It includes two-dimensional images manipulated with software into seamless collages that challenge our sense of photographic truth. It contains digitally composed music that knells previously unheard sounds, and also interactive telecommunications events that exist nowhere and everywhere while potentially gathering together the entire congregation of humankind. It is also an eclectic category grouping together diverse activities that range across the spectrum from painting to programming. The computer is neither a tool nor a medium that serves to define an art form. It is a polymorphous and omnipresent interlocutor ready to appear in surprising new guises as both a help and a hindrance.

The term "computer art" will undoubtedly be superseded. In the absence of an attractive alternative, it is fashioned after familiar taxonomies of art based on the medium of expression: a placeholder until digital culture gives birth to its own rubrics. The emergence of ubiquitous computing will make these thinking machines even less visible than they now are as they become more integrated into our daily lives and our quotidian environments.

[*See also* Artificial Intelligence; Cyberspace; Digital Media; Hypertext; Multimedia; *and* Virtual Reality.]

BIBLIOGRAPHY

Ascott, Roy. "Is There Love in the Telematic Embrace?" In *Telematic Embrace: Visionary Theories of Art, Technology and Consciousness*, pp. 232–246. Berkeley: University of California Press, 2003.

Binkley, Timothy. "The Quickening of Galatea: Virtual Creation without Media or Tools." *Art Journal* 49, no. 3 (Fall 1990): 233–240.

Franke, Herbert W. *Computer Graphics, Computer Art* (1971). 2d rev. enl. ed. Translated by Gustav Metzger and Antje Schrack. Berlin and New York: Springer-Verlag, 1985.

Goodman, Cynthia. *Digital Visions: Computers and Art*. New York: Harry N. Abrams, 1987.

Lopes, Dominic M. *A Philosophy of Computer Art*. London and New York: Routledge, 2010.

Paul, Christiane. *Digital Art*. London and New York: Thames and Hudson, 2003.

Schwartz, Lillian F., and Laurens R. Schwartz. *The Computer Artist's Handbook: Concepts, Techniques, and Applications*. New York: W. W. Norton, 1992.

Turkle, Sherry. *The Second Self: Computers and the Human Spirit*. 2d ed. Cambridge, Mass.: MIT Press, 2005.

Wilson, Stephen. *Information Arts: Intersections of Art, Science and Technology*. Cambridge, Mass.: MIT Press, 2003.

TIMOTHY BINKLEY

COMPUTER GAMES. *See* Video Games.

COMPUTING, AESTHETIC. Aesthetic computing concerns the application of "the philosophical area of aesthetics to the field of computing" (Fishwick, 2013). As a relatively new set of interdisciplinary practices at the crossroads of computer science, art, and philosophy, the term demarcates an emerging and unfixed field. This indeterminacy is exacerbated by the related and equally unsettled field of "computational aesthetics," with which it overlaps significantly.

Although both terms have taken root in computer science, they are not in common use in the fields of art or art history. This is hardly surprising, since the dominant discourse of aesthetic computing favors "art and aesthetics applied to computing, not the other direction" (Kelly et al., 2009). Although Zhang (2013) states that computational aesthetics "investigates how… [computers] enhance the expressive power of visual art and heighten human understanding of aesthetic evaluation, perception, and meaning," the annual computational aesthetics conferences since 2005 have focused on highly technical aspects of image production and analysis. This divide is further cleaved by the failure of aesthetic computing and computational aesthetics discourses to reckon with the aesthetic concerns that have shaped five decades of computer art, to say nothing of contemporary art practice in general.

With few exceptions, the artists and art historians that have contributed to contemporary discourses on aesthetic computing tend to use other terms to signify similar ideas and practices, in which the relationship between art and computing is more symmetrical, if not weighted in favor of artistic concerns and outcomes. These terms include information aesthetics (Moles, 1969; Bense, 1960), cybernetic art (Ascott, 1964; Reichardt, 1968), systems aesthetics (Burnham, 1968, "Systems Esthetics"), telematic art (Ascott, 1984), aesthetic selection (Sims, 1991; Ray, 2001), digital aesthetics (Cubitt, 1998), software structures (Reas, 2004), database aesthetics (Vesna, 2007), and interface aesthetics (Andersen and Pold, 2011). The artist Roy Ascott (1964) was influenced by the psychiatrist and cybernetician H. Ross Ashby's midcentury theories of "amplifying intelligence" through computers. This notion is echoed in artist Manfred Mohr's 1970s assertion that the computer is a "legitimate amplifier for our intellectual and visual experiences" (Leavitt, 1976, cited in Reas et al., 2010, p. 53). Similarly, the computer graphics pioneer A. Michael Noll described the computer as "an intellectual and creative partner" that could "produce wholly new art forms and possibly new aesthetic experiences" (Reichardt, 1971, p. 143). More recently, in a volume subtitled "*A Guide to Aesthetic Computing*," artists and designers have reasserted that "software is a tool for the mind… [that] can extend the intellect" (Reas et al., 2010, p. 17). Indeed, the decision to explicitly use, if not appropriate, this term suggests a desire among artists to expand the conception of the field in a way that demands greater symmetry between aesthetics and computing. Similarly, this entry sets out alternative genealogies for the merging of computation with aesthetics.

