BOOK REVIEW:

“MAKING ART WORK: HOW COLD WAR ENGINEERS AND ARTISTS FORGED A
NEW CREATIVE CULTURE” BY W. PATRICK MCCRAY

REVIEWED BY

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When graphic designer and computer scientist John Maeda became president of the Rhode Island School of Design in 2008, he famously challenged the current national trend in education that prioritized the fields of science, technology, engineering, and mathematics (STEM) by demanding an additional focus on the arts. Calling for the transformation of the STEM movement into the STEAM movement, Maeda argued that the commingling of science and engineering with art and design was essential in developing creative solutions to the myriad social and economic challenges of the twenty-first century. In his new book, *Making Art Work: How Cold War Engineers and Artists Forged a New Creative Culture*, historian W. Patrick McCray reminds us that the modern-day effort to bridge the divide between what chemist C.P. Snow famously referred to in 1959 as the two cultures of the sciences and the humanities has a much longer history, one rooted in an earlier Cold War landscape in which artists and engineers in the United States and abroad utilized the technological innovations emerging from the military-industrial complex of the 1950s and 1960s to push the boundaries of modern art and design. Well-researched and beautifully written, McCray's book narrates the myriad ways that "the borders between technology and art, long imagined solid, began to be breached" (2) by pioneering artists and engineers working collaboratively. In so doing, McCray not only forces us to rethink our conventional understanding of the history and aims of modern scientific and artistic practices but returns us to the frequently overlooked origins of our own interdisciplinary age.

Challenging the conventional narrative of postwar art, which portrays American artists in rebellion against a technocratic Cold War landscape, McCray presents a wide range of artists in the 1960s and 1970s who actively collaborated with scientists and engineers to find

ways to bring new technologies and scientific advances into the art world in order to expand the possibilities of aesthetic expression. In so doing, McCray blends traditional art history with social and economic history, detailing how postwar economic growth contributed not only the expansion of the Cold War military-industrial complex but to new opportunities at corporate laboratories and university research centers for artists to engage with a new generation of engineers interested in creative endeavors. Through much archival work, McCray unearths the interdisciplinary efforts of a multitude of artists, including aeronautical engineer Frank Malina, who abandoned his scientific career in the 1950s to produce kinetic art; electrical engineer Billy Klüver, who founded the interdisciplinary organization Experiments in Art and Technology in 1967; and painter Gyorgy Kepes, who established the Center for Advanced Visual Studies at the Massachusetts Institute of Technology to fund collaborative artistic experiments with emerging technologies. McCray interweaves biographical accounts of these artists with detailed descriptions of a number of important exhibitions in the 1960s and 1970s in which these efforts were showcased. McCray immerses us in this new Cold War theater that merged performance art with multimedia experimentation—from the 1966 New York exhibition, *9 Evenings: Theatre and Engineering*, which was orchestrated by engineers from Bell Laboratories, to the Pepsi Pavilion at Expo’70 in Japan, which was designed by artists from Experiments in Art and Technology.

McCray rightly contrasts these artistic endeavors with the modern STEAM movement, noting that the avant-garde, grassroots sensibility of this prior generation of artists was brushed aside by the more corporate-inflected, top-down approach of today’s collaborative efforts to merge the sciences and the arts as found in places like the Rhode Island School of Design or MIT’s Center for Advanced Visual Studies. If anything, McCray might have made

an even bolder claim here about the artistic importance of these earlier experiments. McCray is uninterested in any aesthetic or critical analysis of the art works he discusses and instead follows the lead of Frank Malina and Billy Klüver who promoted the “strategy of ignoring aesthetic judgments in favor of supporting the collaborative process itself” (87). As McCray notes, however, Malina was an avid student of art history and a frequent visitor of contemporary French art exhibits, and his famous “lumidyne system,” in which he experimented with the visual effect of light passing through shifting geometric forms, paved the way for the kinetic art movement of the 1960s and helped to reshape the meaning of abstract art in general. McCray hesitates to unpack this history and is more fascinated by the engineering components of these artworks instead. Consequently, readers might be left with merely an impressionistic sense of the importance of these artists in shaping the trajectory of modern art as McCray spends more time recounting in detail the organizational history of these exhibitions than in discussing their artistic contributions. As he notes, a number of highly influential artists—from Robert Rauschenberg to John Cage and David Tudor—were deeply involved in some of these projects, and our understanding of their importance to postwar art could be greatly enhanced by thinking through the lessons they absorbed through these artistic-engineering collaborations.

McCray does offer useful suggestions to help other historians begin to piece together the larger art historical contributions of this postwar scientific-artistic collaboration. He rightly notes that the effort by Malina, Klüver, and others to overcome the divide between the arts and sciences was an essential part in the development of what critic Susan Sontag referred to in 1965 as the “new sensibility” (76). Sontag famously outlined the effort by artists and writers in the 1960s to dismantle the pretensions of high modernism by dissolving the

boundaries between elite culture and popular culture, between objective artistic form and individual poetic expression, and between scientific advancement and literary achievement. Tracing the decline of the religious, moral, and spiritual importance of individual artworks in an age of mass reproduction, Sontag argued that contemporary artists were less interested in the grandeur of their individual products than in reshaping the contours of modern consciousness and the possibilities of expression. In this sense, Malina and Klüver were part of a larger cultural revolution in the 1960s, one interested in “exploring process, not making products” (7), as McCray describes. Many avant-garde artists in the 1960s like John Cage, George Brecht, and Allen Kaprow promoted, as did Malina and Klüver, the so-called death of the art object and chose instead to focus on collaborative, multimedia, and interdisciplinary works that expanded the boundaries of artistic expression. They drew not only from the scientific resources of their compatriots in engineering departments but from an eclectic grab bag of ideas and movements—from cybernetics, Deweyan pragmatism, ecological theory, and Buddhist thought. Readers might want to pair McCray’s book with works by George Cotkin, Daniel Belgrad, and others who have charted the complicated history and importance of Sontag’s new sensibility in order to understand the broader intellectual and social origins of performance art, op art, video art, and the multitude of other radical artistic movements of the modern age. In so doing, we can begin to acknowledge the aesthetic and artistic contributions of the artists and engineers to whom McCray has so wonderfully introduced us.