the catalogue *L'architecture mobile* (showing Oskar Hansen's and Lech Tomaszewski's design for the pavilion in São Paulo), 1961
Photo Cornelia Escher

fig. 4 David Georges Emmerich,
Immeuble pont LM 2, 1960
Collection Frac Centre-Val de Loire,
Orléans



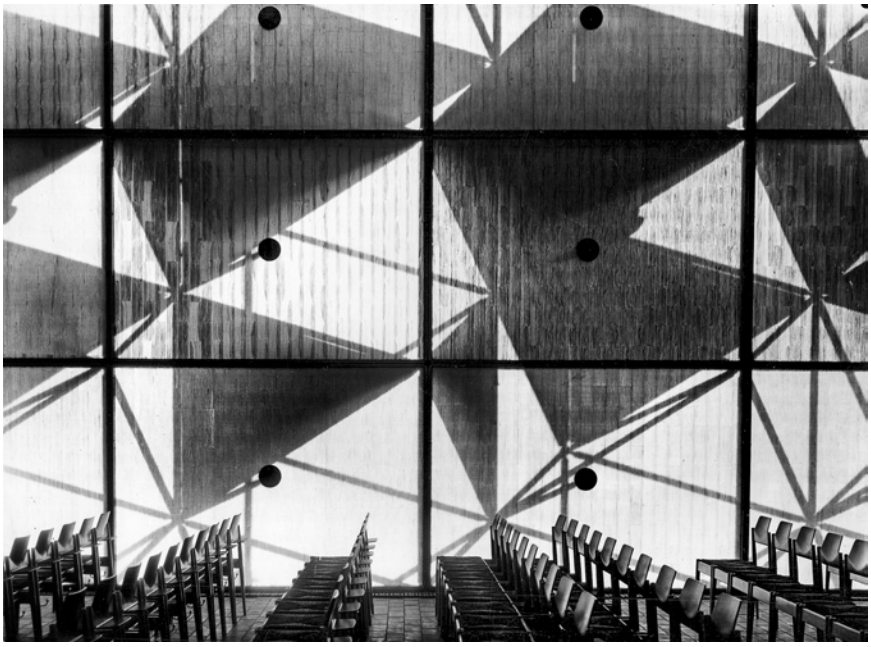


fig. 5 Eckhard Schulze-Fielitz,
Interior of the Jakobuskirche, Düsseldorf, 1963
Baukunstarchiv NRW / Eckhard Schulze-Fielitz

Piene were participating, was supported by the organizing artist Henk Peeters but opposed by the museum director Willem Sandberg. The contact had been established with the help of the Liga Nieuw Beelden, an artists' and architects' cooperative, and the Dutch artist Constant Nieuwenhuys, who eventually participated in GEAM's meetings, publications, and exhibitions.

The idea of mobile architecture, which was at the center of the group's activities, actually blended architectural and artistic discourses. Both come together in the concept of "open form," which was brought forward by the Polish group member Oskar Hansen:

> As Dadaism in painting broke the barrier of traditional aesthetics, so the Open Form in architecture will bring us closer to the 'ordinary, mundane things found, broken, accidental' … The role of the artist-architect is altered from the previous exclusively personal and conceptional role … to the conceptional-coordinating role.[12]

These ideas drew inspiration from contemporary debates, notably on housing construction. They came up in the boom phase of postwar architecture: in the 1950s, construction of living spaces became a major task due to the destruction of World War II and the growing population in the following decades. The large-scale housing projects designed as an answer to growing needs in countries like France, the Netherlands, Germany, and also in Poland left only very limited space for individual solutions. This observation led GEAM to support a "mobile" architecture — an architecture that was to be more flexible and adaptable to the wishes of its users.

The solution most of the GEAM architects supported was the idea of the designer as a "system designer" or "manager" who would design a kit-of-parts system that could then be appropriated by the users or inhabitants of buildings. One example is David George Emmerich's design for the *Immeuble pont*: on the basis of a rigid space frame structure, a kit-of-parts system of prefabricated and easily available parts was to be assembled to form individual living spaces (fig. 4). Emmerich hoped that this system would increase participation of the inhabitants, who could select and assemble the parts on their own and create spaces that would stay permanently flexible.

This solution might seem somewhat technocratic and focused on the organizational side of the building process. Yet GEAM architects also linked the idea of a mobile architecture with discourses from the arts. Notably Hansen, who had lived in Paris in the late 1940s, was acquainted with the art scene from this period and explicitly made reference to the French art critique Pierre Restany. In his text, he described the aesthetics of the open form as an aesthetic that can integrate preexisting objects of profane origin — similar to art practices working with the objet trouvé as an element that contains its own temporality and bears the traces of use and history. Yet, when looking at the works that Hansen defined as "open form," we can see that his idea of an open aesthetics is much broader and is mainly based on the idea to include and accept change more generally: for Hansen, change was not a destructive category associated with the decay of architectonic structures, rather it was to be appreciated and enhanced as a component of architecture's aesthetics.

The idea to incorporate change as a central element of architecture is at the origin of the design for the Jakobuskirche in Düsseldorf-Eller, a project on which Eckhard Schulze-Fielitz collaborated with the artist André Thomkins from 1960 to 1963 (fig. 5). The church consisted of transparent plastic walls that were fitted into a load-bearing framework equipped with triangular elements on its southern façade. These elements produced varying shadows that could be observed from the church's interior and served as a projection screen for light effects. The aesthetic concept revolved around processes of solidification and liquidation. Schulze-Fielitz described the church's load-bearing structure as a form of crystallization that, during the course of the day, became fluid

12 Oskar Hansen and Zofia Hansen, "The Open Form in Architecture: The Art of the Great Number," in *CIAM '59 in Otterlo*, ed. Oscar Newman (Stuttgart: Krämer, 1961), 191.

again through the play of shadows on the transparent wall. The expressiveness of the walls was dependent on environmental factors such as the weather and the position of the sun. During the night, light was projected from the outside onto the walls of the church so that the effect of the shadows could also be observed, and the church walls seemed to glow.

The interest in material behaviors was also mirrored in the church's equipment realized by Thomkins. The artist had incorporated so-called *Lackskins*, which arrested the flow of glossy oil paint on water on a paper surface, in some of the transparent wall panels. In addition, he had designed a font made of amber plastic, which was partly translucent as well, and resembled hardened lava. In these artistic contributions to the church, the movement of flows was captured in permanent forms, but they could be deciphered by the spectator.

PERFORMATIVE ARCHITECTURES AND ENVIRONMENTS

In the exhibition in Morsbroich, Piene's *Lichtballet* had extended the artwork into space by projecting light into the exhibition space, thus creating an artistic environment. In GEAM's architectural projects, we can discern similar ideas of a performative architectural space: space was seen to be defined and generated by fluid physical effects rather than by predetermined material limits. These effects were measured by and related to human perception; the spaces they were meant to form out could thus be described as architectural "environments."

This definition differs from contemporary uses of the term in the domain of exhibition design. In an article published in 1964, the Swiss sociologist and architecture critic Lucius Burckhardt described Le Corbusier and Iannis Xenakis's Philips Pavilion for Expo 58 in Brussels as "environmental." He described the effects of the pavilion and the mix of sound installations and image projections inside as both absorbing and overwhelming the visitor.[13] By contrast, GEAM architects developed environments that were characterized by the idea of a minimal intervention, and an overlapping of nature, architecture, and the spatial perceptions of human bodies, referring to biological ideas rather than to the power of media architecture.[14] Many of these projects emerged out of collaborations with artists.

