Introduction: Design Culture Studies: Between Infrastructure and Image

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The essays in this special issue address their reckoning not to designers or designs but to design cultures, that is, to institutionalized and enmeshed modes of designing that sought or found significant sway in the post-45 era. These cultures, rooted in the midcentury, emerge out of occasions ranging from products to processes to professions: oil, paper packaging, cinema, architecture. Each of those occasions is indissolubly connected to a modifier: the oil companies are French (Jacobson); the packaging comes

from the Container Corporation of America (Nieland); the cinema is Alfred Hitchcock's (Menne); and the architecture is the contemporary global, digital version underpinned by Autodesk, BIM, and Maya (Tweedie). Their specificities are essential, yet as a group they amount to much more than a collection of tidy instances. First, and surprisingly, they point to a possible and necessary reorientation that might ramify across cultural studies as a whole. Second, and seemingly contradictorily, they constitute a bulwark against a widespread and misguided deployment of "design thinking" across a concomitant range of contemporary cultural and educational efforts.

Each essay traces several different instantiations of design, but each investigates a design culture's ideal of what design is *for*. For the French petroculture, it is a vision of society with oil at the center *as* and *because* that industry is "an efficient system of resource management reaching out across the globe to connect wells to refineries to petrol stations." For the Hitchcock-Saul Bass partnership, it is the "coarticulat[ion] of mind and the built environment in a dynamic operation" that would, in turn, link "industrial design on the domestic scene and modernization theory on the international scene."

In light of these two poles, Nieland's contribution is particularly striking because in the history he details, the CCA begins as the most committed driver of design's "coarticulation" and ends by disappearing, via merger, into Mobil oil itself. What made that passage possible was the CCA's two-pronged effort at propagation. On the Hitchcock/Saul Bass side, it was relentlessly reflective about its own market position and its position within industry in general. So the CCA developed an unprecedented program of what Nieland calls "meta-advertising" and "meta-communication" of corporate identity films on behalf of humanistic industry and design. Yet at the same time it extended itself globally, preparing the way for our contemporary "total mobilization of inventory" by joining in the midcentury modernization project of what its founder called "develop[ing] in foreign lands through the establishment of mills and factories in Central and South America."

A pioneer for the new era of "MNCs," those multinational corporations that would wheedle and threaten in order to receive favorable treatment from the state while simultaneously touting their autonomy, the CCA saw how utterly essential the enlistment of designers would be to its aims. [1] For midcentury designers seemed to be highly reliable knowledge workers who could strive to share that knowledge across borders while simultaneously enabling the "aggressive corporate expansion" that would enrich the company and modernize its new territories. [2]

Tweedie's generation of architects-turned-Hollywood-production-designers may have been constrained by the soundstage and the lot, but the subsequent location-shooting revolution freed them only partially. [3] Instead, what he sees as more essential than mere physical displacement is the shared software toolbase that cinematizes even the work of architects who are well outside the Hollywood machine. And however little these architects participate in the industrial neocolonial projects of the past, they have been trained to project their work into a digitally prepared "speculative space."

Projection, prolepsis, expansion: These modes of "design mindedness" *move*. That mobility is conceptual and material. The latter is always at least literal. It emerges out of World War II's logistics revolution, "the practical art of moving armies," before it takes pacified forms that range from designers travelling to and conferring in Aspen, to Hitchcock heading to Morocco, to architects dropping into Dubai — but is also always more. Design mindedness — usually but not always embodied in actual designers — piggybacks on modernization theory, travels alongside oil exploration, finds itself institutionalizing all over the place. As a conception of and through mobility, design mindedness also finds itself enmeshed in the circulation struggles that would define the conflict over capital in its late stage, from the OPEC embargo to the *gilets jaunes* protests. [4] In the midcentury, when class conflicts remained centrally production struggles, these circulation technocrats with their world-remaking conceptions seemed to be emissaries of abstraction, of the future.

Design, to the extent that it is independent of its object, moves across scales. From the micro to the macro, unit by unit (Menne); from the hand to the desert (Jacobson); from the box to the forest, from container to "containerization" (Nieland). That scalar shift can, of itself, make design difficult to see: too small and design seems mere styling; too large and it transcends intention. But that invisibility is compounded by design's affinity for infrastructure space and infrastructure's tendency toward occlusion. As Tweedie explains, Classical Hollywood design "deploys then conceals the underpinnings of cinema." We can still trace those underpinnings in the "invisible background," but they are decidedly un-insistent. In contrast, the vertiginous digital moviemaking of *Hugo* or an architectural mockup cinematizes its design so thoroughly that the occluded infrastructure is hard to resurface. And for Tweedie, resurfacing that infrastructure is our moral imperative. [5]

