The Paradoxes of Design Activism: Expertise, Scale and Exchange

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Illustration 1. Students from the College of Environmental Design (CED) at UC Berkeley float tents carrying the message "Our Space" over Sproul Hall, the campus administration building, as part of the Occupy Cal demonstrations in 2011. Photo courtesy of *Frameworks* online journal, CED Berkeley.

Introduction

One of the most poignant moments during the protests associated with the Occupy movement took place in the winter of 2011 on the campus where I teach, at the University of California, Berkeley. Students set up tents on the campus in solidarity with the Occupy protesters soon to be evicted from various public spaces across the U.S. Their encampment was abruptly terminated by UC Police and sheriff's deputies from Alameda County, who arrived at the scene in riot gear and forced the students to leave.[1] Immediately after the eviction, students in the Department of Landscape Architecture gathered some helium balloons together and filled several lightweight nylon tents with them. They marched with other CED students to the steps of Sproul Hall (the campus administration building), where the floating tents, tethered to a large crowd below, hovered above the entrance, with a sign dangling below that read "OUR SPACE".[2]

At once memorable and disarmingly simple, the gesture captures some of the open-ended potential of the loosely aligned practices that are sometimes referred to as "design activism." The floating tents existed long enough to be filmed for the evening news. (ABC News, 2011) As such they mark one end of a diverse field of activist practices, one that has expanded rapidly in its scale, complexity and goals over the last decade.[3] The other end of the field is exemplified by the rise and fall of the nonprofit architectural practice Architecture for Humanity (AFH). Initially started 15 years ago as two-person operation run out of a small apartment, AFH grew rapidly into a global network of significant size. When founders Cameron Sinclair and Kate Stohr announced they would be leaving the organization in September, 2013, AFH launched a major fundraising campaign, linked to a strategic plan for the next five years. The plan outlined a series of priorities, collectively designed to guarantee the future of AFH, including calls to "Grow General Fundraising," by recruiting "high net worth individuals" to join the Board of Directors. A "SWOT Analysis" in the concluding

section of the report identifies "brand confusion" and "competition from other design non-profits for mindshare" as a competitive threat.[4] A little over a year after the hard-nosed business plan was released, AFH declared chapter 7 bankruptcy.[5] At its height, AFH was perhaps the world's leading example of a nonprofit architectural firm dedicated to humanitarian aid through architecture, with over 32 full-time staff and 45 Design Fellows, 64 local chapters, and 107 structures in construction or development worldwide. (AFH 2012, 46) In both its scale and scope, it represented for a brief time at least, the possibility of the nonprofit sector performing in ways that exceeded the scope and ambition of many "for profit" firms.

In between these examples—one a temporary, one-off project, and the other a large nonprofit professional firm—are a complex range of institutions, professional practices and diverse coalitions of practitioners, students and community groups. There are, for example, many other nonprofit firms, some of which have been in existence for several decades. Perhaps the most high profile next to Architecture for Humanity on the west coast of the U.S. is Public Architecture, which seeks to bring "good design" to the nonprofit sector through a combination of paid and pro-bono work. In recent years, major philanthropic organizations such as the Rockefeller Foundation and the National Endowment for the Arts have also become involved in funding initiatives that foster public discussions, exhibitions and publications around the subject of design activism, not only in relation to buildings but all forms of design, from products to urban space.[6] The influx of foundation money has also led to the expansion of web-based portals, webinars, conferences and print publications that seek to share information and direct the emerging field along particular lines.

The existence of a network of competing organizations in the U.S. that each claim to act in the "public interest" while seeking "social impact" through design gives some indication of the institutional jostling and realignment that is now underway. Some of these efforts are concerned with redefining the field at a national scale. The Impact Design Hub provides the first centralized database

listing resources and funding opportunities for those committed to "designing a better world," and is an outgrowth of a national workshop sponsored by the NEA, the Smithsonian Institution and the Lemelson Foundation; The Public Interest Design Institute provides a mobile training program that stages professional development conferences across the U.S. related to "Sustainable Environmental Economic Design (SEED)." The Center for Public Interest Design, based in the School of Architecture at Portland State University (PSU), offers one of the first certificate programs in the country. In addition to coursework organized around social and environmental issues, there is a notable emphasis on fundraising techniques, grant writing, and discussion of how "money matters for non-profit organizations." [7]

The new program at PSU is part of a growing number located in institutions of higher education across the country. Some, like Yale School of Architecture's program, have been in existence since the 1960s and were at the forefront of community-based design at that time.[8] Others have started more recently, alongside the much larger expansion of "philanthrocapitalism" during the last three decades, in which state-supported relief activities have been partly or completely replaced by private subcontractors and NGOs, including nonprofit companies and faith-based organizations. (see for example, Addams 2013) At the same time, universities are under increasing pressure to demonstrate their social utility and impact in order to justify their funding streams and attract donors. In an era of declining state funding, design activism, and more broadly the huge expansion of community "outreach" programs also meshes well with the public university's urgent need to demonstrate its efficacy to legislators.[9] Commonly referred to in schools of architecture as "design/build" programs, these institutional frameworks mobilize students to design and build facilities—often for marginalized communities—using labor and materials that have been donated or paid for through grants with faculty oversight.[10]

The "active" part of design activism is defined in a critical relationship to an implicitly inactive and moribund professional

culture, which the "activist" highlights and ultimately backs away from, sometimes by taking the entire process, from design to production, into his or her own hands. In the discussion that follows, I employ design activism as an umbrella term for many initiatives that share overlapping modes of practice and ways of thinking. While design activism is first and foremost about making and doing, the effort is expended on behalf of the "common good," in the "public interest," or to achieve "social impact," however ambiguously these goals may be defined. Design activism is therefore a useful categorical gathering point because it summarizes an ambition that links many divergent approaches together: to solve social problems through design.

This simple definition was the starting point for the influential 2008 collection edited by Bryan Bell and Katie Wakeford, entitled *Expanding Architecture: Design as Activism*. As with other books produced around the same time, this one is notable for its deft combination of social responsibility and market pragmatism. In his introduction, Bell defines design activism as something that is carried out in the interests of the common good, and is also good for business. The activist professional uses her skills and expertise to discover the design problems of communities, and then develops innovative ways to solve them. The linkage underscores a recurring theme in the literature: that design activism is as much about creating new, ethically surcharged markets for professional services as it is about social responsibility. Ideally, the two are seamlessly fused. Bell argues that a long history of professional disconnection has meant that many potential clients are not aware of how much their lives could be improved by "good design." He suggests that impoverished or marginalized communities can gradually learn to think of themselves as empowered clients through benevolent interaction with designers, in the process creating more work for them:

> "Designers can also easily increase the number of clients we serve. Right now, there is a large contingent of potential clients that we are not reaching, and there is no competition for their

projects. These clients have needs that represent the most exciting design challenges in existence. Yet the great majority of the public does not know what design is or why they might want it, or how it could help them. It is our job to explain this, to define and communicate architecture. If we do, we will all have enough work for many lifetimes." (Bell 2008, 15)

The process of professional communication and persuasion implicit in this approach can be slow, sometimes taking years to move towards some form of resolution (if at all). Yet design activism can also happen immediately: urgency is rendered as a positive condition, one that offers a way to sidestep the burdens of regulation and established assumptions. Climate change events, earthquakes, and crises resulting from the displacements of war and other forms of collective violence within and between nation-states, all create the context for involvement, sometimes in tandem with humanitarian organizations. This form of "rapid response" practice was a significant part of the work undertaken by Architecture for Humanity. In the process AFH's operations became synonymous with the temporality of crisis: each new disaster or catastrophe brought more work, and with it, urgent demands for fundraising. This approach also forms the basis of many of the most prominent design/build programs located in schools of architecture across the U.S., which have grown rapidly in number over the past two decades together with the impact of overlapping disasters and decreasing government involvement in their aftermath.[11]