In 2013, the computer scientist Paul A. Fishwick, editor of the volume *Aesthetic Computing* (2008) and perhaps the foremost champion of the field, authored the entry "Aesthetic Computing" in the online *Interaction Design Foundation Encyclopedia*. Using an operational definition derived from his own research, Fishwick describes aesthetic computing as a means to enhance "embodied formal knowledge." He hypothesizes that "given the embodied nature of human cognition, we should realize this embodiment through novel human-computer interfaces for learning formal languages." This primarily pedagogical program calls for the development of new methods for interacting with highly abstract formal languages, such as programming languages like FORTRAN and Java, in ways that parallel and exploit the inevitably embodied circumstances of human learning. Following the sociologist/psychologist Sherry Turkle's contention that "we are all computer people now," Fishwick claims that digital consumer products—from watches to video recorders—require, and effectively train, the user to comply with the hierarchical menus and other operational logics of their software. This process, he continues, changes how we think, ultimately "becom[ing] embedded within our psychology and culture." Because of the potentially profound effects of computing on human thought and culture, Fishwick concludes that aesthetics, defined by the *Encyclopedia of Aesthetics* (1998) as a "critical reflection on art, culture, and nature," should play a "central role in computing."

Although applauded for its strengths and insights, Fishwick's encyclopedia entry also has been criticized for its narrow conception of the field and for reducing aesthetics to serve as a means to an end (Kelly, 2013), as well as for insufficiently recognizing the substantial contributions that artists have made to elucidating major scientific issues (Malina, 2013). Such claims are well founded, particularly since Fishwick himself (2006) has advocated a far broader conception of the field than his recent definition. Although the philosopher Michael Kelly (2013) admires the emphasis on embodiment in Fishwick's encyclopedia entry, he argues that the computer scientist's definition is unnecessarily limited by his focus on pedagogy and cognition pertaining to formal languages. The logic of this emphasis is understandable, given that "computing is so much about formal languages," but Kelly nonetheless suggests that if "the whole point of aesthetic computing [is] to develop and sustain a richer conception of computing," then it must employ a more expansive conception of embodiment, informed by recent discourses in aesthetics and other disciplines. As an example, he turns to the art historian Caroline Jones' assertion that the critique of technoculture must "'take up these technologies in the service of aesthetics,' which provides 'a site for questioning' how our 'bodies are interacting with technologies at the present moment.'" Kelly continues, again quoting Jones, "Aesthetics provides contemplative

space for such a critique because it 'buys us time and space' to encounter and reflect 'on embodied experience in an ever more technologized world.'"

Such beliefs about the role of art and artists with respect to emerging technology echo the media theorist Marshall McLuhan's (1964) notion of "art as radar" and the art critic Jack Burnham's (1968, *Beyond Modern*) concept of art as a "psychic dress rehearsal for the future." In Fishwick's account of aesthetic computing, the role of artists, or any collaborator for that matter, is limited to serving particular pedagogical and cognitive goals already defined within the domain of computer science. By contrast, Kelly and Malina advocate a broader conception of aesthetic computing in which art, artists, and aesthetics have the ability to fundamentally alter the presuppositions of science and therefore the goals of aesthetic computing. In this regard, it is likely that artists and art theorists whose work fundamentally questions the aesthetic, technological, and scientific conventions of their time are best suited to make such a radical impact. Brief accounts of Jack Burnham's theory of "systems aesthetics" (1968, "Systems Esthetics") and his exhibition, *Software. Information Technology: Its New Meaning for Art* (1970), Roy Ascott's theory and practice of telematic art (1984), and the artistic impulse toward "perverting technological correctness" (Lozano-Hemmer, 1995) provide a basis for considering this potential contribution of artists and art theorists to aesthetic computing.

