

A large-scale network art installation featuring a dense, intricate web of black lines and nodes on a white background. Two people, dressed in black, are sitting on the floor, looking up at the structure. The overall aesthetic is minimalist and technical.

# SYSTEMS

Edited by Edward A. Shanken

Documents of Contemporary Art

show: the work was based on a particular political situation circumscribed by the Indochina War, Nixon's and Rockefeller's involvement in it. MoMA's close ties to both, my own little quarrels with the museum as part of the Art Workers Coalition's activities, and then all the minds of the people who had a stake in this game – the Vietcong as much as the Scarsdale lady on her culture tour to the city. The result of the poll – approximately 2 to 1 against Rockefeller/Nixon and the war – is only the tip of the iceberg. The figures are not quite reliable because MoMA, as usual, did not follow instructions, and the polls have to be taken with a grain of salt.

Emily Genauer gave us a little glimpse of the large base of the work in her review of the show. She wrote: 'One may wonder at the humour (propriety, obviously, is too archaic a concept even to consider) of such poll-taking in a museum founded by the governor's mother, headed now by his brother, and served by himself and other members of his family in important financial and administrative capacities since its founding 40 years ago.' With this little paragraph she provided some of the background for the work that was not intelligible for the politically less-informed visitors of the museum. She also articulated feelings that are shared by the top people at numerous museums. It goes like this: We are the guardians of culture. We honour artists by inviting them to show in *our* museum, we want them to behave like guests; proper, polite and grateful. After all, we have put up the dough for this place.

The energy of information interests me a lot. Information presented at the right time and in the right place can be potentially very powerful. It can affect the general social fabric.

Such things go beyond established high culture as it has been perpetrated by a taste-directed art industry. Of course I don't believe that artists really wield any significant power. At best, one can focus attention. But every little bit helps. In concert with other people's activities outside the art scene, maybe the social climate of society can be changed. Anyway, when you work with the 'real stuff' you have to think about potential consequences. A lot of things would never enter the decision-making process if one worked with symbolic representations that have to be weighed carefully. If you work with real-time systems, well, you probably go beyond Duchamp's position. Real-time systems are double agents. They might run under the heading 'art', but this culturization does not prevent them from operating as normal. The *MoMA Poll* had even more energy in the museum than it would have had in the street – real socio-political energy, not awe-inspiring symbolism. [...]

Hans Haacke and Jeanne Siegel, extracts from 'An Interview with Hans Haacke', *Arts* magazine, vol. 45, no. 7 (May 1971) 18–21.

## Edward A. Shanken

### Reprogramming Systems Aesthetics//2009–14

As the cult of high modernism tumbled from its lofty throne, the scientific theories of Claude Shannon, Norbert Wiener and Ludwig von Bertalanffy gained substantial purchase in the arts. Radically opposed to the romantic emotionality of expressionism, Abraham Moles and Max Bense's theories of 'information aesthetics', Roy Ascott's cybernetic art theories and Jack Burnham's 'systems aesthetics' became influential models for more rational approaches to making and understanding art. Losing their lustre by the mid 1970s, they disappeared from art discourses for nearly two decades, apparently gathering dust but, as recent affairs suggest, also gathering steam. Historical and critical writing addressing these aesthetic theories began to emerge in the 1990s and accelerated in the 2000s, when a number of exhibitions and symposia were devoted to related themes (including a 'Systems Art' symposium at the Whitechapel Gallery in 2007). Specialized scholarly publications also mushroomed in the 2000s, including Francis Halsall's *Systems of Art* (2008). Paralleling the entry of this historical recuperation into museum contexts, scholarly writing on the subject has entered into more mainstream academic discourses, including Pamela Lee's *Chronophobia* (MIT Press, 2004) and the celebration of Burnham's work in the fiftieth anniversary issue of *Artforum* in 2012. To borrow a line from Hans Haacke's proposed 1971 work ironically dedicated to Wiener and resuscitated by scholar Luke Skrebowski: 'All Systems Go!'<sup>1</sup>