The question of time–and the capacity to respond quickly, even spontaneously to emerging conditions or events–also shapes a wide range of installations concerned with events in the public sphere. The range of participants is diverse, from practitioners seeking a more direct outlet for their creative thinking than what the slow pace of practice can provide, to emerging social movements that may include architects, designers, artists, urban planners and others amongst their numbers. The strategy embraces a lack of advance planning, and direct, off the cuff responses to existing situations, which many regard as a way to unshackle innovation from well-

established routines and practices. Immediate action has also begun to develop into a specialized subfield in its own right, perhaps best exemplified by the successful entry for the American Pavilion at the 2012 Venice Biennale, entitled "Spontaneous Interventions: Design Actions for the Common Good." The exhibition, which has been traveling through the U.S. since the biennale, showcases a range of projects, from urban farms and bike lanes to "crowdsourced" city planning. (SIDCG 2015; see also Thompson 2004)[12]

Though the speed and modes of operation vary, all these approaches share a common emphasis on action. Because the activist stance begins by backing away from normative modes of practice, it is often assumed to already be critical, and its outcomes therapeutic, empowering or socially transformative. The recent cascade of books, articles and exhibitions on design activism, with numerous parallel and competing approaches, remains largely consistent with this action-oriented direction, largely stressing descriptions of procedures and results, with critical reflection limited to criteria developed by those with a stake in advancing design activism as an emerging professional subfield.[13]

My goal in this two part essay is to identify and draw into relief some of the widely shared assumptions that now shape and delimit the field, and to assess their consequences. A central line of inquiry concerns the paradoxical relationship between design activism and the practices and processes associated with the terms in my title: expertise, scale and exchange. Although design activism seeks to solve problems in the world at large, I will suggest that a focus on problem solving, and "design action," often displaces consideration of how a given problem is constituted, and for what purpose. The detour away from the complex power relations of specific contexts and conditions begins, as I will explore further, by thinking of design in the first instance as a practice of problem solving rather than one of problem setting. I will develop my argument in two ways: first, although I will address a limited number of examples from the realm of professional practice in the nonprofit sector, most of my subsequent discussion will deal with architectural education.

This is partly because I teach in the field of architectural education, where instruction in the practice of community based design was an integral part of programs across the country in the 1960s and 1970s, but faded into invisibility thereafter. This reflects not only changes in funding mechanisms, but also the impact of more than two decades of architectural postmodernism, where object-centered debates around form and style predominated.

I was drawn into the realm of design activism through the experiences of students who faced limited or non-existent job prospects following the 2008 credit crisis and were searching for ways use their skills and knowledge that could not be accommodated in practice at the time.[14] Through contact with their student-led organizations, and a parallel sequence of colloquia I co-organized with other faculty,[15] it became clear to me that while a renewal of interest in "other ways of doing architecture" was underway, many of the core assumptions were either unexamined, or consciously derived from positions developed under completely different conditions more than four decades ago.[16] I will argue that the basis of design activism needs to be re-conceptualized in relation to the radically different forces that shape the production and use of the built environment today. As I will suggest below and in the second part of the essay, this involves much more than simply "trusting the local," and replacing "experts" with "communities," while leaving the modes of understanding unchanged.

My starting point is therefore the ways of thinking that inform design activism, or what I'll refer to as the social epistemology of expertise. Architecture schools are locations where expertise is produced and exchanged, in this case through the pedagogical experiences of design/build. It is for this reason that I devote considerable attention to the design theories of Horst Rittel. I will suggest that many of the critical insights Rittel voiced about the shortcomings of problem solving methodologies during the 1960s continue to be relevant now. Indeed, if anything, we live in a period in which the heroic claims of technical rationality have expanded into the background of everyday life in ways that vastly exceed

Rittels's object of analysis at the time. One of my goals is to bring his work, and the critique it contains, into contemporary debates. In this way, the essay undertakes a double movement: revealing the continuing influence of prior modes of rationalizing thought in the present, while drawing on some of the critical insights of the same period to do so.

Rittel's trenchant analyses of the paradoxes of technical rationality ultimately led him towards a mode of design thinking based on argumentation and debate that became influential in early experiments in community design and participatory planning. A concern with social epistemology, or how we understand and intervene in the world, was central to Rittel's arguments. In calling upon his arguments here, I also identify my own bias, which is to regard any form of expertise as a social construction, sustained through practice, and various forms of institutional support. This makes the knowledge associated with design activism both socially and historically contingent, and by extension, open to change. While this point may seem rather self-evident, I maintain that much of design activism treats the question of technique in an instrumental manner, meaning that modes of thinking and forms of practice are deployed unselfconsciously as socially abstracted "tools" in the problem-solving endeavor. In doing so, an understanding of the way in which those tools have been shaped by historical conditions is lost, and with it any recognition of their practical and theoretical limitations.

The most obvious difference between the context for community design of the 1960s and today's design activism is the transformation of the economy, and with it, state power and related institutional structures: something that is very much in evidence in the U.S. where I will base this discussion. The rise of neoliberalism has meant that today's activists have had to find different institutional supports, and sources of funding that are markedly different from their historical predecessors. As a result the field is generally more competitive, but it is also, as I will argue further, very much concerned with developing design activism as a facet of

mainstream professional practice. Indeed, the major organizations in the field today have all sought support and recognition from the American Institute of Architects as well as many other high profile philanthropic and non-governmental organizations, some of which I have noted already. This is radically different from the prior period, which began by criticizing the profession and was deeply skeptical of expertise. The goal of prior models of alternative or community-based practice, however mixed they were in their success, was to distribute expertise away from the expert and towards the "user;" in today's design activism, the authority of the expert as the center of the design process remains largely intact.

While an emphasis on epistemology is useful in directing attention towards how problems are framed in design as a decision-making process, it can also be problematic for the same reasons. Epistemology can sometimes displace consideration of the role of institutions, along with historical forces such as the economy, the state or education, in favor of discrete and socially abstract patterns of reasoning. In the discussion that follows, I address the problem of abstraction through the idea of entangled practice, in which ways of thinking and acting operate at the intersection of material spatial practices and social and historical processes. (Bennett and Joyce 2012) From a practical standpoint, this requires an emphasis on the contingency of practice, or as Jeremy Till argued in his 2009 book, a commitment to the idea that "architecture depends" on a complex array of enabling conditions, which are often messy, inconsistent, paradoxical, and intrinsically tied to what is happening in the social world beyond the artificially bounded space of disciplines and professions. Far from being something that needs to be cleaned up and rationalized, this space of contingency is also one of creative potential, where the practices of everyday life and design are interconnected. (see also Blundell-Jones et al 2008)

I will focus on three concepts that are central to design activism as a mode of understanding and action: expertise, scale and exchange. Though my emphasis is on the last decade or so (and for reasons of space will be limited to examples and conditions

based in the U.S.)[17] I will use the first part of my discussion on the relationship between activism and expertise to provide a historical context for the subsequent two sections. Before turning to my argument on expertise, a brief note on neoliberalism. While I will be addressing the question of the wider social and political context in which design activism takes place at various points in the essay, I will step back from giving an overview of neoliberalism and the built environment in the first section. Instead, I plan to introduce it as part of my discussion at the end of the second half of this essay (which will be published in the spring issue of FIELD) in an effort to avoid the problems of base/superstructure analysis and other determinisms that can sometimes accompany a framing of history through the processes of neoliberalism. My concern will be familiar to readers of contemporary Marxist analyses. Despite genuine attempts to deal with forces such as culture, the professions, and education, such analysis almost inevitably returns to embrace the capitalist mode of production as the source of social determination. The result is to position institutional processes as reflections of the economy. I return to the question of political economy and the theoretical legacy of Marxist thought in the concluding section of the second part of this essay, where I explore forms of feminist, post-Marxist theory that offer situated representations of capitalism from within, that are contradictory, non-unified, and therefore malleable and subject to change. This rethinking of the terrain of capitalism—at once shaped by global processes and inflected by the specificity of agents and institutions operating in specific sub-national contexts—offers a starting point for transformed ideas of design activism.