Throughout history, many artists who, in Jones' words, "take up technologies...in the service of aesthetics," do so by creating working models of possible futures that exceed current perceptual, epistemic, and ontological limits. These heterotopias enable people to experience in the present what may become widespread phenomena decades later. The critics, curators, philosophers, and theorists who interpret, mediate, and shape the discourses surrounding such practices also play an important role in this project by advancing the production and dissemination of aesthetic theories. For example, Jones observed in 2012 that Burnham's theories of systems esthetics—esoteric in 1968—now "seem tailor-made for the contemporary art world" (Jones, 2012, p. 116). Indeed, Burnham drew explicit parallels between experimental art practices and larger cultural and social transformations of the so-called information age (Shanken, 2001). In particular, he noted that the tendency to abstract the concrete materiality of things into ephemeral information characterizes related technological, economic, and cultural constructs: information processing, the shift from industry to postindustry, and the so-called dematerialization of art identified by Lippard and Chandler in 1968.

To demonstrate his aesthetic theories, the 1970 *Software* exhibition, curated by Burnham, functioned as a testing ground for the public to interact with "information systems and their devices" and created a context in which "the public can personally respond to programmatic situations structured by

artists" (Burnham, 1970, p. 10). Burnham's curatorial vision was premised on the idea of software as a metaphorical parallel to the aesthetic principles, concepts, or programs that underlie the formal embodiment of actual art objects, which in turn parallel hardware. In contrast to modernist aesthetic theories (and artworks that embody them), which emphasize material form and in which a message embedded in the object is transmitted by the artist and decoded by the viewer, Burnham advocated "postformalist" art practices (e.g., conceptual art, performance art, and art and technology) that emphasize the software aspect of aesthetic production and enable a two-way exchange of information. Indeed, having worked with computers as an artist-in-residence at the Massachusetts Institute of Technology, Burnham was impressed by how "a dialogue evolves between the participants—the computer program and the human subject—so that both move beyond their original state" (Burnham, 1969, p. 119). With these ideas in mind and eschewing "distinctions between art and non-art," *Software* juxtaposed *SEEK* (1969), an automated, robotically controlled, reconfigurable architectural environment for gerbils, created by the Architecture Machine Group at the Massachusetts Institute of Technology, a hypertext catalog developed by the new media visionary Ted Nelson, a pirate radio station by the poet John Giorno, a teletype installation by the artist Hans Haacke, a continuous live video feed from the studio of Les Levine, and an interactive color photocopier system by the artist Sonia Sheridan, along with "unplugged" works by artists including John Baldessari, Douglas Heubler, and Joseph Kosuth.

As another example of how experimental art heralds emerging technological applications and social behaviors, since 1980 Roy Ascott's theory and practice of telematic art (art using computing networking as a medium) anticipated the emphases on collaboration, social networking, virtuality, and participation that have become primary characteristics of contemporary art since the mid-1990s and popular culture since the mid-2000s. In the context of his theory and practice of cybernetic art, by the mid-1960s Ascott had already envisioned the emergence of art created interactively with computers and remote artistic/interdisciplinary collaborations via telecommunications networks through which "instant person to person contact would support specialised creative work....However far apart in the world...they may separately be located....distinguished minds in all fields of art and science could be contacted and linked" (Ascott, 1966–1967, p. 47).

Ascott's 1980 telematic artwork, *La plissure du texte* (The Pleating of the Text), explored the potential of computer networking for the interactive, remote, collaborative creation of a work of art that challenged the conventional aesthetic categories of artist, artwork, and viewer and the traditional opposition of subject and object. Eleven locations in the United States, Canada, Europe, and Australia, each representing a character (magician, princess, beast, etc.), partici-

pated in the "distributed authorship" of a "planetary fairytale" by collectively creating and sharing texts and ASCII-based images that comprised the unfolding narrative. As its title suggests, the work riffs on Roland Barthes's *Le plaisir du texte* (1973), in which the literary theorist proposed "the generative idea that the text is made, is worked out in a perpetual interweaving... [such that]...the subject unmakes himself, like a spider dissolving in the constructive secretions of its web" (quoted in Ascott, 1984, p. 31). *La plissure du texte* similarly emphasized the "generative idea" of "perpetual interweaving," but in a way that contests conventional subject–object relationships even more profoundly because the work is not the product of a single author but is pleated together through the process of distributed authorship. For Ascott, moreover, there is no finished work, no final outcome per se; rather, the work consists of the *process* of distributed authorship, which provides a working model for experimenting with and potentially experiencing forms of telematically enhanced, collective consciousness.