Contemporary discourses surrounding systems aesthetics, however, tend to lack an appreciation of the alternate art histories that emerged around informational, cybernetic and systems approaches to art. Charlie Gere identifies early conceptions of systems thinking and computation applied to art in the Independent Group's exhibition catalogue for *This is Tomorrow* (Whitechapel Gallery, 1956) and notes John McHale's 1962 pronouncement that 'the future of art seems no longer to lie with the creation of enduring masterworks but with defining alternative cultural strategies, through a series of communicative gestures in multi-media forms'.<sup>2</sup> Roy Ascott wrote about the application of cybernetics to art in 1963, proposed human-machine symbiosis as art in 1964, anticipated remote interdisciplinary collaborations involving artists in 1966–67, and in 1967 proclaimed, 'When art is a form of behaviour, software predominates over hardware in the creative sphere. Process replaces product in importance, just as system supersedes structure', all foundations undergirding his subsequent praxis of telematic art.<sup>3</sup> In 2006 [in *Materializing New Media*] Anna Munster proposed

'information aesthetics' as a 'new kind of aesthetics', apparently unaware of Bense and Moles' theorizations of the late 1950s using the same term, and seemingly equally oblivious to Burnham's systems aesthetics. So, while it is important to recognize the vital contributions of Burnham's theories, it is equally important to recognize that they were not without precedent, and that those precedents contributed to the overall ecology of discourses of which his were a part, just as recent scholarship on systems aesthetics is part of a larger ecology of art-historical writing. The emerging literature has only begun to scrutinize these issues and to contend with why those aesthetic theories lost artistic currency in the 1970s, how they increasingly and differentially came to regain it, beginning in the 1990s, and what their possible hermeneutic uses are today. The question I propose is: How has the historicization of those interpretive syntheses in the 1960s been 'reprogrammed' by contemporary artists and writers, and to what ends?

Marga Bijvoet's *Art as Inquiry: Toward New Collaborations Between Art, Science and Technology* (1997) is a pioneering yet under-recognized monographic study of art in the 1960s and early 1970s.<sup>4</sup> A key aspect of Bijvoet's framing of this terrain draws on information theory, cybernetics and systems theory, with particular emphasis on the aesthetic theories of Jack Burnham. She discusses the application of biologist Ludwig von Bertalanffy's general system theory in Burnham's formulation of a 'systems aesthetics' in his *Artforum* essay of that title and in his book *Beyond Modern Sculpture*, both published in 1968.<sup>5</sup>

In 'Gemini Rising, Moon in Apollo' (1998), I noted that in presenting 'such diverse artists as Joseph Kosuth, Hans Haacke and Sonia Sheridan', Burnham's 1970 'Software' exhibition, 'implicitly problematized distinctions between "art and technology" and other experimental art media and technological invention' including what had come to be known as hypertext and intelligent environments.<sup>6</sup> In 'The House that Jack Built' (1998), I claimed that the relationship Burnham posited 'between experimental art practices and "art and technology" questioned conventional distinctions between them, and offered important insights into the complementarity of conventional, experimental and electronic media in the emerging cultural paradigm later theorized as postmodernity'.<sup>7</sup>

Mitchell Whitelaw's 1998 essay, '1968/1998: Rethinking a Systems Aesthetic'<sup>8</sup> emphasized Burnham's 'anticipation of contemporary concerns', such as the 'cybernetic organism', 'self-organizing systems in relation to sculpture', and 'an art embracing "real time information processing"'. Similarly, he noted, the re-entry of terms like cybernetics and systems into the critical vocabulary of cultural discourse give new relevance to Burnham's systems aesthetics.

Simon Penny states that he gravitated to Burnham's 'visionary and pioneering' writing as a sculpture student in the late 1970s, and notes that it influenced his pursuit of interactive art practice as well as his own theoretical work.<sup>9</sup> Although

it is common to read that 'the impact of Burnham's work was limited',<sup>10</sup> Penny's account suggests that its impact was perhaps much greater among artists than among critics and historians. Indeed, the influence of *Beyond Modern Sculpture* and the important essays in *Arts* magazine and *Artforum* therefore cannot be measured in footnotes. However, a significant proportion of anglophone artists who came of age during the span of *Beyond Modern Sculpture's* five editions, printed between 1968–78, knew about Burnham and his theories. Now, nearly half a century after its publication, Burnham's work is suitably historical, and its prescience sufficiently verifiable. As a result, his aesthetic theories are becoming much more palatable to contemporary art historians.