Expertise

The forerunners of today's design activists began their work as a response to what has been called the "epistemology of technical rationality," a way of thinking that achieved a powerful institutional status in the postwar period in the U.S. as the role of professionals, or credentialed experts, expanded rapidly. (Shon 1987) The period
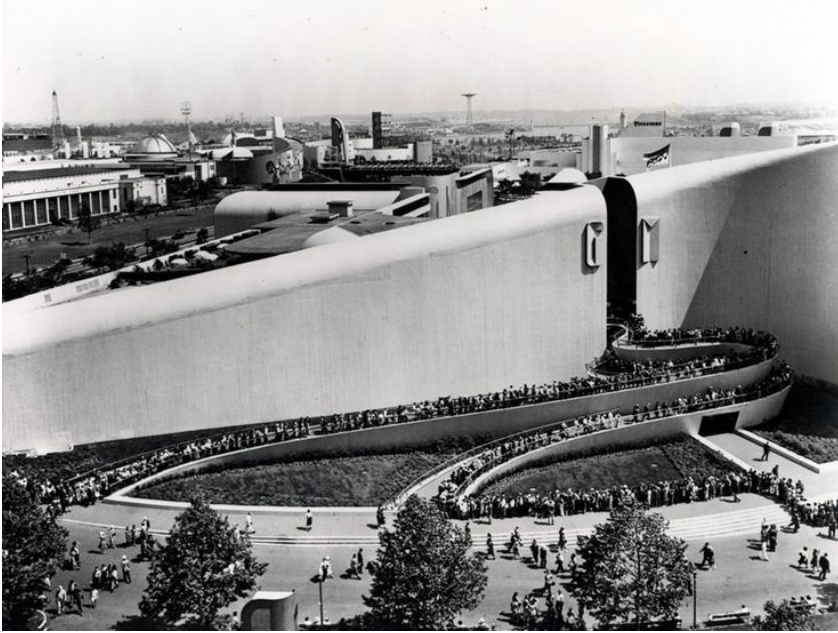
Illustrations 2. Streamlined entrance to the Futurama Pavillion, sponsored by General Motors and designed by Norman Bel Geddes at the 1939 World's Fair in New York City.

following the end of World War II in the U.S. marked the beginning of what Eric Hobsbawm famously called the "golden years" in the industrialized economies of the West. (Hobsbawm 1996) The rapid growth of the period was rooted in the transformation of urban space, as cities underwent massive modernization programs to accommodate the infrastructure associated with a new wave of capitalist development. U.S. cities—unaffected by the devastation that shaped the post war development of European economies— became the subject of large-scale planning interventions. Many of these initiatives, closely intertwined with the Keynesian economic theory that dominated public policy of the day, were funded by the federal government, but also advanced the interests of various aspects of the private sector. Road-building is just one example, but a telling one: the federal government financed the infrastructure necessary to expand to the suburbs, setting in motion the expansion

Illustration 3. Visitors sit on moving seats that circled around Bel Geddes's design for a city of the future, organized around functional zones and freeways with radio controlled traffic management. Photo courtesy of GM Media Archives.

of the rubber, asphalt, petroleum and automobile industries; and creating access to land for privately built suburban houses, each of which needed to be filled with goods, which also spurred growth. (Lefebvre 1990, 2003; Harvey 1989, 2012; Graham and Marvin, 2001)

There is probably no better specter of the postwar period than the strange dream of modernity embodied in the 1939 World's Fair in New York City. "The World of Tomorrow" celebrated a future of mass consumption, with displays featuring everything from Heinz food products and Goodrich tires, to Elektro, a talking robot and mascot of the Westinghouse pavilion. The entrance to the fair was flanked by monumental displays devoted to the automobile industry. The most popular of these was Futurama, designed by Norman Bel Geddes, for the public relations department of General Motors.

After ascending a sinuous circulation ramp that recalled a freeway overpass, visitors were presented with an elaborate model of a city, replete with skyscrapers in a central business district surrounded by verdant suburbs, all connected by ribbons of apparently non-stop highways. (Fotch 2001; Marchand 1992; Moreshead 2004)

Bel Geddes' dream of a postwar future in which a technocratic government enabled corporate development represented a distinctly U.S.-based translation of arguments about the functional city, the merits of zoning and the importance of traffic that were a prominent feature in professional debates about urban modernization in the period leading up to World War II. His model for a "City of Tomorrow" dramatized some of the formative ideas of the Congrès Internationaux d'Architecture Moderne (CIAM), an international network of planners and architects that operated under the sway of Le Corbusier from its inception in 1927 until well into the postwar period. (Hall 1997; Mumford 2000) Beginning with the influential Athens Charter of 1933, a succession of congresses and related manifestos issued by CIAM positioned the city as an artifact of expert control, to be managed from above through processes of abstraction and scientific reordering. (Schwarzer 1997)[18] The scientifically rationalized urban organism, it was argued, would generate healthy and productive inhabitants through the transformative experience of everyday use. (Gans 2014)

The realization of large-scale, systematic planning was deferred by the Great Depression and World War II, after which it became integral to modernization programs internationally, and was put into action on a large scale. In this respect the 1939 World's Fair can be understood as premonition or a nightmare, depending on your point of view. In the two decades following the end of World War II, purpose-built cities such as Brasília emerged as spectacular embodiments of scientific planning based on expert theories. With its functional planning and promise to spur national development, Brasília was as much a national exhibition as the 1939 World's Fair, though a permanent one, and far more ambitious in the social experiment it proposed for its inhabitants. But there

were also efforts to apply the same ideas of functional and social reorganization to existing cities. (Scott 1998; Holston 1989) In the U.S., urban initiatives involving the large expenditure of public funds, either directly through the production of infrastructure and public goods, or indirectly, through tax subsidies, incentives and various appropriations, dominated state-led efforts at "urban renewal." Such projects were typically realized through the displacement of poor, mainly people of color, out of existing inner city neighborhoods. (see for example, Sugrue 1996) Perhaps the most notable figure in all this was Robert Moses, a transformative figure in the postwar history of New York City. Moses came up through the bureaucratic ranks during the New Deal and eventually coordinated twelve New York City agencies, ruling them with considerable autonomy and drastically reshaping large parts of New York City in the process. (Ballon and Jackson 2008; Caro 1975; Gratz 2011) A coalition of citizens led by the journalist and neighborhood activist Jane Jacobs, contributed to his downfall. Jacobs helped to crystalize citizen opposition over his plans for the Lower Manhattan Expressway and other projects, through recourse to an anti-suburban vision of the city that revalued its nineteenth-century urban fabric and its apparent capacity to engender processes of self-government.[19]

The struggle in New York City over Moses' plan was one part of a much larger set of events, where citizens reacted against the technocratic administration of everyday life through planning, whether of cities, war, housing, or universities. The reach was extensive, and it is not surprising that, for a brief period, both the left and the right were united in their suspicion of, and hostility towards government. (Harvey 2007; see also Castells 1983) The corresponding crisis of legitimacy expanded to include what came to be known as the "professional managerial class," or the "new class," a paradoxical formation positioned between capital and labor, charged with managing capitalism and ensuring its reproduction. Students themselves rejected their incipient roles as technocratic managers of capital, as well as the curricular structures that had been generated in the postwar years to produce a new

generation of bureaucrats, scientists, economists and planners, amongst others.