Several decades later, the tendency to abstract the concrete materiality of things into ephemeral information that Burnham, Ascott, and others identified in the 1960s is reflected and amplified in recent phenomena that equally challenge conventional technological, economic, and cultural constructs: open-source development and the gift economy, various forms of participatory culture including interactive art, social media, and multiuser virtual worlds (e.g., Second Life), and theoretical discourses on the posthuman and extropianism. The point is that the implications of these widespread, technocultural shifts were being explored within the domain of art and aesthetics many years before the extent of their impact was beginning to be realized on a larger social and cultural scale. Such insights arguably have the potential to catalyze innovation and invention in computer science, if not to spawn a hybrid field of aesthetic computing that exceeds the limits of its constituent disciplines.

The practice of aesthetic computing defined by Fishwick may succeed at conventional paradigmatic research but is less likely to question those paradigms and explore new ones. Indeed, artists tend to be masters of "perverting technological correctness" (Lozano-Hemmer, 1996). In other words, certain artists engaged with new media tools and techniques apply a critical aesthetic sensibility that systematically attempts to interrogate, if not undermine, the operational logic of those technologies, the profit motive of the companies that produce them, and the cultural logic of the neoliberal politics that propels the e-economy. Lozano-Hemmer's examples include the "misemployment of barcode technology" in Perry Hoberman's *Bar Code Hotel* (1994), which facilitates collaborative play with unruly, 3D virtual objects, rather than the utilitarian supply-chain tracking of consumer goods. Incorporating more critical and

visionary artistic approaches and theories into aesthetic computing research may enable the exploration of potential "computer-generated bodily interactions [that] could be experienced, and, moreover, [to consider] which ones we would prefer to experience going forward" (Kelly, 2013).

Sun Microsystems cofounder and Internet visionary Bill Joy's confessional essay, "Why the Future Doesn't Need Us" (2000), amounted to a wake-up call, in which a captain of the computer industry suddenly realized that his professional career had contributed to the possibility of "knowledge-enabled mass destruction." Joy warned that this potential apocalypse surpasses the perniciousness of weapons of mass destruction because it is "hugely amplified by the power of self-replication." He observed that, "failing to understand the consequences of our inventions while we are in the rapture of discovery and innovation seems to be a common fault of scientists and technologists." A few months later, *Wired* magazine, which published the article, proudly reported that Joy's epiphany was "being compared with Einstein's 1939 letter to President Roosevelt alerting him to the possibility of a nuclear bomb" ("Rants and Raves," Vol. 8, no. 7). But more sober voices recognized that a major source of the problem resulted from the schism between the "two cultures"—the sciences and the arts and humanities—that C. P. Snow observed over a half century ago. As the art historian Kristine Stiles (2000) observed, "Joy's awakening is not heroic; it is symptomatic of the problem. By burying his head in the proverbial silicon, he willingly contributed to what he now describes as 'undirected growth through science and technology,' with utter disregard for the insights and research of his colleagues in the arts and humanities."

In 1968, when Bill Joy was about fourteen years old, Burnham argued for the crucial importance of art as a means of survival in an overly rationalized society. Indeed, like many intellectuals in the 1960s, he feared that the cultural obsession with, and faith in, science and technology would lead to the demise of human civilization. He proposed that an "increasing general systems consciousness" might convince us that our "desire to transcend ourselves" through technology is "merely a large-scale deathwish" and that, ultimately, "the outermost limits of reasoning" are not reachable by posthuman technology but "fall eternally within the boundaries of life" (Burnham, 1968, p. 376). Perhaps if Joy had read more aesthetic theory as part of his studies in computer science he could have avoided the midlife ethical crisis he experienced in 2000 and could have spent the first quarter century of his career creating and promoting a form of aesthetic computing that foregrounds the critical interrogation of its "ethical and social-political impact rather than only its internal structure" (Kelly, 2013).

