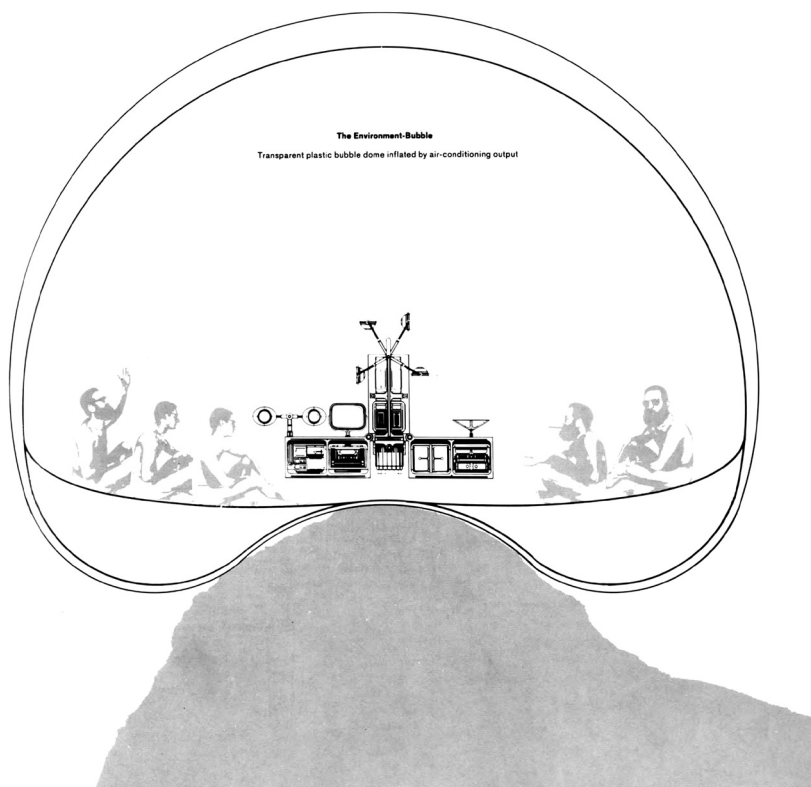JOY KNOBLAUCH –

Toward a Critical Ergonomics: Beatriz Colomina and Mark Wigley's *Are We Human?*

Buckminster Fuller's ambition to reform the environment instead of the man contains a fundamentally false assumption about the interrelationship of humans and their environment. Fuller wanted to use design to allow for human freedom, avoiding social engineering by creating spaces that serve an occupant's natural needs. But how could these humans remain unaltered at the center of a new architecture? Even an environment as deliberately innocuous as Reyner Banham's 1965 "Home Is Not a House" would affect the naked Banham clones within.

In the companion book volume to their 2016 Istanbul Design Biennal, titled *Are We Human?: Notes on an Archaeology of Design*, curators Beatriz Colomina and Mark Wigley challenge the assumed autonomy of the human in a now thoroughly designed world. In doing so, they open fruitful avenues for architecture to pursue along the lines charted by John Harwood, Branden

The Environment Bubble, photomontage drawing by François Dallegret for Reyner Banham's "A Home Is Not a House," 1965. © Collection FRAC Centre, Orléans. Photographed by François Lauginie.

Hookway, and others who theorize a mutual construction of human and environment via the notion of "interface." [1] Colomina and Wigley's *Are We Human?* is a collection of short essays (described as "field notes") that were gathered as they worked on the biennial. The small volume collects some of Colomina's earlier works on design and health under a central thesis that design is what defines humanity, from Vitruvius to cell phones. Pocket-size and populated with sleek images, the book spotlights the ambitions of "human centered design" and dares to reverse Fuller's exhortation to reform the environment and not the man. In an era marked by the ahistorical aestheticization of those underserved by design, on one hand, and the comfortably numb overdesign of those at the top on the other, the book offers a conceptual method for stitching together these unequal extremes. *Are We Human?* is focused on the Western canon and contributes more in terms of curation and synthesis than unfamiliar subject matter, but within one of Colomina and Wigley's central theses—that "good design" is primarily about anesthetizing its clients—lies a promising future redirection of the technophilic and clumsily socially conscious practices that continue in architecture today.