Both in practice and with regard to their symbolical implications, exhibition pavilions and tent membranes were an important field of activity for GEAM architects. Frei Otto was frequently highlighting the lightness of his tents, and, indeed, they were often used temporarily for concerts, exhibitions, and as flexible roofs for outdoor theater. Effects of light and shadow as well as an ideal of a life in proximity to nature were central to Otto's somewhat idealized understanding of his structures. In the 1950s, Otto used the term "event" to describe the temporariness and the fluent aesthetics of his buildings; in 1967, he spoke of his pavilion for the Expo 67 in Montreal as a "happening,"[15] explicitly using a term from the art world to label his work.

GEAM architects understood pavilions as membranes negotiating between the interior and the exterior. We can clearly see this in the design for the Polish Pavilion at the international fair in São Paulo in 1959, designed by Oskar Hansen in cooperation with Zofia Hansen and the engineer Lech Tomaszewski (fig. 7). The pavilion was adapted to the tropical winds on the spot and reunited the qualities of both protection and permeability. The cloth protected the exhibits and the visitors from sun and rain while the transparent tent membrane staged the play of light and shadow. Winds were directed along the dynamic shape of the roof, but

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13 Lucius Burckhardt, "Die Kunst des Ausstellens," *Werk* 51, no. 9 (1964).

14 See also Cornelia Escher, "Nested Utopias: GEAM's Large-Scale Designs," in *East West Central: Re-Building Europe, 1950–1990*, vol. 2: *Re-scaling the Environment: New Landscapes of Design, 1960–1980*, ed. Karl Kegler and Ákos Moravánszky (Basel: Birkhäuser, 2016); Cornelia Escher, "Model – Experiment – Environment," in *Frei Otto: Thinking by Modeling*, ed. Georg Vrachliotis et al. (Leipzig: Spector Books, 2017).

15 This is stated by Otto in interview material dated to 1967; see Louis Saul, dir., *Frei Otto. Von Seifenblasen und Zelten* (Munich and Cologne: megahertz, 2005), film, 60 min.

fig. 6 Yves Klein and Werner Ruhnau, experiment for a roof made of air at the company Küppersbusch in Gelsenkirchen, ca. 1959
Photo bpk / Charles Wilp

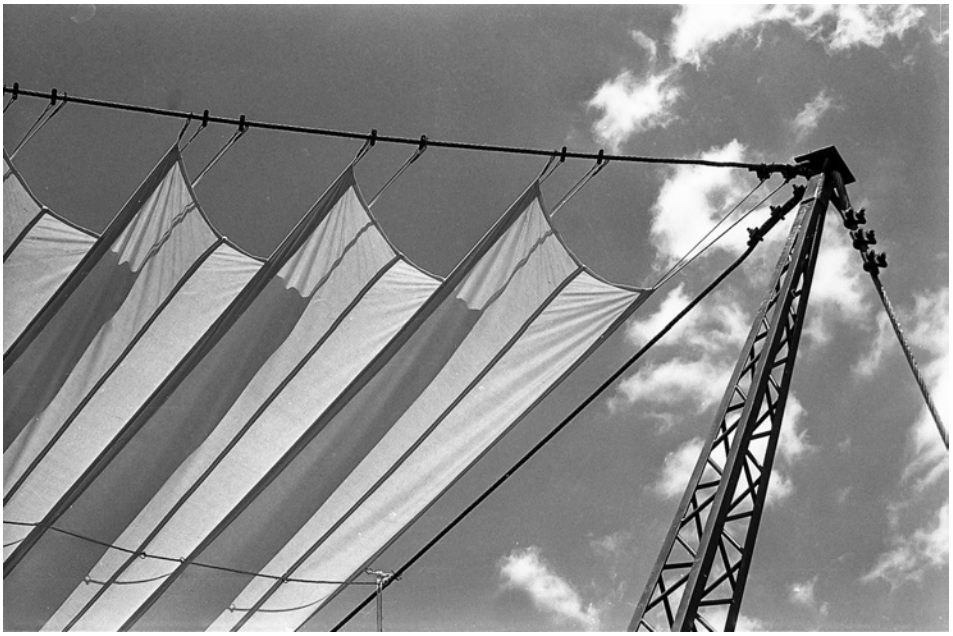

fig. 7 Oskar Hansen, Lech Tomaszewski,
Polish exhibition pavilion for São Paulo, 1959
Zofia & Oskar Hansen Archives

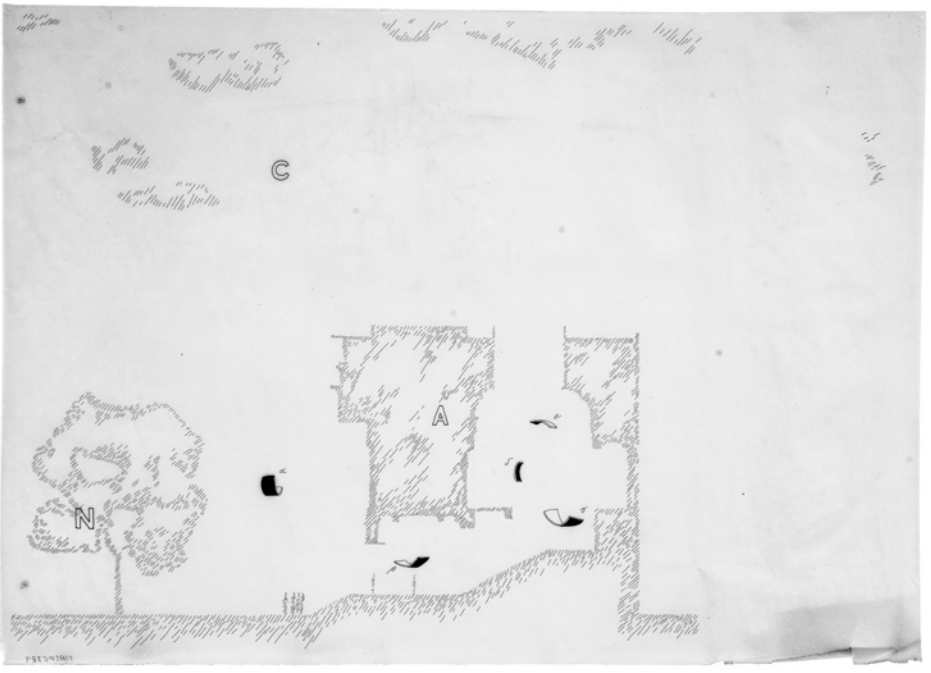

fig. 8 Oskar Hansen,
Design for the Second National Exhibition of
Modern Art, Galeria Zachęta, Warsaw, 1957
Museum of the Academy of Fine Arts, Warsaw

if they would become too strong, they could also pass through, as the roof structure consisted of long strips of cotton that were arranged in parallel on a frame. The movements of the air were magnificently set into scene: if there was wind, the whole membrane looked as if it was breathing or pulsating like a biomorphic, animated structure.

