THE TROUBLE WITH CERTAINTY

by Avigail Sachs

An op-ed on the wickedness of application.

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The search for new knowledge is inherent to architectural practice, but the urge to develop systematic inquiry modeled on research in the natural and social sciences is a post–World War II phenomenon. Working within expanding research universities, American architects across the nation aspired to institutionalize "research for architecture" and integrate it into schools of architecture.[1] Imbued with the optimism of the postwar celebration of science, these architects expected the schools to develop a comprehensive and "proven" knowledge base and to train architects to apply this knowledge "without preconceptions" (without resorting to traditional precedents) so as to create a truly modern architecture. In their vision, research was a collective project, undertaken by the entire profession for the benefit of architects engaged in design and thus for the public as well.

The midcentury vision for "research for architecture" was only partially realized. As architects developed research programs, a gulf yawned between the new academic discipline and professional practice. Research projects that conformed to academic priorities and standards often did not serve professional needs. What was appropriate in one context was not in the other. At the same time, the academic discipline did not achieve independence. The tenured positions, grants, and fellowships that architects did secure based on the promise of research were not adequate to sustain the program they envisioned. This failure was due, in part, to what Roger Geiger has called the "ideology of basic science,"[2] in which applied research was seen as a derivative of, and therefore inferior to, basic research. With its roots in professional practice, "research for architecture" was more often applied than basic in nature and suffered accordingly.

As the title of the new journal we are celebrating with this first issue—*Applied Research Practices in Architecture*—signifies, we have overcome many of the mid-twentieth-century conceptions and are able to give applied research its proper place. The preference for "practices" over "methods" is also indicative of the flexibility with which we, unlike our predecessors, can combine research and design and allow knowledge to flow from one modality to the other. As we do so, however, we must keep in mind inherent differences between research and design and the ways in which they do collide. One of the most important sites of these complications is the thorny issue of "certainty."

In its conventional use, the concept of research holds a promise of certainty, and when followed faithfully, research methods do indeed yield knowledge that is verifiable and dependable and in this sense, certain. As designers we do not need to repeat the research inquiry so as to apply this knowledge in design contexts. The "certainty" of scientific knowledge, however, is limited by disciplinary and professional boundaries. The very existence of scientific disciplines is dependent on a tacit agreement between members of the discourse to accept some methods and modes of inquiry over others. Scientific work, moreover, is judged, at least in part, on its adherence to these written and unwritten rules. A substantial but outlying idea may force a discipline to transform (what is often referred to as paradigm shifts) but will more likely become the basis for a breakaway discipline.

Thus, a researcher who adheres to current disciplinary expectations is assured of an audience who will consider her findings as "certain," or must go looking for a new one. Similarly, professional discourses outline the ways in which a particular audience will apply the knowledge—solving medical and engineering problems being the most obvious examples. Like disciplinary boundaries, these discourses provide a forum in which knowledge, when it conforms to expected standards, will be considered "certain."

The *a priori* agreement on certainty and methods does not hold true in the world of design. On the contrary, as Rittel and Webber argued in 1973,[3] the issues we deal with as designers—social, cultural, and environmental—are "wicked problems", in which the very act of defining the goals, and therefore also the audience, is the main problem. In addition, the knowledge needed to resolve a wicked problem is divided among many stakeholders. Inevitably, these different groups rely on different measures of "certainty" and rarely, if ever, do all stakeholders agree on the methods through which to acquire such knowledge. Thus, what might be "proven" in one context is seen as speculative or outright wrong in another. Unlike researchers, as designers we do not have the luxury of creating a new discipline or relegating a problem to another domain. We are therefore left with a shifting definition of certainty and a constant need to find means and methods appropriate to each situation and audience.

The difference in measures of certainty between research and design places a burden on those engaging in research in and for design. As we "capitalize upon the excess energy of practice to launch unsolicited experiments into the world,"[4] we must be cognizant of the audience to whom we are offering knowledge. In the postwar years, architects assumed that they could speak clearly beyond the professional boundaries in the same way that they spoke within it, only to discover their mistake. Research stemming from design was inherently contingent on specific circumstances, which architects are adept at identifying and weighting. Taken into the realm of research, this knowledge often did not satisfy the scientists' and the wider public's standards of certainty and was therefore not valued by them.

At the same time, the shifting boundaries of "certainty" offer an opportunity for creativity. The multiplicity of audiences allows us to develop projects of different forms and to choose from an array of presentation formats. To capitalize on this opportunity we must let go of any preconceptions of "certainty." Some applied research practices will lead to knowledge that is accepted as certain but is hardly applicable. Other research will lead to knowledge that is applicable in some cases only. Only rarely will research produce knowledge that is always applicable—that is "certain." We must also celebrate and discuss these different conditions. The *ARPA Journal* promises to be a forum for just this discussion.

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1. The efforts to establish architectural research were especially pronounced at the Universities of Michigan and California, the Texas A&M University and at MIT. In many schools, including the University of Pennsylvania and Illinois, faculty worked to make research on housing and city planning an integral part of architectural education. See Avigail Sachs, "The Postwar Legacy of Architectural Research," *Journal of Architectural Education* 62, no. 3 (2009). The recently published *A Second Modernism: MIT, Architecture and the 'Techno-Social' Moment*, edited by Arindam Dutta (Cambridge: MIT Press, 2013) also includes discussions of these efforts. ^
2. Roger L. Geiger, *Research and Relevant Knowledge: American Research Universities Since World War II* (New York: Oxford University Press, 1993). ^
3. Horst W. J. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," *Policy Sciences* 4 (1973). ^
4. *ARPA Journal* call for submissions, accessed April 1, 2014. link. ^

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