These considerations all lead to a definition of aesthetic computing that includes a spectrum of inter- and transdisciplinary research, ranging from art and/or aesthetics serving primarily scientific ends to computer science serving primarily artistic and/or aesthetic ends. But beyond the instrumentalization of one field to serve the goals of another, perhaps the most fruitful contributions of aesthetic computing will result from more symmetrical relationships. Such circumstances could catalyze creative frictions and synergies among differing theoretical discourses, research methods, and evaluative criteria, leading to the reconceptualization of the constituent disciplines. Aesthetic computing, so construed, would exceed current practices of computer science, art, and aesthetics, opening up possibilities for hybrid forms of discovery, expression, and knowledge production.

[*See also* Data Visualization; Digitization; *and* Curating: New Media.]

BIBLIOGRAPHY

Andersen, Christian Ulrik, and Soren Bro Pold. *Interface Criticism: Aesthetics beyond Buttons.* Aarhus, Denmark: Aarhus University Press, 2011.

Ascott, Roy. "Art and Telematics: Towards a Network Consciousness." In *Art + Telecommunication*, edited by Heidi Grundmann, pp. 25–67. Vancouver B.C.: Western Front, 1984. Reprinted in Ascott, 2003.

Ascott, Roy. "Behaviourist Art and the Cybernetic Vision." *Cybernetica* 9, no. 4 (1966): 247–264; 10, no. 1 (1967): 25–56. Reprinted in Ascott, 2003.

Ascott, Roy. "The Construction of Change." *Cambridge Opinion* 1 (1964): 37–42. Reprinted in Ascott, 2003.

Ascott, Roy. *Telematic Embrace: Visionary Theories of Art, Technology and Consciousness.* Edited and with an introduction by Edward A. Shanken. Berkeley: University of California Press, 2003.

Barthes, Roland. *The Pleasure of the Text.* Translated by Richard Miller. New York: Hill and Wang, 1975. English translation of *Le plaisir du texte.* First published in 1973.

Bense, Max. *Programmierung des Schönen.* Krefeld and Baden-Baden, Germany: Agis, 1960.

Burnham, Jack. "The Aesthetics of Intelligent Systems." *On The Future of Art.* Edited by Edward Fry. New York: Viking, 1969.

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

Burnham, Jack. "Systems Esthetics." *Artforum* 7, no. 1 (1968): 30–35.

Burnham, Judith Benjamin, ed. *Software: Information Technology: Its New Meaning for Art.* New York: Jewish Museum, 1970.

Cubitt, Sean. *Digital Aesthetics.* London: SAGE, 1998.

Fishwick, Paul A., ed. *Aesthetic Computing.* Cambridge, Mass.: MIT Press, 2006.

Fishwick, Paul A. "Aesthetic Computing." In *The Encyclopedia of Human-Computer Interaction*, 2d ed., edited by Mads Soegaard and Rikke Friis Dam. Aarhus, Denmark: Interaction Design Foundation, 2013.

Jones, Caroline. "Systems Symptoms: Jack Burnham's 'Systems Esthetics.'" *Artforum* 51, no. 1 (2012): 113–116.

Joy, Bill. "Why the Future Doesn't Need Us." *Wired* 8, no. 4 (2000). http://www.wired.com/wired/archive/8.04/joy.html/.

Kelly, Michael. "Commentary on Paul A. Fishwick, 'Aesthetic Computing.'" In *The Encyclopedia of Human-Computer Interaction*, 2d ed., edited by Mads Soegaard and Rikke Friis Dam. Aarhus, Denmark: Interaction Design Foundation, 2013.

Kelly, Michael, Victoria Vesna, Paul Fishwick, Andrew Vande Moere, and Kenneth Huff. "The State of Aesthetic Computing or Info-Aesthetics: Curated Panel Discussion." In *ACM SIGGRAPH '09*. New York: Association for Computing Machinery, 2009.

Lozano-Hemmer, Rafael. "Perverting Technological Correctness" *Leonardo* 29, no. 1 (1996): 5–15.

Malina, Roger. "Commentary on Paul A. Fishwick, 'Aesthetic Computing.'" In *The Encyclopedia of Human-Computer Interaction*, 2d ed., edited by Mads Soegaard and Rikke Friis Dam. Aarhus, Denmark: Interaction Design Foundation, 2013.

McLuhan, Marshall. *Understanding Media: The Extensions of Man*. 2d ed. New York: Signet, 1964.

Moles, Abraham. *Information Theory and Esthetic Perception*. Translated by Joel E. Cohen. Champaign: University of Illinois Press, 1969. First published 1958.