As Colin Rowe explored in *The Architecture of Good Intentions*, there has long been concern about the dual impossibilities of architecture's social aims. It seems indisputably ethical to attend to human needs—and yet history is full of designs that did more harm than good in their attempts to couple form and function. Many designers, for example, have hoped to emulate the "humanized" products of Brutalism but failed at cultivating the looseness of a Hunstanton (to take one renowned example), moving instead—with good intentions—toward an inflexible, windowless, concrete bunker created to reinforce a theory of territoriality or comfort that is now obsolete in the sciences. If the human sciences pave a way toward more informed design via human factors, they would likely do so through understanding that asking humans to adjust to their environment, to cope, to experience pain, might not be the worst outcome.

Why an Archaeology of Contemporary Design?

In *Are We Human?* Colomina and Wigley take an archaeological approach that they describe as a reconstruction of partial fragments. They look at the history of design to speculate on "the plastic human" that created and was created by the work. They view design as a mirror of a culture, a method that shares much with the field of material culture, which argues that humanity is shaped by its objects. Their focus on products of industrial and other professional design, however, might suggest a somewhat different field latent in the work, one that might better be described as *design* culture than material culture. There are dangers that lurk in collecting such fragments of design: removing designed objects from a larger history of war, politics, social movements, etc.—though such a history is clearly beyond the scope of this small volume—risks an apolitical perpetuation of the same technophilia they seem to critique. In other terms, the hazard of the "archaeological" mode is that it might lend itself to too much of the universalizing Reyner Banham over other voices like the idiosyncratic Sigfried Giedion (whom they admire) or the political Lewis Mumford (whom they barely mention).

An additional critique of the archaeological metaphor here is that

[1] Along with Harwood and Hookway's work, see also Avigail Sachs, Barbara Penner, and many others in Kenny Cupers' edited volume *Use Matters: An Alternative History of Architecture* (New York: Routledge, 2014).

they provide little sense of how these partial fragments were selected. This may not matter, given that they were tasked with curation rather than cautious scientific analysis, though it nonetheless invites speculation on the stakes of writing history, even in abbreviated and fragmentary form. As curatorial effort, they succeed admirably in presenting a viewpoint that is enjoyably familiar yet somehow strange. There is considerable pleasure in the *unheimlich* created by situating canonical works of architecture alongside popular design, and the politics of the anthropocene alongside the distracted and transitory world of fashion. The result is a perfect fit with a prevailing mood in design, humanitarian or at least philanthropic, which mixes good intentions with a dash of dystopia.

Aldo Van Eyck distinguished archaeology from anthropology by observing that in archaeology, a researcher is no longer able to speak with the makers and users of the built environment. [2] Instead, one examines the physical traces to reconstruct the society, as Colomina and Wigley do. They examine design from the vantage of the present, a gesture that might indicate that simply asking makers and users about what they have made and why is not possible or not helpful. Anthropology, psychology, and particularly psychoanalysis are all fields that gather information by speaking with humans, but each of these fields have also devised ways to mitigate the flaws of such methods.

Even deceptively simple questions such as the search for a comfortable chair design can become quickly complex and uncertain. In her study of the history and use of chairs, Galen Cranz surveys previous ergonomics research on the comfort of chairs and reveals that some of the problems in the "science" of ergonomics are quite similar to those in other human sciences. In attempting a degree of precision, ergonomics research encounters the problem of subjectivity. Cranz cites a study by P. Branton from 1969, which argues that users vary greatly in their ability to be aware of, much less to verbalize, their discomfort. [3] When asked to evaluate the comfort of a series of chairs, a focus group provided disparate evaluations when tested one week versus the next—suggesting that their experiences of sitting prior to testing created expectations of where comfort and discomfort should be felt in their bodies and how much of each was desirable.