The student revolts at Nanterre, France in 1968, for example, were as much about rejecting the university as an incubator of technical rationality as they were about an at least temporary rejection of the social role to which that knowledge would be assigned. (Schnapp and Vidal-Naquet, 1971; Seidman 2004) In the U.S., the Civil Rights movement, along with decolonization struggles in the developing world and the antiwar movement soon overlapped with a broad-based rejection of the role of expert knowledge in everyday life. The challenges and ensuing protests were repeated in other national contexts, many of which were covered and transmitted across national borders through mass media and television. The student revolts and the general strikes in France in May, 1968, together with growing mass protests in other national contexts, gave the crisis of the professional managerial class geo-cultural dimensions. (Debray, 1981; Barbara and John Ehrenreich, 1971; Torraine 1971; see also Barbara Ehrenreich 1990; Wright 1998)

I raise all these issues in part to underscore the difficult and increasingly tense national atmosphere that Lyndon Johnson entered after his election in 1964. It was Johnson's first administration that created the programs of the Great Society, designed to end poverty and spatialize equality in U.S. cities through improved facilities and services, to be implemented through the doctrine of "maximum feasible participation." One of the core aspects of the legislation associated with the Great Society was the creation of Community Action Programs and other outreach mechanisms that sought to empower marginalized communities to improve their neighborhoods. During the first wave of programs within the Great Society, architects and built environment professionals operated as advocates for poor communities, attempting to use their skills to ensure an appropriate distribution of resources. They also set up storefront offices and community design centers— often in conjunction with schools of architecture, in order to bring

their services to poor communities. (Comerio 1984; Dutton 1996; Goldstein 2012; A. Goodman 2015; Phelps 2014)

Horst Rittel was a keen observer of the transformation of planning discourse and practice in the postwar period in the U.S. He was a German academic who came to UC Berkeley from the Ulm School of Design, which was set up by the Scholl Foundation after World War II as the postwar equivalent of the Bauhaus. Its goal was to promote approaches to design that were committed to an ethical version of modernism. Rittel arrived at Berkeley in 1963 when public dissent over large scale planning projects was already well advanced. He wrote a number of seminal articles about the underlying paradoxes of planning rationality, the most famous of which was entitled "On the Planning Crisis" (Rittel [1972] 2010). This article not only astutely dissects the logical failures immanent in the bureaucratic planning apparatus of postwar development; it also begins to suggest a different methodology. Though Rittel's work has not received the widespread recognition it deserves, it remains as relevant today as it was when it was first published in the 1970s.

Two popular books published recently underscore the latter point. Both adopt theoretical frameworks that resonate closely with Rittel's formulations, by launching powerful criticisms of the assumptions at work in the seemingly endless discourse of techno-utopianism in the U.S. today. Evgeny Morozov takes up the heightened cultural status of computer-based "solutionism" (his term for technical rationality) in his 2014 book, *To Save Everything Click Here*. He refers to solutionism as the tendency to "recast all complex social situations as neatly defined problems with definite, computable solutions, or as transparent and self-evident processes that can be easily optimized . . ." (Morozov 2014) Similarly Jaron Lanier, one of the inventors of Virtual Reality and now a prominent critic of social media, argues that today's "siren servers" beckon us into asymmetrical relations of power, where data aggregation and crowd sourcing displace the messy arguments of unfiltered public discourse. (Lanier 2014)

Rittel's work translates well into present arguments like these, not only because of the points he makes, but the way he makes them: he focuses on styles of reasoning, how they came about and their consequences. He was an intellectual mischief-maker of this first order—rigorously anti-foundational but at the same time committed to an ethical world-view founded in argumentation and debate. For Rittel, design arguments were inseparable from civic life and tied to the circumstances in which they emerged. As such there could never be universal truth in design, and by extension, no "right" or "wrong" solutions, only good or bad ones, determined by the mutable relations of communicative ethics.

For Rittel, design problems cannot be neatly bounded because they involve human values and situations; they can't be solved in the same way a mathematical or computational problem might be. They are not, to use Rittel's terms, tame problems, which have an enumerable list of permissible operations, and definitive formulations. The expertise of technical rationality argues that correct solutions can be developed if the right "tools" are applied to a problem. From Rittel's standpoint, many design problems become "rational" only by bracketing out the things that make them messy, uncontrollable, or (to use his term of choice) "wicked." (Churchman 1967; Krippendorf 2006; Protzen and Harris 2010) The way the problem is defined determines the solution. Hence, as Rittel and his colleague Melvin Webber famously said "the formulation of the wicked problem *is* the problem." (Rittel and Webber 1973, 161) This directs our initial attention towards how problems are framed, rather than how they are solved.

Wicked Walls within Walls

If Rittel's arguments are taken to their conclusion, rethinking design problems as wicked problems means not only that there is no definitive solution or endpoint to the design process, but also that in some cases what is initially posed as an "architectural

Illustration 4. UC Berkeley Chancellor's House. Photo courtesy of C. Greig Crysler.

problem" might be best addressed in an entirely non-architectural way. Here is a brief example of what I mean, one that is also a spectacular demonstration of the contradictions now eating away at the heart of higher education in California—the very same ones that the students floating the "Our Space" tents over Sproul Plaza in 2011 sought to draw attention to. Like some of the other university campuses in the U.S. that date from the nineteenth-century, UC Berkeley has a neoclassical mansion set within a picturesque glade at the edge of the campus for its Chancellor. In the disturbances that followed tuition hikes in 2009, then Chancellor Birgeneau and his wife, Mary Katherine, were awakened from their sleep by the sound of bricks being thrown through their windows, and light fittings outside the building being broken. Eight people were eventually arrested in relation to the incident. Of those charged, Birgeneau said "These are criminals, not activists . . .the attack at our home was extraordinarily frightening and violent. My wife and I genuinely feared for our lives." (Lee 2009)

In the summer of 2015, almost six years after that first incident, it was quietly announced that the campus would be constructing a black chain-link security fence around the Chancellor's mansion. An article about the fence in the *Daily Californian*, the campus newspaper, represented the new construction as a cost-saving measure, designed to reduce the number of police assigned to the Chancellor's security detail. (Shih 2015) At first glance, the fence would seem like a perfectly rational solution to the problem of the Chancellor's security, one that was formulated by calling upon the expertise of the University's Campus Police, and one that would save, rather than cost, money.

From Rittel's standpoint, the fence is a tame solution to a wicked problem, and can only be regarded as a success if its contradictions are bracketed from understanding. As the undetected crashing of a personal drone onto the lawn of the White House in January 2015 has shown, a fence—no matter how imposing, is a weak match for the high-tech projectiles of the digital age, which can pass over physical barriers and slip through gaps in military radar at the same time.[20] But practical considerations aside, if we move back to a different starting point—that of how we understand the problem of security—we will quickly discover that there are no right or wrong answers to this problem, only ones that are good or bad, as defined by the criteria used to form and evaluate solutions. The tangle of issues that have emerged reveal that security and politics cannot be separated, though this is precisely what the technical discourse of fences and walls attempts to do.

Let us assume, for example, that despite the growing threat of mini-drones, the Chancellor's fence will decrease the proximity of the protesters from his windows, lessening the possibility of bricks and other objects being tossed or shot through them; it may also signal the presence of surveillance and security to would-be offenders, discouraging vandalism or attacks on the mansion. On this basis, we can argue that the wall is a success. However, this evaluation does not take account of the unintended consequences of the proposed solution. The wall's symbolic function (to frighten

or discourage offenders with a symbol of strength) generates a tangle of other problems. The Berkeley campus, influenced by the principles of City Beautiful planning, with picturesque vistas intersected by axial public spaces and avenues, has been subtly transformed by the intrusion of a fenced domestic compound. The change makes a powerful statement about the Chancellor's relation to the campus, underscoring the forces of institutional segregation that already separate him and other upper echelon officials from the campus community. It signals an official willingness to make the campus landscape less open, and more divided—a point that has already been lamented by campus faculty and students.[21]

Attempts to challenge the fence on financial terms have been anticipated in the cost-saving arguments that accompanied the announcement of its construction. However, this standpoint relies on excluding immaterial costs: to the reputation of the campus as an open and democratic space, and to the Chancellor as an accessible leader, each of which generates its own set of problems. The fence also inserts the campus into debates that conflate the maintenance of individual and collective sovereignty with physical boundaries. As Wendy Brown, a UC Berkeley faculty member, has written in her 2010 book, *Walled States, Waning Sovereignty*, the hyperbole of walls within walls, fences and other border infrastructure reveals "a tremulousness, vulnerability, dubiousness or instability at the core of what they aim to express—qualities that are antithetical to sovereignty and thus elements of its undoing."(24, see also Dear 2013)[22] The latter point holds a charged meaning for the campus's Latina/o population, who are now witness to escalating and vitriolic calls for a wall between Mexico and the U.S. What started as a technical solution may well become a potent icon for multiple scales of inequality and injustice, and as such, a target for future protests rather than an oasis of domestic security. Such is the spiraling quality of wicked problems.

