Within the history of twentieth-century design, there are a number of well-known objects and stories that are invoked time and time again to capture a pivotal moment or summarize a much broader historical transition. For example, Marcel Breuer’s Model B3 chair is frequently used as a stand-in for the radical investigations of form and new industrial materials occurring at the Bauhaus in the mid-1920s. Similarly, Raymond Loewy’s streamlined pencil sharpener has become historical shorthand for the emergence of modern industrial design in the 1930s. And any discussion of the development of American postwar “organic design” seems incomplete without reference to Charles and Ray Eames’s molded plywood leg splint of 1942. Such objects and narratives are dear to historians of modern design. They are tangible, photogenic subjects that slot nicely into exhibitions, historical surveys, and coffee-table best sellers.

Yet there are other histories of twentieth-century design that are not so simply distilled or easily embodied. Indeed, one might argue that the lack of a clearly articulated, visible, and fixed physical body has limited both academic and popular interest in one of the most influential and pervasive areas of modern design, what John Harwood describes as the “man-machine system of the computer” in The Interface: IBM and the Transformation of Corporate Design, 1945–1976. In this much-needed recent work, Harwood examines the history of one corporation’s sustained engagement with the design of
computing systems. Harwood’s choice was an obvious one: certainly it would be difficult to identify a company with a richer or longer history in this area than the International Business Machines (IBM) Corporation. Yet strangely, IBM has received limited critical attention, particularly within design history. There are a few exceptions, including Reinhold Martin’s excellent study The Organizational Complex (MIT Press, 2003), which examines the appropriation of systems-based design strategies by architects and designers working for large American corporations, including IBM, General Motors, and Bell Laboratories in the postwar period. Martin’s keen analysis exposes the convergence of disparate factors drawn from the military-industrial complex, aesthetic and information theories, and business management in the development of modern corporate architecture in the United States. A vital and compelling history to be sure, but also, as one would expect, largely architectural in focus. On the other end of the spectrum, a number of monographs have detailed the development of twentieth-century American corporate design through the work of “auteur” designers, such as Stanley Abercrombie’s George Nelson: The Design of Modern Design (MIT Press, 1995), Russell Flinchum’s Henry Dreyfuss, Industrial Designer: The Man in the Brown Suit (Rizzoli, 1997), and Gordon Bruce’s Eliot Noyes: A Pioneer of Design and Architecture in the Age of American Modernism (Phaidon, 2006), to name just a few. The latter of these texts most closely maps the same chronological territory as The Interface; in the book’s sixth chapter, Bruce details Noyes’s role in the modernization and standardization of the IBM corporate brand and product design program. While richly illustrated and vibrant with behind-the-scenes accounts of Noyes’s design office, Bruce’s book stops short of the broad contextual research woven throughout Harwood’s study. Unlike many designer monographs, Harwood largely keeps his focus on the establishment of design processes, avoiding the more traditional framing of the designer as a singular author and pioneering visionary. Rightly so, as Noyes himself never claimed such authority, refusing the position of design director for IBM in 1956 and instead asking to be appointed as a largely autonomous consultant director of design. As Harwood writes, “From this ambiguous position as an administrator outside of the corporation proper, he was to coordinate the redesign of the entire environment of IBM on a telescoping scale—from stationery and curtains, to products such as typewriters and computers, to laboratory and administration buildings” (p. 47). Here one should read the emphasis on “coordinate.” Noyes’s most significant contributions to the culture of design at IBM resulted from his willingness and ability to call on his friends and colleagues, which included Breuer, Charles Eames, Paul Rand, George Nelson, Edgar Kaufmann Jr., Egon Eiermann, Wallace Harrison and Max Abramovitz, Ludwig Mies van der Rohe, Paul Rudolph, and Eero Saarinen. As Harwood suggests, “Noyes managed, perhaps more than he designed,” IBM’s postwar design program (p. 4).

As suggested in the title of his book, Harwood tightly develops and orders his narrative around the concept of “the interface.” By this he does not simply refer to the screen or control panel typically mediating the relationship between humans and computers; rather, he employs the term to describe a more abstract and “complex apparatus that appears as a simple surface” or, more profoundly, the “hinge between the world of things and the world of numbers” (pp. 9–10). The book’s four chapters address, in rough chronological progression, the establishment of the IBM design program in the later 1940s and 1950s, the development of the architecture of the modern computer and the articulation of guidelines for its design, the unique spatial and architectural conditions of IBM’s “counterenvironment,” and the naturalization of the computer through a variety of multimedia spectacles—including the many memorable films and exhibitions designed and produced by the Eames Office. Across these four chapters, Harwood uses the metaphor of the interface to describe and contextualize an array of design-mediated relationships. Analyzing Noyes’s first exhibition as curator of industrial design at the Museum of Modern Art, Organic Design, Harwood identifies the “chair and the living room” as points of interface between humans and machines of industrial production (p. 25). Examining Noyes’s role in the design of
the “Executary” Model A electric typewriter in 1949, Harwood recounts Noyes’s belief that the typewriter should be considered “an organ of the office,” coordinated and designed as an interface between the user and the rationalized work environment (p. 34). Similarly, Harwood employs the concept of interface to describe the semiotic relationship between Paul Rand’s iconic logo design for IBM and the corporation itself as a “primary object” (p. 42). These examples, all taken from the first chapter, reinforce to easy familiarity Harwood’s notion of the interface as a primary site of user interaction. Having clearly (if heavy-handedly) established this trope through the examination of Noyes’s early career, which adheres to more traditional subjects of design history—chairs, typewriters, logos, and so on—in the following chapters Harwood scales the interface to navigate a variety of increasingly complex and abstract design challenges at IBM, not the least of which was the articulation of the “physical, visual, and spatial aspects of the computer” (p. 65).