For the GEAM architects, the idea of a performative space related to the human body was connected to this idea of architecture as a responsive, lifelike envelope. It was also furthered by their collaborations with artists. In Werner Ruhnau's project for the theater in Gelsenkirchen, we can see how his ideas on the role of art for architecture evolved during the process of realization. For the design of his theater, Ruhnau had invited several artists to contribute works for the building. Norbert Kricke and Robert Adams designed sculptural works on the outside of the building. Paul Dierkes and Yves Klein had realized large-scale pictorial works executed directly on the wall of the entrance hall, and Jean Tinguely had contributed a mobile sculpture for the smaller building adjacent to the main theater housing a smaller stage.

During the construction of the theater, a vivid exchange developed, notably with Klein, from which further projects originated.[16] Before the theater opened, Ruhnau and Klein performed in the empty and unfurnished space of the shell. Besides, they explored the possibilities for an architecture made of air at the company Küppersbusch, which they thought could serve for the space surrounding the theater. In a period photograph, we can see Ruhnau and Klein demonstrating how the invisible roof, which is produced by a tube-like element blowing a horizontal current of air above their heads, would protect from climatic influences, represented by the vapor that the technician lets down from above (fig. 6). The "architecture" itself is invisible in the image; we can only grasp its effects.

These experiments culminated in the project for a "school of sensibilities," for which they drafted a list of teachers. Tinguely would teach sculpture, Klein and Piene painting, Jacques Polieri and John Cage theater, and Ruhnau and Otto architecture.[17] They also issued a concept for an "immaterial" architecture of large scale, a space protected from climatic influences by "horizontal curtains of sharply blown air,"[18] and housing a paradisiacal community freed from patriarchic structures and the need to wear clothes. The proposal was published in the architectural press, in the German review *Bauwelt*, but the editors felt the need to distance themselves from the project by stating that publishing the article did not mean that they agreed with the position of the authors.[19]

If these ideas remained in a conceptual state, a design by Hansen, reuniting his ideas of open form and environmental aspects, was actually realized. Together with the exhibition designer Stanisław Zamecznik and the artist Wojciech Fangor, Hansen realized a project for the Second Exhibition of Modern Art at Galeria Zachęta in Warsaw in 1957 (fig. 8). The team used brightly colored bent plates that accompanied the exhibition—a show of Polish contemporary art—all the way from the outside of the building to the interior spaces of the museum. The idea was to create a spatial framework by highlighting the space that was captured between the plates. This resulted in a kind of secondary architecture that Hansen described as an "open form," as it did not define the exhibition space in absolute terms but worked as a way of staging the existing environment. Hansen understood the design in contrast to the "closed" form of the museum building, which dated back to the turn of the century and was a monumental, rigid, and inflexible structure.

16 See also Kramer, *L'Aventure allemande du Nouveau Réalisme*.

17 Werner Ruhnau and Yves Klein, "Schule der Sensibilität, Gelsenkirchen, 27.03.1959," in *Baukunst: Das Gelsenkirchener Theater*, ed. Werner Ruhnau (Gelsenkirchen: n.p., 1992); Yves Klein and Werner Ruhnau, "Projekt einer Luftarchitektur," *ZERO*, no. 3 (1961).

18 Werner Ruhnau, "Von materiellen zu immateriellen Architekturen," lecture manuscript, [1960–62], Nederlands Architectuurinstituut / Het Nieuwe Instituut, Rotterdam: kars E6.8.

19 Yves Klein and Werner Ruhnau, "Pro juventute. Entwicklung der heutigen Kunst zur Entmaterialisierung," *Bauwelt* 50, no. 12 (1959).

The design relied on the idea that the curved plates sent out some kind of pictorial energy. This idea was probably mainly supported by Fangor, who, in a text published together with Zamecznik, described his own pictures as "hungry," as their composition asked for an interaction with their immediate environment—an idea that was similarly articulated by Klein and Mack at the time.[20]
Hansen took up these ideas in his drawings: the tree in front of the house and the museum building embody "nature" and "architecture" as a preexisting material environment. Between these two entities, he suspended a blue-colored plate that stands diagonally above the roughly sketched viewers. For the visitors present, this plate occurred as a nearly tangible and artificial blue element in front of the infinite blue of the sky. It acted as a medium between the museum visitors, the immediate environment, and the immaterial sphere of the sky.

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An analysis of GEAM's contacts with the protagonists of the ZERO network demonstrates that architects and artists dealt with similar ideas. Both groups were fascinated by physical processes and used them to challenge received concepts of the objects and the agency in architecture and art. Though their interests were parallel in many ways, their approach toward the topic of space departed from different grounds: subscribing to the concept of environment, artists expanded their works into space; whereas for architects, the same ideas meant a retreat from their major field of action—the overall design of spaces. And yet, while minimizing their intervention and the footprint of their buildings, GEAM architects not only gained conceptual inspiration, they also explored new contexts of presentation in exhibitions and galleries and managed to reach different audiences. Looking at GEAM, we can observe the circulation of ideas that are very often read as artistic invention beyond the frontiers of the discipline of art. We might ask for the more precise connections of environmental practices with architecture or exhibition design and eventually broaden our view of the contexts out of which they emerge. Collaborations between artists and architects could invite us to investigate how art was also integrated within the context of 1950s and 1960s public commissions and gained a more spatial, architectonic dimension through its role as architecture-related public art.

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20 See Escher, *Zukunft*, 264.

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Turning On: Technological Circuits in USCO and Zero

ZABET PATTERSON

In April of 1967, *Light/Motion/Space* opened at the Walker Art Center. The curator, Willoughby Sharp, argued that "the art of light and movement… is a wholly new esthetic instrument already engaged in the process of transforming our space-time awareness."[1] Light art was having a heyday; *Time* magazine suggested that "From coast to coast, no… exhibit of contemporary art these days is complete without the zap of neon, the wink of a wiggle bulb, the spiral shadow of a lumia or the ghostly glare of minimal fluorescence."[2] The author went on to call this "the technological supercharge," suggesting that light was not merely light but was… something else. Michael Kirkhorn, writing for the *Milwaukee Journal*, went further, seeming to detail what this something else was: "Now, real social and economic power belongs to engineers with circuit diagrams. Art should also concern itself with minute exchanges of energy and information."[3]

In his catalogue essay, Willoughby Sharp goes in another direction: he suggests that this interrogation of technology is in fact about new forms of sociality and collectivity—and that this is most apparent in a category he calls the "spectacle."[4] In the press coverage of the show, a great deal of attention was paid to two environmental spectacles: Otto Piene's *Proliferation of the Sun* (1967) and the USCO collective's *Strobe Room* (1967).[5] This paper will explore how Piene and USCO within these two installations used light, space, and time to effect perceptual transformation, but proposed radically distinct models of egoic dissolution and reintegration.

The final section of Sharp's essay focused on these spectacles, stating that "we are in the process of moving away from the physical view of reality as that which exists to a kinetic view of reality as that which seems to happen. This is a shift from being to becoming. … Kinetic works do not contain time, they create time. Kinetic works do not exist in space, they create space."[6] He goes on to claim that "A spectacle makes the spectator abandon the closed, definite static state of older attitudes. It reinvigorates the spectator because he has a role to play in the event. A spectacle demands total audience involvement."[7] And further below in the text: "Deeper immersion. A new generation of artists has sensed that the vanishing point has vanished. They strive toward total integration—the self merged with the One."[8]

Technology, then, is placed in the service of mediating between the inside and the outside, and collapsing the distinction between subject and environment. Significantly, though, Sharp thought that artists' collectives were, by the communal nature of their activities, further along in their abilities to shape works that simultaneously create time and space through spectacle. What we see in *Proliferation of the Sun* and *Strobe Room* is

1 Willoughby Sharp, "Luminism: Notes Toward an Understanding of Light Art," in *Light/Motion/Space*, exh. cat. Walker Art Center (Minneapolis: Walker Art Center, 1967), 10.