Wicked thinking shifts the practice of design back to an earlier stage, so that the project brief (which ultimately determines the outcome of the design process) becomes a site of contestation and

debate. Such debates may lead to decisions to cancel a project, or achieve its goals in an entirely different way. Stepping outside the bounded reality of a specific regime of decision-making may reveal, for example, that the money targeted for a new security fence may produce unanticipated costs that exceed those of the original proposal. Once these costs are acknowledged, a different framework of evaluation is activated, one that includes the ethical dilemmas that surrounds the fence's construction. Rittel's arguments have sometimes been interpreted as meaning that we simply need to do a better job of listening to those who will be affected by a particular solution: if we somehow include more opinions, we will be acknowledging the complexity of design problems and embracing their wickedness. Yet adding more voices, or developing "techniques" of participatory design for a given problem, is, from Rittel's standpoint, simply another version of technical rationality, because the problem to be solved, within certain margins of adjustment, is given, and because a routine methodology (as with post-it notes or facilitators with armed with colored magic markers) is applied to a problem, regardless of the context and whether the problem actually needs to be solved or not. In the example above, we do not need a participatory approach to the design of the wall, but rather, an argumentative process about whether it should be produced at all.

Community Design as Technical Rationality from Below

Though Rittel's ideas were directed towards the kind of systematic and institutionally based decision-making associated with planners of high modernism, they apply equally well to the mechanistic forms of community design and participatory planning that had already taken hold in the wake of the radicalism of the 1960s. It is to this point that I now turn, in order to show how a way of thinking that set out to challenge technical rationality gradually turned into what it sought to critique. As I will suggest, one way of reading Rittel's writing is as a reaction to the supposed alternatives

Illustration 5. Urban renewal protest, n/d. In Robert Goodman, *After the Planners* (New York: Touchstone, 1971), p.62.

to technical rationality taking shape at the time. He was not alone in his skepticism towards predefined models of "participation". Sherry Arnstein's famous "Ladder of Citizen Participation" (first published in 1969) is notable for the way the steps on the ladder towards "full citizen participation" describe various forms of social management from above. The citizen seeking a genuine form of collective decision-making needed to climb past manipulation, tokenism, and subordinate partnership–all failed variants of participation operating through the anti-poverty programs of the Great Society.

There are many issues raised by Arnstein's ladder, perhaps most notably that the topmost rung excludes experts. For Arnstein, this was presumably necessary to ensure democracy, but it is a position that Rittel himself would have opposed. He argued for a "symmetry of ignorance" in which there was no a priori hierarchy or value judgment imposed on those taking part in decision-making

processes. His position was not "anti-professional." He regarded professional epistemologies as one distinctive way of knowing amongst many others. In his view, architects and ordinary citizens could, under the right circumstances, recognize that each had knowledge to share of different but equal value. The contribution of Arnstein's ladder is thus perhaps less in the hoped for utopia of the last rung than in its diagnosis of how fully and quickly the techniques of grassroots activism had been converted into a system designed to manage dissent and achieve policy "solutions."
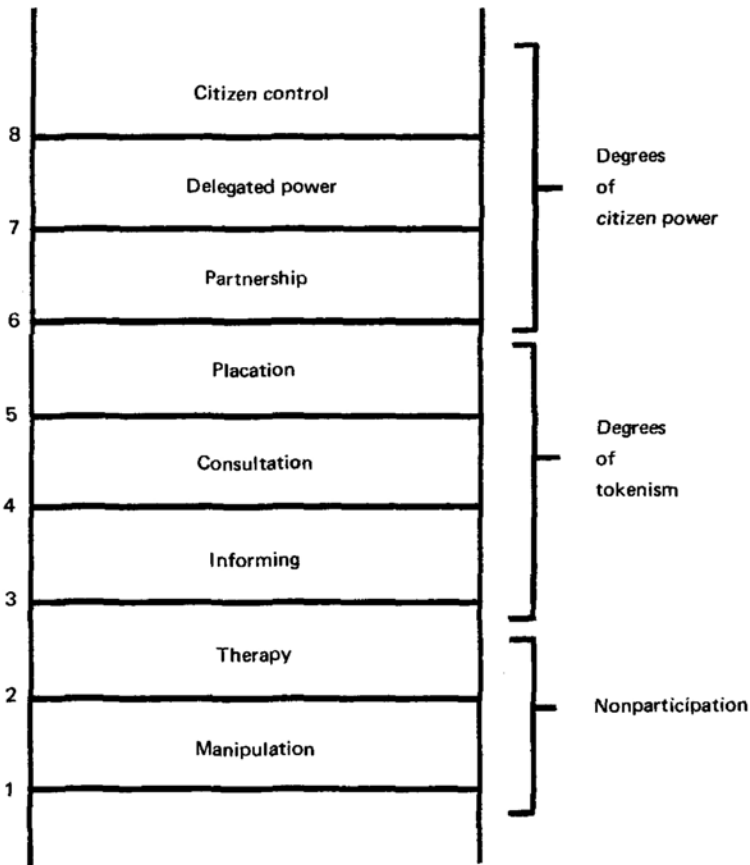
FIGURE 2   *Eight Rungs on a Ladder of Citizen Participation*

Illustration 6. Sherry Arnstein's "Ladder of Citizen Participation" (1969).

These points have been developed more fully in subsequent research, beginning with Barbara Cruikshank's landmark 1999 study, entitled *The Will to Empower*. (Cruikshank 1999) She identifies the primary goal of citizen participation during the Great Society programs as "empowerment." The goal of many of these initiatives was to "empower" the poor and disadvantaged to voice their problems and recognize their capacity to improve their lives. But as Cruikshank shows, empowerment discourse was typically based on first classifying groups as "disempowered" in specific ways, in order to enable empowerment to proceed according to the government's goals and methods. The most common reaction to empowerment practices was apathy, which partly explains the lack of concrete results from the many community design initiatives of that time. (see also Dean 2009, 82-88)

The flattening of participation by government agencies through funding criteria, performance guidelines and other regulatory structures designed to orchestrate consensus is thus continuous with the technical rationality activists initially set out to oppose. But it is more difficult to recognize as such, because it draws so effectively on the language of community and participation. Clearly any form of activism that relies on governmental, institutional or private funding needs to include "objectification" of the problem space, so that the existing assumptions and lines of influence become clear.[23] Otherwise the aims of a group can quickly be assimilated to the logic of participation already in place, in turn resulting in outcomes that serve the funder or administrator, rather than the participant.

Many activist groups in the 1960s gained this kind of knowledge gradually, through experience. And as recent research by Alyosha Goldstein shows, some that were organized through government funding into programs concerned with self-help often evolved into more radical (and unmanageable) forms of self-determination. (2012, 111-154) Rittel's point was that understanding the embedded practices involved in any situation and how they might shape the agency of participants was essential to considering how problems are framed. Knowledge of the competing and sometimes blurred

or overlapping power geometries of participation is integral to the realist vantage point his thinking offers.

The paradoxes of community empowerment I have just outlined included architecture from the beginning. Some of the most notable early battles against the planning apparatus in U.S. cities included architects and architectural educators. Community Action Programs provided part of the funding for the first wave of community design centers based in architecture programs, including the one where I teach, at UC Berkeley.[24] But even in the initial phase of experimentation, when architectural educators, practitioners and students worked together in an effort to turn the struggle against modernization projects into political frameworks for transforming society, the process was shrouded in ambiguity. There was, for example, the question of how professionals could both provide expert assistance to help affected people, and mobilize them into political action when the communities in question were loosely formed, heterogeneous and often holding contradictory goals. Much of this has to do with the ambiguous status of the professionals, who never really abandoned their roles, and always had the freedom to come and go.