Turning to a materialist approach is no great help either, Cranz goes on to say, as the measurement of spinal loads quickly runs into the humanistic concerns of status, fashion, and expected postures in chairs. Echoing Pierre Bourdieu's theory of "habitus," she describes the aspects of gendering, fashion, and status that combine to condition bodily experience and to exhibit power at the level of gesture and posture. She writes that the process of learning to sit still in chairs begins in childhood and is something that we must be taught and sometimes forced to do. The domestication of the body into the sitting position is perhaps not all in one's head, but chasing a universally comfortable design begins to seem futile when the subject is always already conditioned by the chairs and notions of appropriate posture (differentiated, of course, by gender, class, and other forms of social positioning). Further, Cranz explains, a user's idea of what a comfortable chair should *look* like influences the way their physical body feels in that chair. The expectation of how a chair ought to feel in turn influences how a body feels in that chair, even as habitus conditions the way a body sits in a chair. The science of ergonomics can provide insight and tools, but the complex causality involved in chair design suggests that "getting

[2] Aldo Van Eyck, "The Interior of Time," in *Meaning in Architecture*, ed. Charles Jencks (New York: George Braziller, 1970), 173.

[3] P. Branton, "Behavior, Body Mechanics, and Discomfort," in *Proceedings of the Symposium on Sitting Posture*, ed. E. Grandjean (London: Taylor and Francis, 1969), 210; also in Galen Cranz, *The Chair: Rethinking Culture, Body, and Design* (New York: W. W. Norton, 1998), 113.

Planning Aid Kit for the National Institute of Mental Health by Clyde Dorsett and Constantine Karalis, 1970. Clyde H. Dorsett Papers, Avery Drawings & Archives Collections, Columbia University, New York, NY.

it right" is impossible. And what does Cranz advocate if one cannot avoid sitting? A simple, hard chair is best; she points to ergonomics researchers who place a board on a car seat to improve its ergonomics.

Taking the question of comfort to the scale of the environment provides no relief from this complexity. In the 1960s, architects and social scientists sought a more rigorous process of user-oriented design that involved surveys of occupant preferences. In the case of mental health, an institutional environment would be designed to address patient, family, and staff desires through a Planning Aid Kit created by architects Clyde Dorsett and Constantine Karalis for the National Institute of Mental Health. (Dorsett later collaborated with Christopher Alexander on *A Pattern Language*, attempting to consolidate a few of the lessons he had learned.) Such forms of knowledge were appealing to institutions and the bureaucracies that funded them, in their attempt to resolve inhumane conditions in mental health architecture, but no clear guides for design preferences emerged: Some patients liked large windows; some did not. These efforts at user feedback did not create a great revolution in popular architecture. Their heirs, however, can be seen in the movement toward evidence-based design (still popular with hospitals and other institutions) and the focus-grouped architecture of retail and suburban developments.

Colomina and Wigley play with the loose fit between body and design over and over, showing how our world is now thoroughly littered with semi-successful attempts to please, heal, entertain, and shelter users—encrusted in products born from the impulse to solve human problems through objects and environments that never quite satisfy. The search for new design modes goes on even as historians, theorists, and curators interpret the archaeology left behind.

Design in Pain

In *Are We Human?*'s section "Good Design Is an Anesthetic," Colomina and Wigley present their twist on Alison and Peter Smithson's

Albatross on the Midway Atoll, North Pacific. From *Are We Human?* Photograph by Chris Jordan.

statement that "good design is an ethic rather than an aesthetic." [4] This playful reappropriation indicates the authors' view that a central social aim of modern design is to remove physical and psychological friction. As examples, they cite contemporary inaction in the face of the giant shelf of ice that slipped from Greenland in 2010 and the translation of human rights horrors into an aesthetic experience, as when drones capture the gazes of refugees looking up from vessels off the shore of Libya. More historical context here would be fascinating; one wishes they had addressed whether the aesthetization of the suffering of others correlates with Guy Debord's "society of the spectacle," say, or if the awestruck regard for the ice shelf relates to Edward Burke's notions of the sublime.