2 Piri Halasz, "Techniques: Luminal Music," *Time*, April 28, 1967, 78.

3 Michael Kirkhorn, "Light/Motion/Space/Light/Motion/Space," *Milwaukee Journal*, July 16, 1967, 4.

4 Sharp, "Luminism: Notes," 9.

5 In the exhibition catalogue, the work by USCO was called *Strobe Environment*; see *Light/Motion/Space*, 36.

6 Sharp, "Luminism: Notes," 9.

7 Ibid.

8 Ibid.

not the cybernetic feedback loop that we might expect to see referenced at this point in time, but it is instead something more immersive, something arguably transformative.

Piene was one of the initiators of ZERO, an international art movement that formed in Düsseldorf, Germany, toward the end of the 1950s around the core composed of Heinz Mack, Otto Piene, and Günther Uecker. They organized exhibitions and "demonstrations" and published three issues of a magazine, *ZERO*, which collected contributions from a much broader network of like-minded artists. They were widely showcased in the media of the time. Caroline Jones notes in her review of the retrospective at the Guggenheim that Zero offered a "telegenic circuit—confirming that before ZERO could be understood as art, it was a media event."[9] While the core members of ZERO presented their work in a number of exhibitions as Group Zero (Mack, Piene, Uecker),[10] they also displayed individually signed work.

USCO, or the Company of US, was an artists' collective from the United States that included poets, filmmakers, artists, and engineers that lived and worked communally, using light and sound, computer technologies and techniques of meditation, words, images, and bodies. The group initially developed from a collaboration that took place in San Francisco between Gerd Stern, a San Francisco Beat poet, and Michael Callahan, an engineer. It grew to include printmakers Judi Stern and Barbara Durkee, and Steve Durkee, a New York painter. USCO were interested in systems and the impact of new media technologies, and they were invested in theories of communication, from cybernetics to Marshall McLuhan.

The two groups had already overlapped in the shows *KunstLichtKunst* in Eindhoven, The Netherlands, and *Light in Orbit* in New York.[11] Sharp foregrounded their nature as collectives. The comparison between them brings out a set of radically different concerns: Zero turned toward the time of weather and questions of solar time; USCO interrogated the time of onrushing information in the era of the computational.

Piene's *Proliferation of the Sun* was initially performed in March of 1967 at the opening of Piene and Aldo Tambolini's Black Gate Theatre in New York, a small Off-Broadway theater. That performance had four slide projectors, operated by Hans and Linda Haacke, Peter Campus, and Paolo Icaro.[12] Piene narrated the scripted performance, which he began by telling the projectionists to "turn your projectors on now." Piene gave various commands, instructing participants to change projector speeds from fast to slow, to move from a madness of color to a pure white light.

Proliferation of the Sun had a number of antecedents in Piene's work. There were ballets staged in his studio, where visitors could turn on the light machines, as well as fully automated mechanical Light Ballets. There was an even earlier work staged at Galerie Schmela in 1959 as "an archaic light ballet" that used torches and perforated cardboard.[13] The staging at the Walker took these ideas to a larger scale, and incorporated a number of different forms of "light"—or, we could say, technology. At *Light/Motion/Space*, *Proliferation of the Sun* was only installed for the four-hour opening of the exhibition. It had been reimagined for this space, as two sketches from the collections of the Harvard Art Museums/Busch-Reisinger Museum show. The schematic calls it a "perpetual environmental performance" (fig. 1). It calls for darkness, and for a translucent wall of red muslin and at least four ceiling-height panels to be installed. Five theatrical projectors, in red, white, and blue, were to be aimed at and around the audience. Another was to be aimed at double mirrors mounted overhead on the ceiling. Two more, one

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9 Caroline A. Jones, "*Zero: Countdown to Tomorrow, 1950s–60s*," *Artforum* 53, no. 7 (2015): 274–75.

10 See, for example, the exhibition *Group Zero: Mack, Piene, Uecker* at the McRoberts & Tunnard Gallery in London, 1964.

11 *Kunst Licht Kunst*, Van Abbemuseum Eindhoven, September 25–December 4, 1966. *Light in Orbit*, Howard Wise Gallery, New York, February 4–March 4, 1967.

12 Otto Piene, "The Sun – the Sun – the Sun," *Leonardo* 29, no. 1 (1996): 68.

13 Otto Piene, "Light Ballet," in *Piene: Light Ballet*, exh. cat. Howard Wise Gallery (New York: Howard Wise Gallery, 1965), n.p.

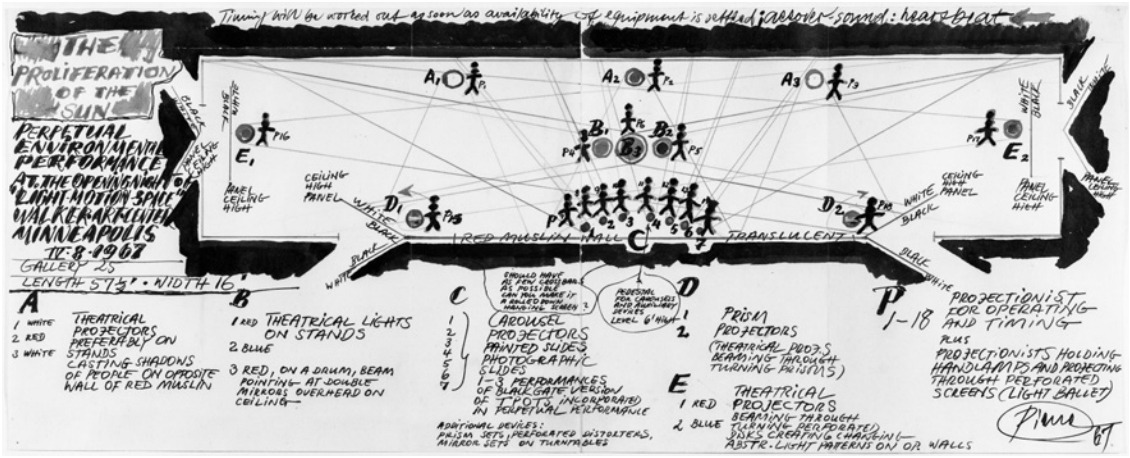

fig. 1 Otto Piene, sketch for the 1967 performance at the Walker Art Center entitled *The Proliferation of the Sun*, 1967
Harvard Art Museums / Busch-Reisinger Museum, Gift of Mr. and Mrs. Jan van der Marck, inv.-no. 1985.31

fig. 2 USCO, *Contact is the Only Love*, 1963 / 2000
Photo Thomas Julier / Courtesy Fri Art Kunsthalle

red, one blue, were to be shone through "turning perforated disks, creating changing abstract light patterns on opposite walls." The heart of the piece, though, belonged to a small section of the schematic that calls for over a thousand hand-painted slides, mounted on seven carousel slide projectors, many equipped with additional devices—"prism sets, perforated distorters, mirror sets." Otto Piene would direct the spectacle, with seventeen student helpers from a nearby art school. One of the diagrams calls for "allover sound: heartbeat," suggesting that the installation is an exercise in staging a new, provisional collective body.