The ill-defined boundaries of community groups, and the exteriority of the professionals drawn to them meant that they were never able to fully identify who they hoped to help, or clearly determine what problem needed to be solved. And even if a specific community could be identified, the problem could never be solved in the rationalist sense, because of its intrinsic wickedness. We can see this struggle at work in the career of Lucien Kroll–a Belgian architect who attempts to include participant voices in his work but who ultimately retains final control over the projects. The housing for medical faculty at the University of Leuven, an early and widely cited project of Kroll's, employed a range of techniques to solicit the participation of future inhabitants in its design, ranging from small group discussions, to the use of random decision-making techniques based on chance. Here, as in other projects executed over his long career, a residual level of determination

by the architect is retained, but placed off the table, so to speak. The degree of expert control over the project is not theorized as a part of the distributed model of decision-making, but instead remains invisibly in the background, unless it is recognized as such and challenged.[25]

The Business of Empowerment

The inability of community-based design methods both within and beyond architecture to accurately identify and understand the people they intended to help, and the problems they hoped to solve, underscores the challenges posed by attempting to treat wicked problems as tame ones. As my earlier example of the Chancellor's fence suggests, the arbitrary bounding of a given problem only serves to disable the analyst's ability to understand the complex intersection of forces at work in a given situation. One way to resolve this conundrum is to make the role of the designer more frankly concerned with bounded problems—in effect to give up on the challenge posed by Rittel's idea of wicked problems.

Illustration 7. Spyfish STV underwater drone by H2Eye International, a product cited by David Kelley to illustrate the successful application of Human Centered Design (HCD). See: https://www.ideo.com/work/spyfish-stv

Rather than contend with the complexity of wicked problems, and the arguably radical challenges it poses to conventional modes of practice, the designer embraces the limited, and predetermined aims of "solutionism" through a new form of expertise, that of a fully instrumentalized "community practice." This is essentially what happened in the wake of the unfulfilled agenda of radicalism in the 1960s. As Mary Comerio notes, the shift from "idealism to entrepreneurialism" in community design was fueled by the practical failures of the first wave of activism.[26] (Comerio 1984)

The speed of the shift was intensified by sudden and systemic changes in the U.S. economy, as the country moved from state intervention to neoliberal restructuring following the oil shocks and stock market collapse of the early 1970s. The Reagan presidency brought an end to many of the funding sources that had supported community design centers, and they began to close or develop different agendas connected to private sector funding sources.[27] The shift to a market-based model demanded a problem-to-solution model to show that results were being achieved for money spent, even if the results were generated by the artificial bounding of the problem space. As we will see in my subsequent discussion, it is this market-based determinism that dominates design activism today.

It was during this period that community action was converted to community practice, effectively reshaping empowerment activities once supported by various government agencies into a subfield of the architectural profession. The new configuration was entrepreneurial not only in the sense that nonprofit firms now had to complete for clients in an intense marketplace for low cost architectural services. It also meant that whatever remained of the goals of community empowerment now depended on either private sources of funding, or a hybrid of diminishing government grants paired with private sector investment. Thus in a relatively short period of time, the underlying institutional framework of community design was transformed from a logic of state intervention, to a model that made market forces its default starting point. It is this model that continues today, but (after three decades of social

restructuring) in an intensified form. The goal now, as then, is solving immediate, practical problems of specific communities, rather than, as had been the case in the 1960s, broader political transformation through what Robert Goodman once called "spaces of liberation." (R. Goodman 1972)

I now want to illustrate the entanglement of design activism, technical rationality, and free market thinking today through the example of IDEO, a design firm based in San Francisco. IDEO has become internationally renowned for its approach to problem-solving. And over the last few years, partly as an acknowledgement of the rapid growth of the nonprofit sector, and partly as a way to bolster its reputation for corporate social responsibility, it has also entered the field of design activism, through a nonprofit division of its firm. IDEO's nonprofit arm is organized around "human centered design" or HCD. The approach was initially codified in a guidebook commissioned by the Bill and Melinda Gates Foundation, along with three other organizations. *Human Centered Design. A Toolkit* (HCD Toolkit hereafter) adapts techniques used by corporations in their market research to the process of designing for people living on under two dollars a day. (HCDT 188) Though developed to inform IDEO's nonprofit activities, the approach has been widely influential in other sectors of the nonprofit world, not only in the realm of product design, but also for initiatives ranging from the implementation of microfinancing in Bangladesh[28] to the recently proposed plan for an "African Bauhaus" organized around "Human Centered Design Institutes."[29]

Employing a mixture of colorful graphics and synoptic text the HCD Toolkit begins by explaining that human centered design regards "people as the experts." People (or "end customers") are reconfigured within a modified version of the social-scientific dyad of participant-observation, a method of qualitative data collection that, in modernist ethnographic accounts, typically positions the observer (in this case, the practitioner of HCD) in an exterior but dependent relation to the individuals or groups that are the subject of inquiry. The tools freely translate the loosely derived

methods of participant-observation into a checklist of "techniques, methods, tips and worksheets to guide you through a process that gives voice to communities and allows their desires to guide the creation and implementation of solutions."(HCDT 5) As noted in the Table of Contents, a Field Guide at the end of the book "contains worksheets that will help you prepare and conduct field research. The Field Guide and the Aspiration Cards are all you need to take into the field with you." Before reaching the Field Guide, the reader is presented with two-page summaries of different ethnographic methods, from "Individual and Group Interviews," to advice on how to "Seek Inspiration in Unusual Places." The collage of techniques is left unqualified and readers are encouraged to pick and choose according to their needs.

While offering a seductive gloss on "participant-observation" methods of research the HCD Toolkit fails to acknowledge the partial, and highly limited understanding provided by its tools. While claiming to provide a way to simply enter the social realm and empower people to reveal their inner desires, the Toolkit–by virtue of the assumptions embedded in the tools–constructs the very reality it seeks to discover. The Toolkit is thus a problem-taming device, one that makes the messy complexity of the participant's world manageable, by boiling it down into an exercise in aspiration research. The IDEO Toolkit individualizes subjects by asking them what they want, outside consideration of the social and historical circumstances that inevitably shape their responses. The reduction of poverty to individual desires sidesteps collective societal issues that can't be "solved" with aspiration cards. It also establishes the Toolkit, like the populations it is used to investigate, as trans-historical, somewhere beyond time and culture. The Toolkit is thus also a travel kit, with assumptions about mobility and universal applicability built into its concept of utility.

HCD achieves a semantic repositioning of social problems within the logic of consumption, by emphasizing "end users" and redefining everything from philanthropic programs to portable toilets as "products." This market orientation is much more in

the foreground when the methodology is applied to product development and market research in the first world. The approach was first outlined by IDEO founding partner David Kelley at his 2002 TED talk, where he introduced his firm's new interest in the methodology to a wider audience. Kelley explains that HCD's purpose is to "design behaviors and personalities into products." The range of examples presented extends from interactive dressing room mirrors at the Prada Store in New York City to the Spyfish camera–an underwater drone that allows the deep seas to be observed from the deck of a yacht. Of the Spyfish, Kelley notes, "Many people have boats or enjoy being on boats, but a very small percentage actually have the capacity or interest in going under the water . . .this product has two cameras, you throw it over the side of your boat and you basically scuba dive without getting wet." (TED 2002)

While solutionism generates ingenious responses to narrowly framed questions, here, as in the examples cited in the Toolkit, the method has no way to evaluate whether solutions are socially useful and ethically sound, or indeed to distinguish between them. Presumably the market will decide. The point is underscored by the final example presented by Kelley, a water pump developed by Martin Fisher (a California-based mechanical engineer and social entrepreneur), called the "Super Money Maker." The portable pump, first developed for use in Kenya, enables farmers to access water on a small-scale basis in situations where the necessary infrastructure for irrigation is not available. Though the pump has clearly benefited many farmers, because the design problem is framed as providing individual access to water, the larger consideration of collective supply coordinated by the state is removed from consideration.[30]

The "money maker" is intended to free its owners from the burdens of government bureaucracy and NGOs, which are cast as impediments to market innovation and self-realization. The pump's network of production, sales and use provides a practical introduction to the discourse of "ethical capitalism," where individual entrepreneurship is aggregated (or "scaled up," in the

parlance of social entrepreneurship) to reform society from below. (Roy 2010) The net result, an aggregated privatization of irrigation, is particularly ironic in light of the recent discovery of two massive aquifers 300 meters underground that have the capacity to meet all of Kenya's water needs for the next 70 years.[31] In its support of free market ideologies, its endorsement of external expertise to solve national problems, and the implied withdrawal of citizens from collective self-government, the pump aptly signifies the historical reversal of design activism from its idealistic starting point to its current affiliation with private market forces.