By 2000, it had become increasingly apparent that the exclusion and ghettoization confronting the practice and criticism of new media art and the larger historiography of art and technology required an explicit suturing strategy. In 'Art in the Information Age' (2001) I argued that by 'interpreting conceptual art and art-and-technology as reflections and constituents of broad cultural transformations during the information age' categorical distinctions can be relaxed, allowing parallels to be drawn between seemingly diverse practices, offering new insight into contemporary art.<sup>11</sup> Informed by Burnham's theory of systems aesthetics and his notion of software as a metaphor for art, my analysis of works by Levine, Haacke and Kosuth in 'Software' led to the conclusion that in the information age, 'meaning and value are not embedded in objects, institutions or individuals so much as they are abstracted in the production, manipulation and distribution of signs and information'. (436) Finally, I implicitly applied Burnham's systems approach to analyse the system by which art history is written. Using Haacke and Ascott as examples, I claimed that the historicization of an artist's work as conceptual art or art and technology 'says less about their work than it does about the institutional mechanisms that have created and reinforced categorical distinctions ... at the expense of identifying continuities between them'. (438)

On top of these early art-historical reappraisals of systems aesthetics, after the English publication of Niklas Luhmann's *Art as Social System* in 2000, Burnham's brilliant oddball 1960s theory gained high-powered company. A staggering number of publications addressing Burnham and his ideas were produced in the 2000s, including work by more mainstream scholars. This point is important because, as Gere has noted, a 'problem facing discourse concerning so-called new media art was how it had been contextualized and historicized ... not that there was no critical discourse, but rather that it remains the preserve of those involved, with little or no connection or engagement with outsiders.'<sup>12</sup> [Bridging that gap] Lee embraces Burnham's theory of systems aesthetics, asserting that 'the impact of systems discourse within both the sciences and

humanities is immeasurable ... its rhetoric informs and certainly facilitates a new understanding of many of the artistic practices of the 1960s.<sup>13</sup>

As in 'Art in the Information Age', many of these art-historical recuperations directly confront discourses that spurned or ignored Burnham's theories. Similarly, they draw parallels between systems aesthetics and other, more authorized methods in order to identify continuities and erode categorical distinctions between the historical and current discourses of new media and mainstream contemporary art. For example, Halsall has engaged Burnham's systems aesthetics in a discourse with Luhmann, Arthur Danto, Rosalind Krauss, Nicolas Bourriaud and other writers, proposing a systems-theoretical method that draws together diverse forms of art practice and interpretative models.<sup>14</sup> In 'All Systems Go: Recovering Hans Haacke's Systems Art' (2008), Skrebowski took on art historian Benjamin Buchloh, using Burnham's 'Systems Aesthetics' to counter Buchloh's strict division of Haacke's work into two camps, before and after the influence of systems aesthetics: 'those earlier projects that emphasized "physiological, physical and biological processes" and the "mature" – i.e. political – works'.<sup>15</sup> He claims that Buchloh's antipathy toward systems aesthetics blinded him from registering Haacke's ongoing concern with systemic approaches to art that provide continuity between his biological and political works: 'Recovering the influence of Burnham's systems aesthetics on Haacke encourages us to understand his practice holistically, revealing a fundamental consistency underlying its stylistic diversity' (61). Turning Buchloh's words against him, Skrebowski argues that his position is founded on a binary opposition between nature and society: 'for Buchloh, Haacke's art cannot be political until he "transfers his interests from biological and physical systems to social systems"'.<sup>16</sup> Skrebowski deconstructs this mythic division and concludes that

Systems theory offers a way to think the natural and social analogically, and Haacke's art, via his engagement with Burnham's systems aesthetics, makes use of it to do exactly that. We can now see once more that Haacke's critical artistic interventions build on an unbroken, ascending scale of systemic complexity – from organic elements, through plants, animals, and finally up to human beings. (61)

Haacke explicitly eschewed hierarchical judgements between biological and social systems. Burnham likely would agree with Skrebowski's systemic interpretation, particularly its recognition of the recapitulation of fundamental orders, relations and structures at various levels of organization parallels alchemy, structuralism and kabbalah, all highly refined theories of systemic relationships that fascinated him. Within the emerging historiography of systems aesthetics, Skrebowski's reappraisal of Haacke and his dismantling of Buchloh's

position demonstrate the hermeneutic potential of the systems approach.