This is a lot of light—or a lot of technology—staged in a relatively small space. There is no proscenium stage, set aside, for the spectators to watch. They are inside the spectacle, immersed. There are lights directed at the spectators, blindingly bright, lights cast upward on mirrors, lights directed through prisms. There are perforated screens to shine the light through. There are mirrors set to reflect and refract; prisms to shape new wave forms. There are screens and red muslin. The forms on the slides are abstract, largely circular, with varying patterns, brilliant color, and texture. The colors are more and less translucent. They invoke clouds, planets, and the titular sun—but also amoebas and tiny cells. The screens overlap and dissolve. Seventeen students are crowded into this space, hard at work following Piene's directions. The slide projectors aren't quiet. They run hot. There is a rock band to contend with. The audience becomes part of the environment; casting shadows, serving as screens for lights, direct and reflected, colored and abstract and pure white. And the constant drone of "the sun, the sun, the sun." This drone is a mantra, a somatic technology intended to alter a state of being. The result is nothing so much as a new ritual, a call to a dissolution of boundaries and borders and a fall into a nonhuman temporality of planetary consciousness; Piene called the work "a journey through space."[14]

In her writing on the *Zero Fest*, Christine Mehring suggests that Piene, Mack, and Uecker engage in a "simultaneous pursuit of materiality and immateriality—by concretizing space and light, or by using new technologies and industrial materials to suggest a vague sense of transcendence and idealism."[15]

Piene recalls being spellbound by the technologies he saw as a gunner during World War II, calling their explosions and detonations "hectically beautiful." He suggested that these vivid patterns were a "naïve light ballet," and that up until then "we have left it to war to light up the sky with colored signs and artificial and induced conflagrations."[16] He wants to reimagine this technology to offer something real: "a view of something giving, flowing, pulsating. Not the shrinking of the world in the cells of human imagination, but expansion on very side."[17]

He suggests that artists must create new kinds of art with these new technologies. He imagines a future where people in cities look up to floating, breathing sculptures, or creations "with singing fins… they might be the skin of the city or clouds in miraculous colors. Or none of that. Only one light beam. On its way to the moon it passes a rainbow. Artists will perhaps have more influence—to equip and develop, to widen and intensify the senses, the power stations of general human intelligence."[18]

This is wildly romantic and idealistic—arcing from materiality to immateriality to the moon. It imagines not a specific audience, but a collective transformation of the social world through the targeted use of particular technologies. He imagines "a directed light display… the dimensions

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14 Piene, "The Sun – the Sun – the Sun."

15 Christine Mehring, "Television Art's Abstract Starts: Europe circa 1944–1969," *October*, no. 125 (Summer 2008): 55.

16 Otto Piene, "Paths to Paradise" (1961), in *Theories and Documents of Contemporary Art: A Sourcebook of Artists' Writings*, ed. Kristine Stiles and Peter Selz (Berkeley: University of California Press, 1996), 408–10.

17 Ibid.

18 Otto Piene, "The Proliferation of the Sun," *Arts Magazine* 41, no. 8 (Summer 1967): 31.

of the Northern Lights… or controlled mirages and controlled atomic explosions."[19] Natural effects—the residue of complex processes and weather—are ambiguously overlaid and counterbalanced with a newly intentional underlay. To crib from the *Whole Earth Catalog*, a later meditation on what technology might do to us: We are as gods; we had best get used to it. We will make you some beautiful weather; we will transform and remake the skies; we will create new suns.

USCO is, in some ways, a little more straightforward about their preoccupations: they are concerned with electronic communications technology, and its effects on the subject. USCO both models and gestures toward new social organizations, stating in the catalogue for *KunstLichtKunst* that "we are all one, beating the tribal drum of our new electronic environment."[20]

USCO presented two works at the Walker show: *Seven Diffraction Hex* and *Strobe Room*. Unusually for USCO, both were abstract rather than representational. They generally used both words and images in elaborate slideshow spectacles. However, *Seven Diffraction Hex* was a reflective octagonal shape that would later be described by *Time* magazine as "Headache inducing.… Brilliant stroboscopic light imprints patterns of whirling hexagons as a sequence of images upon the eye's retina." Walter Barker of the *St. Louis Post-Dispatch* describes it as a "light machine," "a stand-up-to, do-it-yourself psychedelic device.… Before an elaborate switchboard, seven rapidly spinning hexagonal plates constructed of tiny metal light-refraction discs take up the beat of a relentless strobe light. Ticking off the beat of the strobe light, a concealed mechanism builds climax upon climax of multiple sense experiences."[21]

Seven Diffraction Hex borrowed its form and, I would argue, its intent from an earlier piece called *Contact is the Only Love*, an eight-foot-tall octagonal machine—a work shown, incidentally, in the *KunstLichtKunst* show (fig. 2).

Contact is the Only Love rotated as well. Shaped like a stop sign, it flashed not pulses of light, but contradictory messages in the capital letters of authority: GO, YIELD, ENTER WITH CAUTION, DO NOT CROSS LINE, MERGE. It was bordered with lights that operated with "a basic flashing rhythm of 480 flashes per minute,"[22] and accompanied by a soundtrack of highway noise and pop music. As Stern pointed out, "All of these are go commands."[23] Language of command, order and control, of highway constraints and traffic regulation, all intended to make man and machine play well together on the streets and highways. Language that would be followed so readily that its appearance would almost disappear in the urban landscape. Turn Left, Turn Right, Stop, Yield, No Stopping—commanding words and phrases that habituated drivers to obey without ever really registering.

Stern stated that these sculptures were attempts to "investigate the new power and effect of 'Word' as visual object.… The word on highways and billboards bigger than life is a recent phenomena… and the total effect is something else than the written word."[24] Writing in *Artforum*, Phillip Leider begins by comparing this work to earlier kinetic work by Charles Mattox that "remained well within a tradition of constructivist art, distilling a positive, cheerful esthetic from a technology that no one really feels very positive about." Where Mattox operated from "an abstracted idea of the beauty of technology," Leider argues Stern comes from another direction:

> The senselessly blinking light is a manifestation of the Absurd.… the sharp edge of Stern's wit is derived from the absurdity of technology as applied. The flashing,

19 Ibid., 25.

20 USCO, in *Kunst Licht Kunst*, exh. cat. Van Abbemuseum (Eindhoven: Van Abbemuseum, 1966).

21 Walter Barker, "New Light on the Art Scene," *St. Louis Post-Dispatch*, March 26, 1967, 43.

22 Gerd Stern, interview with the author, Summer 2015.

23 Ibid.

24 "The Go-Go-Go Art," *San Francisco Examiner*, November 5, 1963, 3.