Ray, Thomas. "Aesthetically Evolved Virtual Pets." *Leonardo* 34, no. 4 (2001): 313–316.

Reas, Casey. {*Software*} *Structures*. Web-based artwork that includes "A text about Software & Art," 2004. http://artport.whitney.org/commissions/softwarestructures/map.html/.

Reas, Casey, Chandler McWilliams, and Jeroen Barendse. *Form + Code in Art and Design: A Guide to Computational Aesthetics*. New York: Princeton Architectural Press, 2010.

Reichardt, Jasia, ed. *Cybernetics, Art and Ideas*. Greenwich, Conn.: New York Graphic Society, 1971.

Reichardt, Jasia, ed. *Cybernetic Serendipity: The Computer and the Arts* (exhibition catalog). Published as a special issue of *Studio International* 905 (November 1968).

Shanken, Edward. "Art in the Information Age: Technology and Conceptual Art." In *SIGGRAPH 2001 Electronic Art and Animation Catalog*, pp. 8–15. New York: ACM SIGGRAPH, 2001. Expanded and reprinted in *Leonardo* 35, no. 4 (August 2002): 433–438.

Sims, Karl. "Artificial Evolution for Computer Graphics." In *Computer Graphics* (SIGGRAPH '91 proceedings), pp. 319–328. New York: ACM, 1991.

Snow, c. p. *The Two Cultures and a Second Look: An Expanded Version of the Two Cultures and the Scientific Revolution*. Cambridge, U.K.: Cambridge University Press, 1969. First published 1959.

Stiles, Kristine. "Rants and Raves: Why the Future Doesn't Need Us." *Wired* 8, no. 7 (2000). http://www.wired.com/wired/archive/8.07/rants.html/.

Vesna, Vesna, ed. *Database Aesthetics: Art in the Age of Information Overflow*. Minneapolis: University of Minnesota Press, 2007.

Zhang, Kang. "Commentary on Paul A. Fishwick, 'Aesthetic Computing.'" In *The Encyclopedia of Human-Computer Interaction*, 2d ed., edited by Mads Soegaard and Rikke Friis Dam. Aarhus, Denmark: Interaction Design Foundation, 2013.

EDWARD A. SHANKEN

CONCEPTS, AESTHETIC. See Attitude; *and* Qualities, Aesthetic.

CONCEPTUAL ART. This entry comprises four essays on the multiple histories and aesthetics of conceptual art and its impact on aesthetics:

The first essay, written by an art historian, analyzes the history of conceptual art from the 1960s to the present. The second is an example of the self-representation of conceptual art by art language, one of the earliest groups to engage in this art. The third essay, written by an artist, explores the issues of desire, the body, and feminism that are prominent in conceptual art. The final essay, the author of which is an artist as well as a philosopher, is an analysis of some of the philosophical and aesthetic issues distinctive of conceptual art.

See also Cage, John; Conceptualism; Contemporary Art; Duchamp, Marcel: Survey of Art; Feminism; Installation Art; Institutional Theory of Art; Performance Art: Overview; *and* Wittgenstein, Ludwig Josef Johann: Reception of Wittgenstein.

Overview

Conceptual art arose in North America and Western Europe in the mid-1960s and has exerted lasting influence on subsequent art movements into the early twenty-first century. As scholars and artists continue to unearth concurrent manifestations of conceptualism in Eastern Europe, Latin America, and Australia, the canonical works of conceptual art have witnessed a broadened horizon of interpretation. Even in its inception, conceptual art encompassed a diversity of practices, resisting attempts at any unified explanation, of which there were many, so many in fact that explication itself serves as the major nexus within the movement.

Nearly all conceptual artists sought recourse to language to explain in precise terms what kind of art they made and how it operated. Where we may note the beginnings of this tendency in the controversies around minimalism, which slightly preceded conceptual art, the degree to which conceptual art worked in and through language was unprecedented and continues to bear upon how artists and audiences alike view artworks as entities subject to explication. This linguistic turn, amid the linguistic turn within philosophy and the social sciences, ultimately led to more capacious notions about the forms artworks might take and precipitated numerous debates about how artworks depend on and refer to their contexts. The first section of this overview traces the trajectory of conceptual art as it moved from concerns over semantics (the meaning of art) to preoccupations with pragmatics (how art signals the context of its meaning and to what effect); the second section analyzes an alternative, overlapping history of conceptual art as a structured process; and the third section briefly historicizes the movement's emphasis on information.