Any sufficiently critical attention to a design culture's mobilization will elicit such arenas and practices of resistance. Those practices can be internal to the criticism, as here, but are more commonly located in historical fields of application. The "sway" these cultures seek and find brings them into new configurations, new contexts, new locales, and there they participate in, or cause, a range of resistances. If the methodological coherence of these essays lies in a commitment to attend to a design culture's self-elaboration, each is also at pains to register the encounters of that self-understanding with its outsides, its others, the unswayed. The French oil companies and the Container Corporation of American saw resistance as "friction" that might be avoided, while the ugly Americans of *The Man Who Knew Too Much* were far more ambivalent about their initiating legacy in postwar neocolonization. The architectural practices that underlay contemporary, digital Hollywood moviemaking surface in work that would be "too fast, too dynamic, too threatening" to achieve under earlier regimes.

(Another route for our attentions would begin with those that find themselves *designed* or *designed for*. And while that would provide greater voice for their resistances, it might not lead us back to the self-authorizing convictions that drove — or piggybacked on —

these neoimperial conquests. Those convictions are worth understanding in large part because they have been so difficult to dislodge even after their brutalities have become obvious; that is some of Tweedie's claim and anchors the second half of Menne's essay as well.)

In sum, this dive into design cultures allows the authors to fundamentally redescribe the conventional hermeneutic operations that nearly all writing on design partakes in: accounting for expansion and accounting for evanescence. Part of what endows these essays with such capacity is the very tension between a definition of design as giving form to material things or as a more abstract practice of planning or "creating a desired state of affairs" that animated the design mindedness of the midcentury. Herbert Simon's *The Sciences of the Artificial*, which Tweedie cites, lands on the side of abstraction. In his "The Science of Design" chapter, Simon notes: "Everyone designs who devises courses of action aimed at changing existing situations into preferred ones. Design, so constructed, is the core of all professional training." [6] The complement, in these essays, is the fitful sublimation of infrastructure into image by cinematic means.

Indeed, different as they are, each essay offers incisive and revelatory readings of pieces of cinema. Industrial films, conceptual documentaries, commercials, architectural fly-bys, or landmark fiction features — whatever the mode, these cinematic examples are newly re-readable out of this reprioritization of design. [7] Together the essays constitute a dynamic rethinking of longstanding methods of addressing "cinema-and-architecture." [8] That would be enough to justify this issue, yet it is but a minor aim here. For it would not be overstating things to say that in the wake of this work — alongside that of numerous predecessors — we can begin to see how a field called Design Culture Studies might — ought to — play the role for humanistic and communicative cultural studies that Science and Technology Studies plays for technoscience. [9]

That last is an enormous claim and it rests on a tacit coherence among the four contributions here. If STS bootstraps itself into ex-

istence by risking a radical reconception of material agency — if STS exists in the shadow of Actor-Network Theory — DCS would self-induce through a new sense of the effortful permeation of abstraction through materiality and social institutions. [10] "Effortful permeation" is an ugly way of describing the hard work of conceptual dissemination that all these authors detail. Readers need not sign on to this program only just emerging here, but *as program* it reposes two of the most difficult questions for all the cultural disciplines: what are the means and metrics of cultural coherence? And what are the engines of what we have been calling cultural sway?

That program also recovers new genealogies of "design thinking," and so it might seem that it shores up the cultural saturation of that term in contemporary managerial discourse. The opposite is the case. Already, design thinking has provoked well-earned skepticism; DCS takes its place alongside and within those efforts. [11] Coined in the 1980s in attempts to specify the knowledge work of professional designers, "design thinking" is now a highly marketable problem-solving method — quasi-universal and supposedly applicable across disciplines and organizations. [12] Everyone, today, can think like a "human-centered" designer. Thanks to the successful **branding efforts** of David Kelley's famed Silicon Valley design consultancy IDEO, design thinking as taught, for example, in Stanford's d.school (founded by Kelley in 2010) has been hailed as a bold disruptor of the American university's business as usual. Beyond what Tweedie calls "contemporary business-speak," or **"just a fancy word for consulting,"** design thinking's champions have recently asked, **"Can Design Thinking Redesign Higher Ed?"** and pitched it as **"the new liberal arts."**

This idea, that design is a kind of transdisciplinary method of liberal, humane problem-solving, has a history. It grew from a specific design culture that emerged at midcentury. As Maggie Gram **has recently argued**, "the story of design thinking as such — and of how design reached its apotheosis as a floating signifier, detached of any one object or medium or output, starts with World War II," and the wartime prestige of the designer's interdisciplinarity. In the immediate postwar period, the role and scope of the designer ex-

panded, from the making of things to the fashioning of postwar citizens.