In place of a self-aware history of their own theory, they offer a quick history of design to argue that its pursuit of numbness was no accident: "Design was formed as a way to deal with the increasingly dominant logic of the industrialized and globalized world while resisting the perceived dehumanizing impact of the world." [5] Such statements suggest a powerful complicity of design and capitalism that is not an entirely new formulation, nor entirely supported beyond the requirements of an exhibition but does hold important potential to reframe the history of design for the age of the interface. Colomina and Wigley frame the history of design from William Morris forward as a way to domesticate but also resist the dehumanizing tendencies of industrialization. As workers became more like interchangeable parts and machines became more individualized, architects and designers created forms that integrated human and machine culture. Designers embraced the ambivalence of technology as both threat and pinnacle of humanity through creating forms that were to serve as moral authorities showing a way forward. These new forms would be "contagiously virtuous" and allow the human animal to pull smoothly in its mechanized harness. [6]

Wigley and Colomina situate Le Corbusier's white volumes as a "visual smoothness" able to soothe nerves shattered by war. Charles and Ray Eames' famed curved plywood splints and chairs, and their cinematic works, operated as "shock absorbers" that provided therapy to nations traumatized by World War II. This neat history of design as anesthetic pauses to ask, "What is the human that it needs this smoothness so badly?" The authors might also have asked why Le Corbusier or the Eameses or Eliot Noyes felt that humanity needed this smoothness in the first place. A closer reading of history might

[4] Beatriz Colomina and Mark Wigley, *Are We Human?: Notes on an Archaeology of Design* (Zurich: Lars Müller Publishers, 2016), 89. Quotation lacks citation.
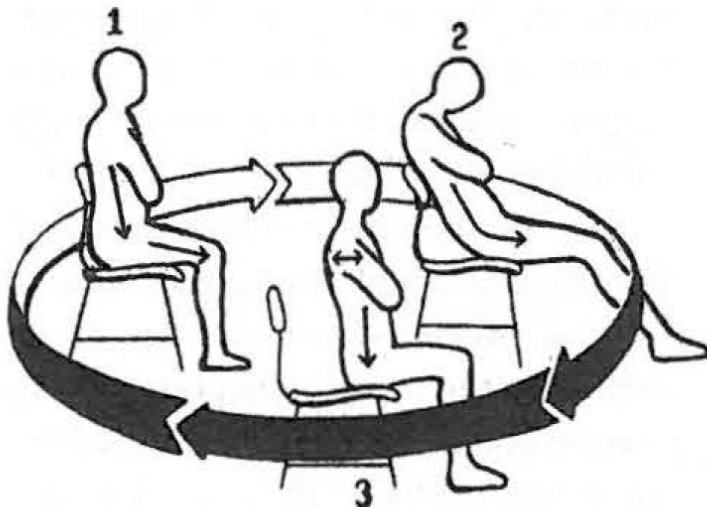
[5] Colomina and Wigley, *Are We Human?*, 76.

[6] Colomina and Wigley, *Are We Human?*, 90.

tease out differences in these human designers that are erased by the brevity of a historical smoothness. An appealing subject for further inquiries would build on Jacques Rancière's theorization of sensuous shock, or Joseph Masco's theorization of "national security affect" in the discourse of prevention during the Cold War versus excitability in the current war on terror. Either way the point is valid, and the interest in an emotionally literate/psychological modernism could continue through architectural postmodernism to the present.

In the age of *The Glass Cage*—the term for new, screen-oriented cockpits, deployed by the author Nicholas Carr as an image that speaks of our increasingly automated world—many critics have declared the physical, psychological, and political dangers of becoming comfortably numb. [7] Colomina and Wigley bring their archaeology of design to social media and cell phones, interpreting artefacts such as a photo of Barack Obama with a selfie stick and the default avatars of platforms like Friendster and Facebook. Stating an idea that may feel familiar, though eloquently presented here, they write, "The mechanism of personal expression is equally one of normalization, reinforcing the very lines it seems to overcome." [8] And yet, as they observe, users rarely consider this normalization or the larger "ghost infrastructure" that attends it as they lie in bed working from, or simply cradling, their devices. Colomina and Wigley point out that such devices reinforce what Jonathan Crary and others have described as capitalism's war on sleep. [9] Their archaeological approach turns up a lineage from Mike Webb's Suitaloon to Metro Naps' Sleeping Pods. The conclusion returns to the argument that "good design is an anesthetic" that works to shield humans from the shock of the forces of global capital around them. Nap pods and Android operating systems work to prevent awareness of the interface itself; good design recedes from awareness. But what if design worked to preserve space for resistance and not just numbness? What if design made peace with the pain of mechanization?

