The Postwar Legacy of Architectural Research

Avigail Sachs

University of Tennessee - Knoxville, avigail.sachs@utk.edu

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This article contributes to the current discussion of design as research by examining the ideological basis for the enthusiastic pursuit of scientific research in architecture in the postwar period. The concept of "research" was steeped in theory and ideology, but the research itself was shaped by the research economy—its policies and its institutions. Three very different case studies illustrate this phenomenon and demonstrate the importance of considering the research economy as a factor shaping the direction of architectural research.

Research, Idea, and Reality

How does design research contribute to architecture in theory and in practice? In September 2007, the Journal of Architectural Education (JAE) published an issue devoted to exploring that question: Architectural Design as Research, Scholarship, and Inquiry.1 This collection of articles seeks to define a mode of scholarship and inquiry that is special to architecture—and one that is not adequately described in terms of "the scientific method." The editors, Dodds and Erdman, reject the "relatively narrow" understanding of the architect’s role that is reflected in an "instrumental" approach to architectural research. This approach, they observe, "still commands much of the discourse, curriculum, research agendas, and funding initiatives at many architecture programs in both North America and abroad."2 And they specifically cite the articles in the first issue of the JAE as instances of this narrow attitude (see Figure 1).

This article offers a different reading of the first issue of the JAE. Based on an examination of post–World War II archival material—at the American Institute of Architects (AIA) and the schools of architecture at Michigan and Berkeley—I conclude that the term research was used in the postwar period much as we might use the term "theory" today. The argument for scientific research in that period was in fact part of a wider argument about the nature of modern architectural practice and the future of the architectural profession in the United States. The ideal, in William W. Wurster’s phrase, was to "broaden the base of the profession"3 by creating knowledge solidly based in science—that is, objective, impartial, and rigorous. This knowledge, when disseminated and shared by members of the profession, would form a solid foundation for creative and even individualistic design processes.

Reginald Issacs, who taught landscape architecture at Harvard, clearly stated this point of view:

I do not believe that landscape architecture, city planning or architecture can call themselves professions unless there is a rapid increase from practically zero in the number of scholars in these professions... Only through original research will there be a systematic and consistent contribution to knowledge in our professions. There are few self-made scientists in any field. The chance accomplishments of individual discovery is far too hit-and-miss to assure needed improvement of our professions. I hope to see half of the present faculty of the Graduate School of Design replaced by scholars—not by practitioners such as myself.4

Why then do we so often identify this work as narrow and practical? Part of the reason has to do with the fundamental changes that have taken place since the 1950s in the broader field of the philosophy of science. The postwar concept of scholarly research was firmly rooted in contemporary ideologies relating to scientific management, behaviorism, technological progress, and basic research. With the dismantling of "big science," especially in the social sciences, many of the underlying beliefs were discarded or openly attacked, leaving only a residue of methods that today seem alien and narrow.

Another reason—and this is the topic of this article—is that the idea of an architecture based on research—like any other human idea—was never realized in its entirety. The idea of research was never associated with a definite definition of research. But in order to create the necessary institutions to channel the new profusion of research resources that flowed through the postwar military-industrial complex, the nebulous term research had to be defined and molded into fundable projects. Architects adopted research methods originally developed in engineering, psychology, sociology, and other fields to lend credibility to their work. Architectural research came to be defined in terms of product development, building systems design, environment-behavior studies, and so forth. The case studies described in this article—the research programs at the AIA and at the Universities of California (Berkeley) and Michigan (Ann Arbor)—are but three of many examples selected to illustrate the extensive range of meanings that the ideal notion of research took on in the postwar years.
This process of institutionalization and its consequences has special relevance for us today. As the September 2007 issue clearly illustrates, we are today once again in the process of defining and refining the idea of architectural research. Today’s concept is very different from the postwar definition and in many ways is constituted in opposition to it. We also no longer work in the research economy of the postwar years, with its particular policies and funding opportunities. But in making our ideas of research a reality, and institutionalizing them in schools and firms, we operate within the research economy of today. As in the 1950s, this research economy will impose its particular methodological and ethical choices. By examining the dilemmas and choices of our predecessors, we can better recognize and understand some of the problems we will have to address as well.

“An Architecture Based on Research”

When Turpin Bannister, the editor of the first issue of the JAE—and like-minded colleagues, architects, and educators throughout the United States—called for the inclusion of research in architectural practice, they were not arguing, necessarily, for the “scientification” of the design process. They did not conflate research with design but rather distinguished it as a systematic exploration to yield generalizations that could be used by architects in a range of contexts (see Figures 2 and 3). The products of research, they argued, would place architectural practice on a shared and proven basis from which a truly modern architecture could emerge. Walter A. Taylor, director of the Department of Education and Research (E&R) at the AIA, wrote in the JAE, no. 1:

Research, therefore, can supply the practitioner with a fundamental approach to his problem, and can either replace or confirm the intuitive and rule-of-thumb process that so besets us today. Research cannot reduce design to a formula, for design by its very nature is the final creative integration. Research could give the designer new resources that might conceivably sharpen and stimulate creative integration to a new height of clarity and effectiveness. We do not know positively, of course, because we have never had an architecture based on research, but it would be exciting to attempt it.5