In 'Art After Philosophy' (1969), Joseph Kosuth stated that 'art "lives" through influencing other art, not by existing as the physical residue of an artist's ideas. The reason why different artists from the past are "brought alive" again is because some aspect of their work became "usable" by living artists'.<sup>17</sup> Kosuth's biological metaphor suggests that art is a quasi-living organism, an open system whose elements have relevance only when they participate in the current functioning of the organism. The same claims can be made of art-historical interpretations. Were I not so sensitive to that issue perhaps fewer words would have been dedicated to this inevitably self-promotional recitation of my own historiographical contributions. I know that by interpreting and commenting on my own ideas and inserting [and reinserting] them into a living discourse I revitalize them.

### Postscript

*Artforum*, the journal that published 'Systems Aesthetics' in 1968, later ignored Burnham, whose name was invoked in its pages only twice between 1998 and 2007.<sup>18</sup> It then rediscovered Burnham in 2012, celebrating 'Systems Aesthetics' and the 'Software' exhibition. In the context of my 'strategic historiography' this renewed interest in Burnham by a prominent art journal was a double-edged sword. On one edge, such mainstream recognition vindicated years of work conducted in relative obscurity; on the other edge, *Artforum* ignored the scholarly work that initiated the process of recovering Burnham from the rubbish heap of history. Neither Caroline Jones' essay 'Systems Symptoms' nor Anne Wagner's 'Data Almanac' mention Bijvoet, Gere, Penny, Whitelaw, Halsall, Skrebowski, myself or any of the artists, curators and scholars (many of whom are connected with new media art) who have contributed to this project since the mid 1990s. It is as though *Artforum* rediscovered Burnham's work on its own, effectively crediting itself for this important recuperation, without acknowledging the prior scholarship, including this historiographical study of that literature. Furthermore, in the same issue of *Artforum*, Claire Bishop's essay 'Digital Divide' limited its discussion to 'the mainstream art world' and dismissed the 'sphere of "new media" art' as a 'specialized field of its own'. Thus, even as Bishop acknowledges the presence of new media art, she condones an account of contemporary art that brackets it out of the conversation, thereby reifying the gap between mainstream contemporary art and 'new media art' that she ostensibly seeks to address. A further analysis following the approaches of Pierre Bourdieu and Niklas Luhmann offers useful insights into the systemic nature of these events.

In 'The Field of Cultural Production ...' (1983) Bourdieu notes that 'the literary or artistic field is at all times the site of a struggle between ... those who dominate the field economically and politically [in this case *Artforum* and its contributors]

... and [those] who are least endowed with specific capital [scholars of new media art, and] tend to identify with a degree of independence from the economy...'<sup>19</sup> (321) The art journal chose Jones and Wagner – distinguished senior art historians – due to 'the value which the specific capital of [those] writers ... represents for the dominant fractions ... in the struggle to conserve the established order...' (322) The journal's failure to cite the work of the writers associated with new media art who have done the heavy lifting on re-evaluating Burnham's work constitutes an act of rhetorical violence by omission, with several effects: 1) it systematically strips originality and authenticity from that which is excluded from the journal's pages; 2) it usurps a field of scholarship and establishes the journal's dominance over that field in its own terms; 3) it shields mainstream contemporary art discourses from interlopers that potentially threaten the status quo; and 4) simultaneously reifies the journal's position of dominance as the arbiter of those discourses. As Bourdieu observes, 'the fundamental stake in literary struggles is the monopoly of literary legitimacy, i.e., *inter alia*, the monopoly of the power to say with authority who is authorized to call himself a writer.' (323) In other words, the journal wields 'the power to consecrate [certain] producers' at the expense of others. 'One of the difficulties of orthodox defence against heretical transformation of the field by a redefinition of the tacit or explicit terms of entry is the fact that polemics imply a form of recognition; an adversary whom one would prefer to destroy by ignoring him cannot be combated without consecrating him'. (323) Much better to ignore them, bracket them out, leave them invisible ...

By contrast, in *Art as Social System* (2000) Luhmann argues that the robustness of a 'complex system' can be demonstrated by how it is capable of "processing a greater amount of irritation internally, that is, it can increase its own complexity more rapidly" (158). Following this approach, the present collection of texts aims to demonstrate the ability of art as an autonomous, autopoietic system to accommodate competing discourses that might otherwise undermine its operative closure.