> hypnotic traffic signal with its insane imperatives (Stop! Go! Shoot Yourself!) provokes in him a madman's laughter, but it also provokes a poet's concern over the curious things that happen to words when they become the ammunition of the Ray Guns of the State and of the great commercial institutions. The size of a word on a printed page, for example, is one thing, but a single word on a billboard in letters eight feet tall, with, perhaps, each letter blinking in a different color for emphasis is something else. Stern … thinks that such manifestations have created a link between poetry and the visual arts … [he] has … several decades of conditioning by Madison Avenue and super-highway prosody, and he exploits it well.[25]

Stern's work was flashy, loud, and elaborate—and a template for the works that would define USCO—while in the vocabulary of kinetic sculpture it was also an initial salvo into an intersection of art, technology, and control, routed through language and its instructions. The emphasis throughout is on the contortions necessitated by technology—both technical and social—its structure of command, and the obeisance it demands. Stern and USCO were heavily influenced by Marshall McLuhan's *Understanding Media*. A quick rehearsal: McLuhan saw media as "extensions of man," transforming bodily senses. He understood electronic media as a new stage in the development of media, serving as an externalization of the central nervous system. To quote USCO quoting McLuhan, this age is one "whose media substitute all-at-onceness for one-thing-at-a-timeness. The movement of information at approximately the speed of light has become by far the largest industry in the world," and hence, "patterns of human association based on slower media have become overnight not only irrelevant and obsolete, but a threat to continued existence and sanity."[26]

McLuhan tells his readers they must transform or go mad—in short, they must accommodate themselves to new media forms. Elsewhere, McLuhan states that transformation at the hands of technology is inevitable. Senses are extended, perception is displaced, and we serve our technologies, even as we create them. McLuhan then offers a program for artistic practice: it is, and ought to be, "exact information of how to rearrange one's psyche in order to anticipate the next blow from our own extended faculties. … in experimental art, men are given the exact specifications of coming violence to their own psyches from their own counter-irritants or technology."[27] What is unexpected here is the language of information, and the violent bureaucratic efficacy of technology: the very use of technology "conforms men."[28]

McLuhan goes on to state that "those parts of ourselves that we thrust out in the form of new invention are attempts to counter or neutralize collective pressures and irritations. But the counter-irritant usually proves a greater plague than the initial irritant, like a drug habit. And it is here that the artist can show us how to 'ride with the punch.'"[29] Artists were to take on a new role: they were to anticipate, and instigate transformation. The arts were a hedge. McLuhan warned that without defenses, electronic media could cause the surrender of "our senses and nervous systems to the private manipulation of those who would try to benefit from taking a lease on our eyes and ears and nerves,"[30] without anyone ever really noticing. USCO claimed they were interested in "proving out" his theories; their *Strobe Room* was staged as an interrogation into the controlling effects of technology. Donald Key described it in the *Milwaukee*

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25 Philip Leider, "Gerd Stern, San Francisco Museum of Art," *Artforum* 2, no. 6 (1963), 46–48.

26 Marshall McLuhan, "Is It Natural That One Medium Should Appropriate and Exploit Another?" (1967), in *Essential McLuhan*, ed. Eric McLuhan and Frank Zingrone (New York: Routledge, 1997), 180.

27 Marshall McLuhan, *Understanding Media: The Extensions of Man* (Cambridge, MA: MIT Press, 1994), 66.

28 Ibid., 45.

29 Ibid., 66.

30 Ibid., 68.

Journal: "It literally carries viewers into a dreamlike experience that is creepy, crazy, dizzy or delightful, depending on one's reflexes and stomach. The dark room consists of walls of reflecting plastic (mylar) with a flashing strobe light at the top. When it starts to work the usual reaction is a feeling of weightlessness and an impression that everyone is moving in slow motion. It is an environmental sculpture in the most absolute form."[31]

The setup is simple, the effect is vertiginous. Images reflect in the mylar surround of the space in a kaleidoscopic whirl of light and color. They spin and refract, creating an experience of spatial disorientation. This altered perception is intended to correspond to an altered consciousness. In this, we see an elaborate interest in breaking the frame. There is a movement between projection and mirrors, creating an environment in which the viewer is always already inside the picture—immersed and drowning in a cacophony of image. Here, the self is always on display—there is no point, in a room of mirrors, in which you can stand that you are not part of the picture. Yet this vision of the self is marked not by the egoic differentiation of the mirror stage, with the skin neatly sealing the self, but by a troubling fusion of the individual into the environment. Strobe lights were certainly one of the more dramatic effects mobilized by the intermedia shows—operating at the heart of USCO's performances and installations, and later showing up at Andy Warhol's *Exploding Plastic Inevitable* (EPI), before rapidly crossing over into more mainstream nightclubs and discotheques. Stroboscopic lighting was an industrial technology created in 1931 for high-speed photography, and was developed within industry for the careful study of rapidly moving machinic parts. The short, high-intensity bursts of light given off by strobes could be synchronized precisely with movement, to make an object appear to stand still in time. It extravagantly disrupted the ordinary experience of light and darkness, punctuating it with an involuntary machinic blink. There was no arrest; the light bled through closed eyelids. It was a strange dazzlement of overexposure, amplifying and obscuring in turn, revealing and then eclipsing space and spatial relations. The staccato brilliance fractioned time and patterned the retina with afterimages.

In an interview, Steve Durkee, one of USCO's founding members, tells Jonas Mekas that "strobe is the digital trip. In other words, what the strobe is basically doing, it's turning on and off, completely on and off" in a way that the incandescent bulb can't. Mekas and Durkee both agree that, on some level, the strobes represent death, "since there is nothing but the white light in it, it represents … the point of death or nothingness." Mekas goes on to say that with the flashing of the strobes, "you lose the sense of sound":

> SD: Or who you are—because all you see are fragments of yourself. …
>
> JM: … We are cut by strobe light into single frames …
>
> […]
>
> JM: … What's the meaning of our becoming single frames?
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> […]
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> JM: … Dissolving all the points of hard resistance, both of matter and mind? So that every reality that is here like a rock is being atomized?… with strobes we cut ourselves into single frames. … the intermedia shows, the strobe opens us. Now we are beginning to see ourselves in a different perspective, or in no perspective at all, perhaps, but in the simultaneity of distances—like looking at ourselves from outside and inside at the same time, out of our own body …[32]

The inevitability here is telling: the strobe just does something. It is not that it is *used* to open us, or that it *might* open us. It opens. And, indeed, this is a rhetoric familiar from Gene Youngblood's discussion of the expanded cinema.[33] This aligns a little too closely for comfort with the

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31 Donald Key, "Dazzling Light/Motion Show," *Milwaukee Journal*, June 25, 1967, 6.

32 Jonas Mekas, "June 16, 1966: More on Strobe Light and Intermedia," in *Movie Journal: The Rise of the New American Cinema 1959–1971* (New York: Collier Books, 1972), 244–46.

33 Gene Youngblood, *Expanded Cinema* (New York: E.P. Dutton, 1970).

rhetoric of control that surrounds psychedelic drugs, and can be queried, perhaps, in a similar fashion. Theodore Roszak puts it concisely: "The 'psychedelic revolution' then, comes down to the simple syllogism: change the prevailing mode of consciousness and you change the world; the use of dope *ex opere operato* changes the prevailing mode of consciousness; therefore, universalize the use of dope and you change the world."[34] A syllogism terrifying in both its simplicity, and illogic—but nevertheless, one that articulates a then prevalent point of view. Similarly, the strobe—and intermedia, more generally—are seen to have an immediate and involuntary effect. This effect is the generative point of their possibilities, for expanded consciousness, and a reordering of the senses. And, of course, the possibilities for reordering the senses through technological control did not belong singularly to the counterculture.

Proliferation of the Sun and *Strobe Room* use light, mirrors, and environmental spectacle; both were discussed in terms familiar from Op Art: dizzying, nauseous, overwhelming, astonishing. Alchemical. Gimmick and magic. But they are not simply objects in a white room. Not paintings on a wall. These are surrounding environments, where the viewer, like it or not, is bombarded by the work, potentially drowning in it. You don't pay attention to these works the way you do to a painting or a sculpture; it processes you.