Conclusion

In the argument I have presented thus far, I have tried to show how changing conceptions of expertise have shaped the epistemology of design activism. The main paradox I have investigated concerns the transformation of design activism into the ways of thinking it initially sought to challenge. The goals of social transformation through collective participation were initially developed to challenge expertise. The same techniques of participation and community outreach now operate as forms of expertise in themselves, with their own well-defined and formulaic problem-solving techniques. In short, we see technical rationality, previously used to instrumentalize state power and manage the economy through Keynesian strategies, now emerging as means to do the same thing, but this time through the mechanisms of the free market. The target of both operations is the poor, and from the standpoint of today's economy, a potentially dangerous precariat. These techniques attempt to achieve an alignment between "economic potential" and "social need" through practices that conflate the free market with freedom.

IDEO represents one facet of this transformation. In the second part of this essay, I will take the points I have made here further, by exploring them in relation to architectural education. My focus will

Illustration 8. Aspiration cards from *The Field Guide to Human-Centered Design* (IDEO.org, 2015), p.168.

be on the interrelated questions of scale and exchange. Scale is one of the unavoidable starting points for design, and as it turns out, a key term in contemporary practices of design activism. Almost without exception today's design activists argue for a return to small scale, "locally based" design. I will explore how scale can either operate as the unstated frame for design activism, implicitly shaping how the extent of a problem is defined, or become an active consideration in the way a problem is framed, leading to radically different results. In my concluding discussion I will examine design activism as a practice of economic exchange. I consider the emergence of interest in alternative modes of practice alongside the wider transformation of

professional labor, particularly since the credit crisis of 2008. I argue that with their emphasis on the provision of skills, and exchange of symbolic capital within a predefined system of expertise and authority, design/build and other "service learning" programs have the potential to reinforce economic inequality, and in a larger sense, participate in the privatized restructuring of welfare. I will conclude by exploring what J.K. Gibson Graham refers to as "weak theory" and discuss its potential to rethink the paradoxes of design activism in the global present.

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Acknowledgements

Notes

1. The Occupy Cal movement at UC Berkeley was loosely affiliated with the Occupy movements elsewhere in the US, including encampments in nearby Oakland, and San Francisco. The primary focus of the Occupy Cal movement was the privatization of public education, including significant rises in student fees and tuition, necessitated by the withdrawal of public funding for higher education in California, following the financial crisis of 2008. (See for example, Brown 2015, pp. 175-200)

2. The floating tents were captured on the evening news on Bay Area network affiliates (ABC News 2011); the footage remains on YouTube (YouTube 2011). The impromptu intervention is also discussed by Jennifer Wolch, Dean of UC Berkeley's College of Environmental Design in *Frameworks*, the newsletter of the College of Environmental Design, where she characterizes the action as the continuation of a long tradition of student activism in the CED. (Wolch 2012)

3. The resurgence of interest in alternative forms of practice, design/build and community-based design, along with attempts to define and claim definition of the expanding field, was signaled at an institutional level by the Museum of Modern Art's 2008 exhibition, *Small Scale. Big Change. The New Architecture of Social Engagement* (Lepik 2008)

4. The Five Year Strategic Plan was announced publicly with news of the departures of Cameron Sinclair and Kate Stohr on September 4, 2014. Although the report attempted to mark the opening of a new era, it also revealed the scale of the financial challenges that were to later bring down the firm. (AFH 2014)

5. The bankruptcy of Architecture for Humanity has been linked to an imbalance in its revenue. While fundraising generated revenue for new projects around the world, the organization lacked sufficient funds to pay for operations at its headquarters in San Francisco. (Ferro 2105; Lee 2015; Stott 2015)

6. In 2012, The Smithsonian Museum's Cooper Hewitt Museum National Design Museum, The National Endowment for the Arts, and the Lemenson Foundation sponsored a one-day "summit" on "design and social impact" at the Rockefeller Foundation offices in New York City. The resulting White Paper, published by the Smithsonian Institution, reflects an effort by over a dozen foundations that support social programs and 34 designers to determine the challenges faced by the field and consider how to resolve them. The White Paper describes

the lack of agreement about what "social impact design" means. (Smithsonian, 2012) The summit and publication are part of a much larger effort by institutions and various nonprofit organizations over the last decade to define the field as a coherent set of shared assumptions and practices, with all the ensuing struggle such an effort entails. See for example the online "webinars" on the same topic launched in 2015 by the National Endowment for the Arts with some of the participants from the Smithsonian summit. (NEA 2015)

7. The now defunct web portal, Public Interest Design.org, was started by John Cary, former Founder, with John Peterson, of Public Architecture, in San Francisco. After leaving Public Architecture, Cary first established the public interest web portal, which was later taken over, and "rebranded" by Autodesk, the software corporation as the Impact Design hub. Cary then established JohnCary.Org, where he is described as a "connector, writer, speaker, and curator focused on social change, with an emphasis on design for the public good" who also helped to launch FRESH Speakers, Inc., "a next generation speakers bureau, focused on diversifying thought leadership." Bryan Bell, editor of *Good Deeds, Good Design* (Bell 2003) and co-editor of *Expanding Architecture: Design as Activism* (Bell and Wakeford 2008) is also the founder of Design Corps and the Public Interest Design Institute, a facilitator for the annual "Structures for Inclusion" conference, an independent gathering for architects and designers active in the field of Public Interest Design; and teaches in the certificate program in Public Interest Design at Portland State University. The fuzzy boundaries of the field, and the presence of different institutional and individual actors with competing ambitions has fueled multiple claims to (and uncertainty around) its core mission.

8. The design/build program at Yale, was initially developed in response to conditions in Appalachia and the coal mining region of Kentucky. Known as the Yale Building Project, the program was part of a wider reorientation of architecture programs in the U.S. in tandem with community-based anti-poverty measures initiated under Johnson administration's War on Poverty. (A. Goodman 2015; Hayes 2007)

9. For more on the shift in higher education from a broad-based concern with a nationally oriented liberal humanism, to performance-based determinations of efficiency and social utility, see Bill Readings' *The University in Ruins* (Readings 1996). The general pattern of public disinvestment and its impact on the structure of higher education is extensively discussed in Christopher Newfield's *Unmaking the Public University* (2008)

10. For a detailed history design/build programs in U.S.-based architectural education, see Anna Goodman, *Citizen Architects. Ethics, Education and the Construction of a Profession, 1933-2013.* (2015) Design/build has also been examined under the broader category of "service learning," or education based on outreach to often marginalized communities in need of specific amenities that are provided as part of the pedagogical framework. (see Angotti, et al 2011)

11. Notable examples include the Gulf Coast Community Design Studio at the University of Mississippi; the UrbanBuild program at Tulane University School of Architecture—both of which developed in the wake of Hurricane Katrina; and the Detroit Collaborative Design Center, operated by the School of Architecture at the University of Detroit, Mercy, which addresses the impact of economic disinvestment and inequality in Detroit.