The proponents of an architecture based on research conceived of research as a collective project, and they did not expect every architect to undertake research on his/her own. Instead, they advocated that the profession as a whole should pool resources to amass new and systematic knowledge and disseminate it widely. The schools of architecture were specifically charged with training future researchers who would undertake research for the entire profession. This ambitious vision bears all the hallmarks a modernist project: it was based on the positivist assumption that the knowledge produced in research was objective and widely applicable and therefore superior to knowledge derived from other pursuits. Robert McLaughlin, Dean at Princeton University in the 1950s, summed up this position well:

It is not enough for the architect to attack each problem as an artist. He needs to have the knowledge of scientists, and no single architect can have that. The world of knowledge underlying architecture is too vast for the individual to encompass. How does the profession meet this problem? The method of science is the method of research: research for principles of architecture that, once encompassed, become the basis for rational design decisions.6

1. The first issue of the JAE, published in 1947, was devoted to research in architecture and advocated the introduction of the “scientific method” into professional practice. (Courtesy Wiley-Blackwell Publishing.)

2. The Texan Architect, William W. Caudill, was a founding partner of the firm CRS and strongly supported “research” in the firm and at TAMU. He did not, however, conflate research with design but rather saw them as distinct and complementary professional practices. (Courtesy of the CRS Center, TAMU.)

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As Magali Sarfatti Larson argues, professions are social entities whose power can fluctuate: professions can both gain and lose their autonomy. This means that professionals can make conscious (and unconscious) attempts to direct this process. In the postwar years, American architects were acutely aware of a professional crisis. The Great Depression and the wartime economy, when most construction all but ceased, had done more than deprive architects of work. Organized in small private offices, most architects were ill prepared to contract with public agencies. Working on New Deal and defense projects, architects found themselves collaborating more than before (work was divided so that more architects would be paid) as well as engaging in new types of building assignments, particularly housing and community planning. Although the postwar building boom alleviated the architects’ most pressing problem—finding work—it was clear that it would not reverse the new social and economic conditions of practice. Many advocates of research, moreover, were committed, ideologically and politically, to the continued involvement of architects in public work. The call for a research-based architecture was clearly connected to a call for a new (research-based) architect and a reprofessionalization of the profession.

Subscribing to research, however nebulous defined, was the most expedient way to place architecture firmly within the American culture of professionalism. Science, broadly defined, has always played a crucial role in the American professions’ struggles over power, since—unlike their counterparts in Europe—American professions could not rely on guild traditions as a source of authority. And now military victory, the product in part of the American technological superiority, served to consolidate and intensify a widespread American consensus in which scientific investigation was seen as crucial for further progress and a better societal order. This consensus was the basis for wide-spread investment in research throughout what Oliver Zunz has called an “institutional matrix of inquiry” that linked scientists in research universities, institutes of technology, corporate laboratories, and private and public foundations. Often, it was enough to describe something as research to be able to command resources. Architecture schools, moreover, especially those located in the growing research universities, had to conform to some degree to the restructuring in their parent institutions.

Advocating a research-based profession was also a way to make a statement about the importance of housing as a topic for the profession. Housing, conceived as both a social and a technical problem, was a topic of research and fact finding as early as the late nineteenth century, and the connection between good housing and scientific (or quasiscientific) knowledge was further consolidated in the twentieth century. Architects had not ignored this development: as early as 1927, the Architectural Record advised its readers to adopt “the research method of science—observation, hypothesis, education, experimental verification.” Housing, however, remained on the periphery of the profession’s interest, and only a few (albeit prominent) academic programs included the topic in their curriculum. The Depression and especially the New Deal forced architects to reframe their relation to the problem. Emphasizing research as a general field of inquiry over the more specific housing research was a way to further appropriate and “gentrify” the problem and place it squarely within architecture.

This focus on the social and community aspects of housing also reconnected architects with the postwar scientific disciplines of city and regional planning and landscape architecture. Similarly, the emphasis on the technical aspects of housing as a topic for research in architecture affirmed a connection between the architects and the building industry—the amalgamation of producers of materials, building systems, and prefabricated components. Research, particularly the development of new materials and systems, played a key role in advances in the building industry from the early twentieth century, and several of the more progressive industrialists were quick to establish research units dedicated to the development of new and more efficient building materials and systems. Many individual architects were involved in this development as both employees and entrepreneurs. In 1933, for example, the aforementioned Robert McLaughlin established a company named American Houses, Inc., which became one of the leading prefabricators in the United States.

Finally, for many of the proponents of an architecture based on research (and its corollary, collaborative practice), research was a way to
signify their preference for adaptive pragmatic experiments over radical avant-garde innova-
tions—in other words, a resistance to formalism. As the proponents of research in architecture often made clear, they were worried that American architecture would fall back into the prewar pattern of eclecticism. They also feared that the codification and academization of European Modernism in the United States would lead to an eclectic rather than creative interpretation of International Style architecture. In their view, eclecticism was a characteristic of an individual artistic approach to architecture, the very practice they were working to replace in the reprofessionalization project. William W. Caudill, a Texan architect and founding partner of the firm Caudill Rowlett Scott (CRS), was forthright on this issue: “I firmly believe that the greatest advancement in architecture will be made through research much more than through reading the Wright Bible or the Corbu Bible.”