In the following two chapters, Harwood details the methodical evolution of the “apparatus character of the man-machine system of the computer” at IBM and the highly controlled architectural conditions developed for designing, housing, and showcasing these systems. Making a convincing grab for our attention, Harwood argues that these elements of the IBM design program have been largely overlooked by design historians in part because of the transdisciplinary character of the design process for computers: “In the design of computers, industrial designers played the part of engineers, but engineers of a very special kind occupying a liminal area of expertise situated some where between that of the electrical engineer, the computer scientist, the human factors engineer (ergonomist), and perplexingly, the architect” (pp. 60–61). Harwood illustrates an array of contributing factors drawn from across the human and information sciences by Noyes and his colleagues in their efforts to refine the “externals of the machine” to best suit the specific nature and needs of computing. Surprisingly perhaps, one of the most influential figures in defining IBM’s approach to computer design was Edgar Kaufmann Jr., former director of industrial design at MOMA. Brought in as a consultant by Noyes in 1957, Kaufmann began by reviewing a number of recent IBM computer designs, and following this analysis, he produced a detailed list of “impressions” and corresponding “hunches” (p. 79). These initial responses proved invaluable and indeed significantly informed the first draft of the “IBM Design Guidelines” for industrial design. Among Kaufmann’s hunches was a recommendation for a “parlor and coal cellar” approach. This strategy posited that “the most efficient, safe, and ‘dramatic’ way to operate a computer is by segregating the vast majority of it not only visually but also spatially from its users” (p. 82). With this single, simple metaphor, Kaufmann redirected the efforts of the IBM design team, which had been focused on maximizing exposure of the inner workings of the computer through Miesian glass windows. Isolating the bulk of the computing hardware from the user effectively refocused attention on the interface and, therefore, on the interaction of the user with the processes of computing rather than the spectacle of the machine’s inner workings. This logic remains very much the rule today. The increasing thinness of our electronic tablets and each new generation of “iProducts” reaffirm Kaufmann’s instinct to separate hardware from interaction. However, now it is more often the cloud with which our interfaces communicate than some distant “cellared” magnetic core memory or processing drive.

Harwood devotes the last section of the book to the design of IBM’s communications strategy for promoting the public image of the computer. Following an extended discussion of IBM’s postwar corporate architectural program—the most familiar and least exhilarating segment of the book—Harwood refreshingly turns our attention to IBM’s “white room”: a luminous, white-on-white space especially designed for critiquing and photographing IBM products. This grid-free, spatially ambiguous environment, as Harwood writes, in “its mass-reproduced ubiquity . . . became the popular image of
computerized space” (p. 157). Quite rightly, Harwood highlights the persistence of this IBM-engineered spatial condition in the popular imagination; the glowing white apple on every MacBook is evidence of the powerful legacy of IBM’s white room. Belying the popularity of this luminous image is its equally prevalent use in dystopic representations of technology gone awry, most famously perhaps in Stanley Kubrick’s 2001: A Space Odyssey (1968). This example is hardly coincidental: Kubrick hired Noyes as a design consultant for the art direction of the film, literally blending reality and fiction. Using Herman Miller furniture and IBM-designed computers and space suits as props for the film, Noyes created an uncannily familiar mise-en-scène for “the acceleration of technology to the point at which its nature as pure war is made explicit” (p. 158). Indeed, in 2001 and many other science fiction classics (such as Fail Safe, 1964; THX-1138, 1971; and Logan’s Run, 1976), the frozen, sterile aesthetic of the white room serves as an ominous foreshadowing of man’s loss of control over his machines and his own humanity.

The popular suspicion of computers and computing itself resulted, at least in part, from increasing awareness of the computational power of IBM’s mainframes in the postwar era. As producers of tools of mass data management, and therefore mass control, IBM identified the need to quell anxiety about computers as one of its primary focuses from the later 1950s onward. The campaign to naturalize the computer serves as the final, and arguably the most fascinating, section of The Interface. Here we are taken inside the IBM Information Machine, a purposely bewildering and labyrinthine spectacle created for the 1964 New York World’s Fair. Conceived and designed by the Eames Office, this multiscreen, multimedia extravaganza sought to engender “confusion between naturalization and mystification” in order to neutralize the computer in the minds of fairgoers (p. 193). Illustrating the problem-solving capacity of the computer within the context of everyday challenges—from planning a dinner party to playing sports—IBM (with the help of the Eames Office) demonstrated that rational planning is an intrinsic aspect of human endeavor, and therefore human nature. Examining the IBM Information Machine and the numerous films and exhibitions IBM commissioned from the Eames Office during the 1960s and 1970s, Harwood reveals the Eameses’ McLuhan-like understanding of the power, presence, and influence of such media strategies and, indeed, of the interface between computers and humans as the primary media of the twentieth century.

For the uninitiated, Harwood’s text occasionally requires considered attention, using a barrage of terminology and concepts likely unfamiliar to those outside the field. In particular, his discussion of the development and function of IBM’s counterenvironment demands careful reading. But homologies and ontologies aside, Harwood’s Interface offers an insightful, engaging, and exquisitely researched account of the design of one of the twentieth century’s most recognizable brands and most ubiquitous objects, the IBM computer.


http://www.west86th.bgc.bard.edu/book-reviews/interface-ibm.html#