12. What is now referred to as "spontaneous intervention" can be connected historically to the post-WW II urban interventions of the Paris-based Situationist International and their strategy of "detournement" or the temporary highjacking and transformation of given meanings in urban space. The strategy was revived in the 1990s by groups such as Multiplicity, who drew explicity on the language and tactics of the Situationists. (For a full accounting see Awan et al, 2011, 83-215)

13. A prominent example of recent attempts to develop national criteria for evaluating Public Interest Design is the "SEED Evaluator 3.0." This design protocol and online evaluation methodology attempts to define a nationally consistent but locally negotiable set of criteria for "social, economic, environmental design." The evaluative framework is loosely derived from the "three pillars of sustainability" defined by the 1987 Bruntland Report which seeks to reconcile economic development with environmental protection. (SEED 2015)

14. A firm survey by the American Institute of Architects in 2012 revealed that 28% of the positions in architectural firms had been cut in the wake of the 2008 financial crisis, and aggressive management by developers and client groups, combined with a general loss of fee revenue meant that the replacement of lost positions was deferred past 2012. The long stretch of reduced employment prospects created a crisis for recent graduates, and may have helped to explain the parallel explosion in interest in alternative forms of practice, including design activism. (AIA 2012)

15. Two colloquia on design activism, and a symposium exploring methods for teaching design activism in architectural education, were staged

in the Department of Architecture at UC Berkeley between 2011 and 2013, in collaboration with faculty members Margaret Crawford and Jill Stoner.

16. I borrow the phrase "other ways of doing architecture" from the authors of *Spatial Agency: Other Ways of Doing Architecture*. They use the term to avoid using "alternative practice," which they claim reinstates the dyad of a dominant center and peripheral alternatives that are nevertheless remain determined by their critical relationship to the center. (Awan et al 2012, 26)

17. For an excellent overview of international developments in the field with an emphasis on the Middle East, see Ipek Tureli, "Small Architectures. Walking and Camping in Middle Eastern Cities," *International Journal of Islamic Architecture*, Vol. 2 No. 1 (2013): 5-38

18. The pathological metaphor of the city as diseased urban body, a consistent feature of urban reform discourse of the early 20th century, became part of the foundational logic of Le Corbusier's heroic alternative, The Radiant City of 1933, which exemplified the functionalist principles of CIAM's Athens Charter, published in the same year. The Radiant City was organized as a machine-like body, with a head (where brain-like management functions were to be located), and various urban organs concerned with social production and reproduction. A seamless system of arterial roadways matched another circulatory system below ground containing a Metro and sanitary infrastructure. For a comprehensive discussion CIAM's history and related planning ideologies, see *The CIAM Discourse on Urbanism. 1926-1960* (Mumford 2000)

19. For a detailed account of the battle between Moses and Jacobs, see Anthony Flint's 2012 book, *Wrestling with Moses: How Jane Jacobs Took On New York's Master Builder and Transformed the American City.* (See also Laurence 2008; Page and Mennel 2011; Shubert 2014)

20. In January 2015, a personal drone, too small for the White House security radar to detect, crashed on the South Lawn. (Schmidt and Shear 2015) Even more dramatically, a homemade gyrocopter, built by U.S. Postal Service employee Doug Hughes, flew into the Capitol on April 15, 2015 undetected by NORAD. He was transporting letters he had written to each member of Congress demanding campaign finance reform. (Jaffe 2015)

21. The Chancellor himself expressed reservations about the scale of the original fencing proposal, which was subsequently reduced by moving it closer to the house. (Daily Californian 2015)

22. In his recent book *Why Walls Don't Work: Repairing the US-Mexico Divide*, Michael Dear writes "Walls don't work simply because people are too inventive in circumscribing them." (Dear 2013, 173).

23. Rittel uses the term objectification to describe the techniques that can be employed to overcome the pathologies of design. Through objectification, or the explication of judgments, the participants "are likely to learn more about each others' bases of judgments. This in turn may lead to understanding, if not appreciation, of different value systems…" Other techniques include "forgetting less," "stimulating debate," and "identifying the right issues – the ones where there is the greatest disagreement," all as starting points for the processes of argumentation. (Protzen and Harris 2010, 222)

24. The Community Design Center at UC Berkeley, founded by Faculty Member Claude Stoller, began in 1965 as a program in continuing education in collaboration with the University of California Department of Extension Education. An internship program was added a year later that became the core of the San Francisco Community Design Center, located on Haight Street in San Francisco. The Center, the second of its kind in the country after the one founded at the Pratt Institute, became a prototype for others across the country. (A. Goodman 2015)

25. The question of exactly where and how the autonomy of professional expertise is asserted in the process is explored in Nan Ellin's fieldwork on the Vignes Blanches housing project in the suburban periphery of Paris. Her study revealed that Kroll's decision-making process was ultimately as dominated by expert autonomy as the approach Kroll claims to challenge: "At the Vigne Blanches, Kroll presupposed that 'the people' want to live in rural villages that grew spontaneously and that they want the rich social networks associated with these. But when his actual discussions with them proved otherwise, he insisted nonetheless on the supremacy of his vision." (Ellin 2000, 181)

26. As Comerio argues, "Unfortunately, a large percentage of designs and plans in the early years of community design were never implemented. Advocates could often not identify their constituencies, social research could not reduce the gap between professionals and clients, and the participatory process could not change the system." (234)

27. As Henry Sanoff notes, "the 1964 Economic Opportunity Act's Community Action Agencies and the Department of Housing and Urban Development's Office of Neighborhood Development, the economic development role of grassroots organizations and the usefulness of professional advocacy networks, such as the Association for Community Design, were strategically enhanced. CDCs became the staging ground for professionals to represent the interests of disenfranchised community groups . . . Support for design centers came from Community Development Block Grants (CDBG) [from the federal government] and other sources of funding to facilitate volunteerism." (Sanoff 2006)

28. HCD is central to the operations of the Grameen Foundation, a global nonprofit now based in Washington DC that initially became prominent through its efforts to replicate the microfinancing programs in Bangladesh launched by the Grameen Bank. The Grameen Foundation employs HCD to match its programs in microfinancing, as well entrepreneurial programs in agricultural management and health services, to the needs of the "end users," who are typically impoverished people in the developing world. Like IDEO, the Grameen Foundation redefines its nonprofit services as "products" which are "designed" through field research to match the perceived needs of the end user, who is represented as a potential entrepreneur. See for example: https://www.youtube.com/watch?v=6mcZKWhjr9o The Grameen Foundation's operations are consistent with the larger shift towards development practice based on market principles under global neoliberalism, characterized by Ananya Roy as "poverty capital." (Roy 2010)

29. In 2015 MASS Design Group, a nonprofit design company based in Cambridge, Massachusetts, announced plans to launch an "African Bauhaus," initially composed of three Institutes for Human Centered Design with the goal of expanding to other cities across the continent. (Sisson 2015) The idea was presented at a "Solutions Summit" hosted by the United Nations on September 27, 2015, a part of the events surrounding the UN's adoption of Sustainable Development Goals. (UN Web TV 2015) Cathy Calvin, a well-known advocate of public/private partnerships, former CEO of AOL, and currently the President of the UN Foundation (created with a $1 billion donation from Ted Turner) coordinated the summit with other UN partners.

30. According to Fisher, the water pump has led to the successful formation of over 170,000 businesses. The pump was initially developed and distributed through a nonprofit company started by Fisher and Nick Moon called Approtec, which was later superseded by the San

Francisco-based nonprofit concerned with social entrepreneurship, Kickstart. The Money Maker Pump has been embraced as a precedent in social innovation circles, where it represents the potential of unregulated capitalism to transform the lives of the poor; the water it extracts is, according to Fisher, "there for the taking, it isn't a zero sum game," a calculus that assumes resources exist to be freely appropriated and converted to private profit. (Russell 2004)

31. Scientists using satellite images and seismic data discovered two aquifers in northern Kenya, containing billions of gallons of water. The discovery was widely reported in the international news media (see for example Kulush 2013). Subsequent reports have focused on the slow pace of extraction (Plaut, 2015)

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