Proliferation of the Sun looks backward, to searchlights and WWII bombing runs, and forward simultaneously, imagining a *longue durée*. It gestures to a timescale beyond the human, and perhaps recuperates that Bauhaus idea that technology looks to nature in its efforts to reshape the world. USCO's *Strobe Room* does not look to nature, but rather it implicates its viewers quite directly, even forcefully, in a new nature remade by information technology and the digital logic of the computational. It suggests, perhaps, that if we are already being programmed, we might need to look directly at the source code.

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34 Theodore Roszak, *The Making of a Counter Culture: Reflections on the Technocratic Society and Its Youthful Opposition* (Garden City, NY: Anchor Books, 1969), 168.

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Breaking Boundaries
Seth Riskin in conversation with Margriet Schavemaker

Seth Riskin is the manager of the MIT Museum Studio and was a graduate student at the MIT Center for Advanced Visual Studies (CAVS) under the direction of Otto Piene in the 1980s. He is trained as an artist and a gymnast and he can combine both in his performance works. We will talk with Seth about technology and science and their impact on art. Connections with neuroscience will be of particular focus, since he coteaches a class on vision in neuroscience and art. Seth, could you give us some background?

I wish to speak about experience, and in the memory of Otto Piene. I met Otto in the mid-1980s as a student at MIT, and we worked together until his death. In our discussion, I wish to weave together a bit of Otto's work, my own, and some research ongoing at MIT in a picture that is focused on the ZERO experience, as it was, and as, I believe, it is very much alive today.
I developed and still develop my own light-based technologies, often mounting instruments on my body to articulate the illumination of space around viewers, and in this way to shape space and time perception.
In Otto's words, I came to MIT as a "flyer." That is to say, I was a former national champion gymnast, and I wanted to extend my body with light. I wanted to "become" space and to "move" space around viewers, thereby turning the subjective experience of movement into a collective one. Body-mounted light instruments that I created enabled me to use my physical ability to control the illumination of an otherwise totally dark space. I developed a language of articulated illumination that revealed the moving relationship of my body and the surrounding architecture. The instruments and the light phenomena they generated were applied to transcending limits of the body. The embodiment of visual space and time—as viewers experienced the performances—dissolved the habitual perceived boundaries between the body, or matter, the light, the material architecture, and the movement. The synthesis of these elements bridges the experiences of the performer and viewers; movements are transposed from the individual body to the shared space resulting in a collective movement experience.

Are the viewers in the same space of the performance?

The viewers are always in the same space. At times, the arrangement is different: in the holographic works, I perform behind a large transparent wall of holographic material and the viewers are on the other side. They view through the large-scale hologram and experience three-dimensional structures of light moving around and directed by the body.

This, of course, makes an easy connection to the Light Ballet by Piene. Can you talk a bit about this connection?

I believe that the connection is rooted in direct perception, in other words, pre-conceptual visual experience. Otto was highly focused on the primacy of experience in the production of artwork and in the perception of artwork—even in relation to intellectual considerations. According to him, an artist works with energy, and light was in fact a primary medium for Otto. Art for him was a kind of cycle: he was passionately interested in the question of how human energy translates to physical energy and, through art, translates back into human energy. It was an energy transfer between people that motivated Otto.

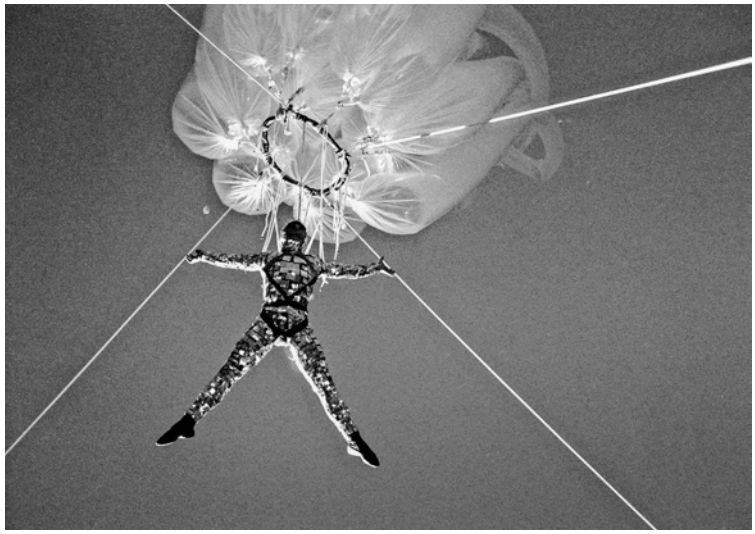

fig. 1 Seth Riskin during a Sky Art event by Otto Piene, Kunstpalast, Düsseldorf, 1996
Photo Arthur W. Schrewe / Otto Piene records, ZERO foundation, Düsseldorf

fig. 2 Seth Riskin during a Sky Art event by Otto Piene, Kunstpalast, Düsseldorf, 1996
Photo Horst Kolberg / AFORK, Kunstpalast, Düsseldorf

Light remains a mystery. It has always been. What exactly is light, and what is the human relationship with it? What is vision in this context? Is there a hierarchy between light and vision? These concerns Otto and I shared.

What do you mean by "hierarchy between light and vision"?

Well, it is common understanding that light information delivers to the brain the world as given—the objective world that exists without us. The hierarchy can be characterized as "light gives vision." Perception is not passive, however, but constructive. To some extent, the brain builds the world that we see. Paying attention to, and utilizing this creative function of perception in the manner of art, we take an active approach to vision. Light in this context becomes a medium for shaping visual experience, not simply a vehicle for delivering it.

I was always fascinated by the ways Otto Piene tried to make the viewers part of the artworks. They themselves become screens in a way: the light is projected also on their bodies, so that they become an active part of Piene's immersive installations. In your works, we see mainly you as a performing artist and not so much the audience.

It is true, perhaps because I am the engine of it. But in performance I move into the background as a silhouette. In the viewers' perception, my body movement is transposed into the movement of fluid architectural structures articulated by the light. The viewers are within the moving architecture, as they perceive it, and this sets them into movement. So I am not a performer on stage. There is a kind of symmetry between my movement experience and the viewers' movement experiences.

You work interdisciplinarily with MIT scholars from the field of neuroscience on the phenomenology of vision—a topic in which Piene was engaged in as well. Having studied philosophy, he approached the relationship between the subject and the object from a philosophical perspective. How do you come then to neuroscience?

Light was for Otto a primary vehicle, with which he could transcend the boundary between the subject and the object. The way that the Light Ballet—and we have to remember that Light Ballets were originally performed by Otto—structures the light, was such as to transcend limitations: limits of gravity, constraints of time, and habitual, or rigid, ways of thinking that color our experiences. With the transcendence of these limitations, we have the viewer experiencing the kinds of expansion, the floating, the quiet, the tranquility, or—you could say—the pure possibilities in silence of the ZERO moment.
This gets to the question of neuroscience. Otto was up to 'articulated illumination'. He used filament lamps, reflectors, and camera obscura projections to change the viewers' perception of the hard surround. In this way, Otto used light to manipulate vision at a fundamental level so as to restructure our experiences. In my Light Dance artwork, I also use articulated illumination interacting with material surfaces to shape space and time in perception. Light Dance and Light Ballet are close in this regard. There has always been an intellectual side to my work, alongside the artistic, so it was a natural step in the development of my work that I investigated what was happening in vision neuroscience. Ultimately, I started collaborating with scientists toward shared goals of studying the interaction of light and vision and generating visual experiences through the manipulation of light.