As Nieland's essay demonstrates, CCA's Walter Paepcke played a crucial role here, founding design conferences like the IDCA through which designers would grapple with their widened sphere of responsibilities in the postwar period. Overlapping with the discourses of operations research and systems engineering that spawned the Cold War think tank, such professional venues fomented a new self-consciousness about the very capaciousness of design that continued into the design methods debates of the 1950s and 1960s. [13]

Such postwar optimism about the possibility of fully rationalizing a design process or method eventually confronted the reality of the fracturing of the liberal consensus, as Menne makes clear. Within design, Horst Rittel characterized those encounters with the mode's own limits as "wicked problems." By this he meant design problems thickly embedded in the complexities of culture and history in ways that challenge simple causality, that demand contextual understanding, and that are the "source of contentious differences among subpublics," rather than universalizing solutions. [14] "Planning," Rittel concluded, "is a component of politics. There is no escaping that truism."

But these wicked problems were sensed earlier on. In his searing address at the IDCA's 1958 meeting, for example, C. Wright Mills took stock of the designer's newly pivotal role in a primarily "second-hand world" of images: "Between the human consciousness and material existence," he argued, "stand communications and designs, patterns and values which influence decisively such consciousness as [people] have." [15] As technicians of communication, designers for Mills embodied the process of mediation at the core of the cultural apparatus itself — "those organizations and *milieux* in which artistic, intellectual, and scientific work goes on," and that stand "between men and events, the meanings and images, the values and slogans that define all the worlds that men know." [16] What Mills offered fellow conferees in Aspen was an early version of DCS, a critical reckoning with the political power of post-

war design in processes of cultural mediation and conceptual dissemination.

That power is variously analyzed in this issue's essays and their methodological attention to the rich visual cultures of design thinking. For Tweedie, a style of design thinking characterizes the speculative mode of today's digital architectural design and modelling, and is a symptom of a shift away from "a cinematic universe predicated on the logic of the photographic image." For Jacobson, an "oil thinking" of the most anthropocentric, calculative stripe characterized the design vision of the French petroleum industry at midcentury. Its visual culture imagined an abstract lifestyle of a petro-futurity that was contested — and its material infrastructure revealed — in the work of Christo and Jean-Claude. And Menne returns to the collaborations of Alfred Hitchcock and Saul Bass to uncover a tradition of "design mindedness" — a kind of highly rational, modular thinking that midcentury design made portable and scalable, and became woven into a range of professions in the postwar period, from design and architecture to business management and politics. This work is thinking about design, not engaging in design thinking. It should not be without consequences.

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References

1. A heated debate about the decline of national sovereignty in light of MNC power occupied the center of business writing in the early 1970s. Landmark contributions to that debate include the work of Raymond Vernon, beginning with *Sovereignty at Bay: The Multinational Spread of U.S. Enterprises* (New York: Basic Books, 1971) and Richard J. Barnet and Ronald E Muller, *Global Reach: The Power of Multinational Corporations* (New York: Simon & Schuster, 1974). [⊼]

2. This reliance coincided with the popularization of the very category of "knowledge work." Peter Drucker, *The Age of Discontinuity: Guidelines to Our Changing Society* (London: Heinemann, 1969) attributes the notion to Fritz Matchlup, *The Production and Distribution of Knowledge in the United States* (Princeton: Princeton University Press, 1962). For an account of this process and more, see Anna Vallye's brilliant dissertation, *Design and the Politics of Knowledge in America, 1937-1967, Walter Gropius, Gyorgy Kepes* (Columbia University, 2011); Orit Halpern, *Beautiful Data: A History of Vision and Reason since 1945* (Durham: Duke University Press, 2015); and Justus Nieland, *Happiness By Design: Modernism and Media in the Eames Era* (Minneapolis: University of Minnesota Press, 2020). [⊼]

3. See Joshua Gleich and Lawrence Webb, eds., *Hollywood on Location: An Industry History* (New Brunswick: Rutgers University Press, 2019); Christian B. Long, *The Imaginary Geography of Hollywood Cinema 1960-2000* (Bristol: Intellect, 2017); and Daniel Steinhart, *Runaway Hollywood: Internationalizing Postwar Production and Location Shooting* (Berkeley: University of California Press, 2019). [⊼]

4. For the history of circulation struggles see Joshua Clover, *Riot. Strike. Riot: The New Era of Uprisings* (London: Verso, 2019). [⊼]