To return to the example of the chair, a critical ergonomics would benefit from all the psychological and physiological research generated by the scientific approach. This work begins by knowing the rules of thumb that set parameters: seats should not be too high, probably seventeen inches, the front rail of the seat should be curved downward, the depth and width of the seat

[7] Nicholas G. Carr, *The Glass Cage: How Our Computers Are Changing Us* (New York: W. W. Norton & Company, 2015), and Rem Koolhaas, "Junkspace," *October* 100 (Spring 2002): 175–190.

[8] Colomina and Wigley, *Are We Human?*, 251.

[9] Jonathan Crary, *24/7: Late Capitalism and the Ends of Sleep* (London; New York: Verso, 2013).

"The inherent instability of the seating posture." From Cranz's *The Chair*. Drawing by David Robinson.

should also be seventeen inches, weight should be distributed on bones and not on flesh (as any cyclist will tell you), and space between the seat and the back is preferable over continuous support. From there a designer encounters disagreement about whether the shoulders and thighs should be supported, or whether armrests are needed. [10] Cranz proposes a periodization based on where the dominant culture believes that stress should be left, concluding that the best chair would be one that allows stresses to shift. She explains that if one must sit at all (and the requirements of office work do seem to mandate sitting for the many who remain unable to work from bed), the best idea is to create a hard chair that allows the shifting body to chase the stress from spot to spot, fidgeting and adjusting. The most comfortable chair and the least likely to injure the back is one that causes some pain and reminds the user that he or she is sitting. Perhaps it even makes one feel uncomfortable enough to get up to walk about, if work culture and habitus allows.

[10] Cranz, *The Chair,* 110.

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Design Resistance

Cranz's discussion of the mild discomfort of a hard chair can be combined with Colomina and Wigley's theorization of design to offer an alternative view of architecture's relationship with pain—and while refining theories of a messy connection between design, human life, and politics may not have been the project of *Are We Human?*, the essays nevertheless invite speculation on new directions for design. Taking a page from the post-digital and other strands now embracing the monstrous or awkward aspects of architecture, such a theory of human factors would understand that pain is inevitable and potentially healthy, whether or not it fits with modernism's exhortation to "good design." [11] Taking direction from Stan Allen's "loose fit" of program—which sought neither to abandon function as Peter Eisenman had, nor to be as driven by program as some of OMA and Bernard Tschumi's work has been—an acceptance of pain would appreciate that some friction at the interface of human and machine is desirable. Architecture can be awkward.

[11] "Stand by Your Monster and Some Queer Methods" conference at Princeton University. Organized by Jaffer Kolb March 4, 2017, probing tactics such as "hypersaturation, dysmorphia, playful misquotation, and transgressive materialism."

Louis Sullivan's dictum that "form follows function" morphed into a belief that use should determine design, that the human should be the determinant of form and somehow remain unaltered by that experience. Yet, as any design student knows, "use" and "function" are a matter of perspective. Even in the touchstone example of the mechanization of factory labor, the use of a space is determined by capital, whether disassembling pigs into pork products or creating objects to sell and incur debt. These uses are not simple expressions of human desire, unless you are careful to ask which humans and which desires. Even then social science will tell you it is no simple thing to ask a human what their needs are. The problem is always beautifully overdetermined and inaccessible to the logics of human factors. In theorizing design as the interface that provides a space for irrational resistance to the mechanization of the human, Colomina and Wigley join a growing call to see design as far more and far less than what we thought it was.