Could you elaborate a bit more on 'articulated illumination'?

I build equipment to produce specific light effects. The equipment projects articulated light—lines, circles, grid patterns, for example—from my body to the boundaries of the room. As I move, the light effects change in size, shape, and speed on the surfaces of the room. The resulting experience, for the performer and viewer, is one of "sculpting" space. Otto, in his Light Ballet work, was also concerned with this kind of "sculpture" and the experiences it could generate.

How does this relate to neuroscience?

I began talking with vision scientists about these kinds of perceived transformations of objects and spaces that come about through articulated illumination. Articulated illumination became the subject of research studies. What has developed is quite interesting: by highly controlled light, we can take back the structure of what we see to what is called early visual processing, the very beginning of visual experience. We can control elemental, constructive functions of vision and influence how the brain builds up a picture of a world. Articulated illumination offers a way to look into and study the early structuring of space, time, and forms in the visual brain. One project example is that we use a robotic arm to control the movement of articulated light to generate specific visual experiences. We can probe into how the brain structures a visual world based on light information, and this is also a resource for working with light as an artistic medium. Consequently, we recognize that perception is constructive. Perception is a creative function, not just a passive one.

Have the neuroscientists' research questions about how vision develops and about the intellectual conceptualization of what hits the eye influenced you as an artist as well?

Yes. I was always thinking philosophically and related to science. It traces back to the *Light-Space Modulator* by László Moholy-Nagy and to other works from the past — the works of Wassily Kandinsky, for example, in terms of analysis of vision and transcendence of pictorial representation to total abstraction. So this is the context out of which my recent work has come.
Understanding the open questions in vision science has allowed me to start probing my work more specifically. If perception is constructive, then we begin to transcend the habitual, notional boundary between the interior and exterior worlds. This phenomenological leap accords with the potential of art and is particularly exciting. I think a lot of artists feel this strength of artistic purpose. What I am starting to see is that there is a distinct role for art in relation to vision neuroscience: art can be more than a fanciful idea; it can tap into deep structures of how we experience the world in a way that complements science. As an artist, I can start to bring my imagery into the exploration of physical reality and really make a case, alongside science, for this kind of experience-based intelligence. Such an approach has the potential of overcoming the constrictive, unproductive roles of disciplinary divides.

Although the collaboration between artists and scientists has not always been very popular at MIT, you run a fantastic studio program there. Can you talk a bit about that as well?

Before Otto's death, he and I were talking about the development of what is called the MIT Museum Studio — something I originated and Otto was involved with from the beginning. It is very much in the spirit of ZERO and of the Center for Advanced Visual Studies (CAVS), which no longer exists. Since Otto's death, the studio has developed quite strongly to carry on that tradition at MIT, and its work is focused on the legacy of Otto and ZERO.
Vision in Neuroscience and Art is a new course that has been taken on by the department of brain and cognitive sciences. This is a major step at MIT, to have such an approach part of the science curriculum. At MIT, we are pioneering methods of thought and creation that open the space between art and science rather than reducing one to the other.

Are the students of this new course aware of ZERO?

The students I work with are very much inspired by ZERO. The impulse they are driven by is quite similar whether they come from engineering, or material science, or brain science. There is a kind of intelligence that they are often missing in their programs and that they identify in the practical approach we offer at the Studio. The Studio and the new course, as well as other courses, are focused on the tradition of physicality, sensory learning,

figs. 3–4 Seth Riskin, *Light Dance*, Massachusetts Institute of Technology (MIT), Cambridge, 2015
Photos Allan Doyle

fig. 5 Seth Riskin, *Light Dance*, MIT, Cambridge, 2015
Photo Allan Doyle

and the power of artistic manifestations that communicate with people through the senses. Therefore, you will recognize echoes of ZERO in the students' artworks.

How do you see the future development of this program?

I think the future at MIT — and perhaps also beyond MIT — is one in which art plays a particular and essential role in pronouncing, in relation to other areas of knowledge, subjective experience. In relation to objective knowledge, subjective experience is not well understood or valued. I believe that the firsthand, subjective experience that is essential to art — quite different from the generalizing function of scientific method — represents a much-needed complementary approach in the activities of knowledge generation. Who better than the artist to advance this kind of experience-making? And experience is the core of knowledge.

So you say that the interest in ZERO today has not to do only with the influence of the technological society but also with the collaboration between various disciplines and with the role of artistic research — a term that has not been brought up yet, but I think is a key issue, especially for those working in art academies or in art schools. Artists have more research possibilities today, and artistic research is seen more and more as something that needs to be taken seriously, although it is still hard to get the funding for it. How do you relate to the model of artistic research that is so popular now?

Well, I think it is making the case for the human capacity as it is expressed through art and as it is found in perception. Our entire knowledge of the world, as far as we can measure it and develop theories about it, traces back to human experience. We can never take the human out of the loop. So if we change our minds about the role of perception and the value of perceptual intelligence as found in artistic practice, we can start to imagine that art — instead of being something that is antiquated or marginalized — is in fact at the center of many fields of pursuit like brain science or vision science. Can science go on with highly abstracted theory-making that is so distantly removed from firsthand experience? I think that there are forefronts of science that can benefit from the deep-going intelligence that art has to offer. Here are opportunities to shift the model by which we understand the world and ourselves and therefore shift research to include the artistic.

How would you relate this focus on perception and on vision science — which could be interpreted as a sort of modernist formalism — with the multiple and hybrid forms of mediatization that the ZERO artists were deploying?

To do work at the intersection of art and vision neuroscience, we need to work with technologies for the new experiences they afford. The adaptation or invention of technologies as new artistic media is critical to the work we do at MIT, but the mentality that we foster behind our efforts leading to the experiences that the artworks generate is most important. I think this prioritization is similar to that of ZERO artists. There was driving vision and philosophy behind their work. 'Mediatization' was not an end in itself, in my view, but perhaps the unintended result of grappling with the force of new technologies and materials, trying to turn them to artistic ends. Overall, there is a reason why I do this work at MIT and why Otto was at MIT. It is not about the media, but about combining technical knowledge with humanistic intelligence toward a more complete expression of the human experience and potential. This drives my students and me and I believe it is what drove Otto.

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Between the Viewer and the Work: Encounters in Space; Essays on ZERO Art

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FRONT COVER
Visitor in front of a work by Günther Uecker, exhibition *Zero in Bonn*, Städtische Kunstsammlungen Bonn, 1966
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The international art movement ZERO, which formed towards the end of the 1950s, created works of art that penetrate the viewer's space in various ways: for example, through light reflections, motion, projections, or spatial expansion. This development is to be seen in the context of a general tendency towards abandoning the painting, which can be witnessed around 1960 in a number of countries: From two-dimensional pictures to objects and spatial installations, the works increasingly encroach on the space of the viewer and demand different grades of participation. What role does ZERO play in this context? An international conference held in Düsseldorf in 2018 on occasion of the event *ZERO: Please turn!* dealt with this question. The publication contains the contributions to the conference.

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