5. For the breadth of the relationship between media and infrastructure see Lisa Parks and Nicole Starosielski, eds., *Signal Traffic: Critical Studies of Media Infrastructures* (Champaign: University of Illinois Press, 2015). [⊼]

6. Herbert A. Simon, *The Sciences of the Artificial* (Cambridge: MIT Press, 1969), 55-56. [⊼]

7. Lynn Spigel, *TV by Design: Modern Art and the Rise of Network Television* (Chicago: University of Chicago Press, 2009); Amy Beste, "All Roads Lead to Chicago: Encyclopedia Britannica Films, the Institute of Design, and Nontheatrical Film," Unpublished Ph.D. dissertation, Northwestern University, 2011; Michael Cowan, "Absolute Advertising: Walter Ruttmann and the Weimar Advertising Film," *Cinema Journal*, 52, no. 4 (Summer 2013): 49-73; Jan-Christopher Horak, *Saul Bass: Anatomy of Film Design* (Lexington: University of Kentucky Press, 2014); Dan Bashara, *Cartoon Vision: UPA and Postwar Aesthetics* (Berkeley: University of California Press, 2019); Sarah Street and Joshua Yumibe, *Chromatic Modernity: Color, Cinema, and Media of the 1920s* (New York: Columbia University Press, 2019); Vanessa R. Schwartz, *Jet Age*

Aesthetic: The Glamour of Media in Motion (New Haven: Yale University Press, 2020); Haidee Wasson, "Cinema and Industrial Design: New Media Ecologies and the Exhibition Film," in *Films that Work Harder*, eds. Vinzenz Hediger and Patrick Vonderau (Amsterdam: Amsterdam University Press, forthcoming). [⊼]

8. For recent scholarship rethinking the "cinema-and-architecture" relation, see Brian R. Jacobson, *Studios before the System:Architecture, Technology, and the Emergence of Cinematic Space* (New York: Columbia University Press, 2015); Lucy Fischer, ed., *Art Direction & Production Design* (New York: I.B. Tauris, 2015); John David Rhodes, *The Spectacle of Property: The House in American Film* (Minneapolis: University of Minnesota Press, 2017); Pamela Roberts Wojcik, ed., *The Apartment Complex: Urban Living and Global Screen Cultures* (Durham: Duke University Press, 2018), Brian R. Jacobson, ed., *In the Studio: Visual Creation and its Material Environments* (Oakland: University of California Press, 2020. [⊼]

9. In addition to the works cited above, see Andrew Blauvelt, "**In and Around: Cultures of Design and the Design of Cultures, Part I**," *Emigre* 32 (1994) and "**Part II**," *Emigre* 33 (1995). [⊼]

10. Of course there are substantial convergences, particularly in the "technical cultures" work of STS. Those convergences become complex interleavings in special cases such as the study of sound cultures. These oppositions and interactions are evidenced in the standard anthologies for the field, with Michael Bull and Ian Black, eds., *The Auditory Culture Reader*, (Oxford: Berg, 2003) falling on the cultural studies side of the divide as opposed to the more STS-centric Trevor Pinch and Karen Bijsterveld, eds., *Oxford Handbook of Sound Studies*, (Oxford: Oxford University Press, 2012), and Jonathan Sterne, *Sound Studies Reader* (New York: Routledge, 2012) a hybrid of the two. [⊼]

11. As a noun, "design" as "design thinking" earns an entry immediately before "disruption" in John Patrick Leary's *Keywords: The New Language of Capitalism* (Chicago: Haymarket Books, 2018). [⊼]

12. Design historian Lucy Kimbell credits Peter Rowe's 1987 book *Design Thinking*, though she acknowledges crucial formulations of design thinking *avant la lettre*, at the end of the midcentury, including Simon's *The Sciences of the Artificial* (1969), and architect Christopher Alexander's *Notes on the Synthesis of Form* (1971). Lucy Kimbell, "Rethinking Design Thinking: Part I," *Design and Culture*, 3, no. 3 (2011): 285-306. [⊼]

13. See Pamela M. Lee, *Think Tank Aesthetics: Midcentury Modernism, the Cold War, and the Neoliberal Present* (Cambridge: MIT Press, 2020). [⊼]

14. Horst W. J. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," *Policy Sciences* 4, no. 2 (June 1973): 155-169. Rittel's concept was first reported in C. West Churchman's "Wicked Problems," *Management Science* 4, no. 14 (December 1967): 141-142. [⊼]

15. C. Wright Mills, "Man in the Middle: The Designer," in *Politics, Power, and People: The Collected Essays of C. Wright Mills*, ed. Irving Louis Horowitz (New York: Oxford University Press, 1963), 375. [⊼]

16. Ibid., 376. [↑]