- 1 Luke Skrebowski, 'All Systems Go: Recovering Hans Haacke's Systems Art', *Grey Room*, no. 30 (Winter, 2008) 54–83.
- 2 Charlie Gere, *Art, Time and Technology* (Oxford: Berg, 2006) 117, 120.
- 3 Roy Ascott, *Telematic Embrace: Visionary Theories of Art, Technology and Consciousness*, ed. Edward A. Shanken (Berkeley and Los Angeles: University of California Press, 2003). Man-machine symbiosis: 129; remote collaboration: 146; quote: 157.
- 4 Marga Bijvoet, *Art as Inquiry: Toward New Collaborations Between Art, Science and Technology* (Bern: Verlag Peter Lang, 1997).
- 5 Jack Burnham, *Beyond Modern Sculpture* (New York: George Braziller Inc., 1968); 'Systems

Aesthetics', *Artforum*, vol. 7, no. 1 (September 1968) 30–35.

- 6 Edward A. Shanken, 'Gemini Rising, Moon in Apollo: Attitudes on the Relationship Between Art and Technology in the US, 1966–71', in A. Nereim, ed., *ISEA97* (Proceedings of the 8th International Symposium on Electronic Art) (Chicago: ISEA97, 1998).
- 7 Edward A. Shanken, 'The House That Jack Built: Jack Burnham's Concept of Software as a Metaphor for Art' (1998), *Leonardo Electronic Almanac*, vol. 6, no. 10 (November 2008).
- 8 Mitchell Whitelaw, '1968/1998: Rethinking a Systems Aesthetic', *ANAT Newsletter*, no. 33 (May 1998).
- 9 Simon Penny, 'Systems Aesthetics and Cyborg Art: The Legacy of Jack Burnham', *Sculpture*, vol. 18, no. 1 (January/February 1999). Accessed 15 August 2009 at <http://creative.canberra.edu.au/mitchell/> and <http://ace.uci.edu/penny>
- 10 Matthew Rampley, 'Systems Aesthetics: Burnham and Others', *Vector e-zine*, no. 12 (January 2005).
- 11 Edward A. Shanken, 'Art in the Information Age: Technology and Conceptual Art', *SIGGRAPH 2001 Electronic Art and Animation Catalog* (New York: ACM SIGGRAPH, 2001) 8–15. Quoted from expanded reprint in *Leonardo*, vol. 35, no. 3 (August 2002) 433.
- 12 Francis Halsall, *Systems of Art: Art, History and Systems Theory* (Bern: Verlag Peter Lang, 2008).
- 13 Charlie Gere, 'New Media Art', *The Art Book*, vol. 12, no. 2 (2005) 6–8. Paraphrased and quoted in Halsall, *Systems of Art*, op. cit., 121–2.
- 14 Pamela M. Lee, *Chronophobia: On Time in the Art of the 1960s* (Cambridge Massachusetts: The MIT Press, 2004) 66–7.
- 15 Benjamin H.D. Buchloh, 'Hans Haacke: Memory and Instrumental Reason', in *Neo-Avantgarde and Culture Industry* (Cambridge, Massachusetts: The MIT Press, 2000) 205, 212, 215; quoted in Skrebowski, op. cit., 59.
- 16 Benjamin H.D. Buchloh, 'Hans Haacke: The Entwinement of Myth and Enlightenment', in Hans Haacke: 'Obra Social' (Barcelona: Fundació Antoni Tàpies, 1995) 49; quoted in Skrebowski, op. cit., 61.
- 17 Joseph Kosuth, 'Art After Philosophy', *Studio International* (1969) ([http://www.ubu.com/papers/kosuth\\_philosophy.html](http://www.ubu.com/papers/kosuth_philosophy.html)), accessed 15 August 2009.
- 18 John A. Tyson, 'The Afterlives of "Systems Aesthetics"', Paper delivered at Critical Information conference, School of Visual Arts, New York (8 December 2013). ([http://criticalinformationsva.com/wp-content/uploads/2013/11/Tyson\\_John.pdf](http://criticalinformationsva.com/wp-content/uploads/2013/11/Tyson_John.pdf))
- 19 Pierre Bourdieu, 'The Field of Cultural Production, or The Economic World Reversed', *Poetics*, vol. 12, no. 4–5 (November 1983) 311–24.

Edward A. Shanken, abridged and revised extracts from 'Reprogramming Systems Aesthetics', in Simon Penny, et al., eds, *Proceedings of the Digital Arts and Culture Conference* (University of California, Irvine, 2009) (Berkeley and Los Angeles: University of California Press, 2010); reprinted in *Relive: Media Art Histories*, ed Sean Cubitt and Paul Thomas (Cambridge, Massachusetts: The MIT Press, 2013) 83–96. Postscript for this volume, 2014.