**Basic Architectural Research**

The wartime Federal research policy was, by necessity, a top-down and centralized project in which the military set the priorities for new and continuing research projects. After the war ended, many Americans, Senator Harley Kilgore among them, felt that this centralized approach should be maintained. If the products of research were to benefit the nation at large, Kilgore argued, the patents that resulted from Federally funded projects should belong to the agency that funded them, and those agencies should also have the authority to direct future research for the benefit of the entire nation. Kilgore was opposed by a powerful lobby led by the scientist Vannevar Bush, which advocated a decentralized and autonomous policy. Bush’s postwar report, *Science the Endless Frontier*, outlined a system in which scientists (as experts in science) were given full responsibility to determine the scope of research projects and also retained the legal rights to their discoveries. This position, with its emphasis on basic as opposed to applied research, prevailed, becoming a powerful part of Federal research policy and setting priorities for many researchers. This political and economic climate was the first to shape the argument for architectural research. In this research economy, there were both theoretical and practical values in defining architectural research that could be categorized as basic research and that was distinct from housing research. Much of the postwar discourse on research in architecture pertains to this ideological and pragmatic problem, but reaching a definition that would be both broad and precise proved as difficult then as it is now.

In order to define architectural research as basic research, it was first necessary to distinguish it from technical and fact-finding inquiries. The

4. The Sky Lab and the Wind Lab at the TEES at the TAMU had an Architecture Division directed by Caudill in the 1950s. One of the projects undertaken in this division was a research studio in which the students tested their models of a classroom and documented the results of their “experiments.” (Source: McCutchan, Gordon, and William W. Caudill, *Research Report Number 32: An Experiment in Architectural Education through Research* [College Station, TX: TEES, The Texas A&M College System, 1951] Courtesy of Roland Chatham (photographer) and CRS Center, TAMU.)

**SKY LAB** SHOWN HERE IS A PHOTOGRAPH OF THE 10-FOOT LIGHTING HEMISPHERE. MODELS APPROXIMATELY 20 FEET WIDE CAN BE TESTED IN THIS DOME WITH THE TESTING RESULTS BEING VERY SIMILAR TO THE NATURAL LIGHTING EFFECTS OF A FULL-SCALE STRUCTURE.
distinction between the two types of research problems was reflected in research proposals. In 1946, Caudill (who taught and engaged in research at Texas A&M University [TAMU] in addition to his work in the firm CRS) submitted a proposal for a project, promising that the results would be “exemplified in the actual construction of a LOW COST RURAL SCHOOL as a practical application of the ideas and recommendations formulated through this proposed research project.”19 Eight years later, however, he described his work in much broader terms as a project to define the parameters of “man’s comfort,” to use his term.20 Caudill published the results of this work in the form of research reports under the auspices of the Texas Engineering Experiment Station (TEES) at TAMU,21 creating pioneer publications in the field of environmental studies in architecture (see Figures 4 and 5).

This is the context for Taylor’s preoccupation, in the first issue of the JAE, with the distinctions between “Free Fundamental,” “Objective Fundamental,” and “Applied Research.”22 In an attempt to create a unique position for architects, Taylor argued that architectural research is often of a composite nature: even though it included pragmatic solutions, it was “more” than merely applied research. Taylor also defined the architect as “a technologist who specializes in the human aspects of the problem,” and he added, “I believe that this is broad enough to include everything from aesthetics to air conditioning and city planning.”23 Taylor’s discussion of research was made available to a large audience when it was included in the 1954 report, The Architect at Mid-Century, written and edited by Bannister.24

In 1956, the E&R published its own report on architectural research and gave this definition:

Architectural Research encompasses areas of building research for which the architectural profession is best qualified to accept responsibility. Architectural Research deals primarily with problems of function and form in buildings and their surroundings. It thereby includes research in planning and research in aesthetics.25

As this example suggests, many definitions of architectural research remained tautological and contributed little to a better understanding of its nature. But by the 1950s, the idea of architectural research had gained enough support that a common

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5. The Sky Lab and the Wind Lab at the TEES at the TAMU had an Architecture Division directed by Caudill in the 1950s. One of the projects undertaken in this division was a research studio in which the students tested their models of a classroom and documented the results of their “experiments.” (Source: McCutchan, Gordon, and William W. Caudill. Research Report Number 32: An Experiment in Architectural Education through Research. [College Station, TX: TEES, The Texas A&M College System, 1951] Courtesy of Roland Chatham (photographer) and CRS Center, TAMU.)
definition of architectural research was not essential. Even without clear disciplinary boundaries (few disciplines are clearly defined after all), architects could draw on postwar resources to build a disciplinary apparatus—a set of institutions that could receive money, materials, and equipment and distribute them to individual researchers. Architects had a choice between setting up a professional organization and making use of existing institutions—the schools of architecture—and shaping them to suit their needs. In the postwar years, architects did both. A third route was to collaborate with other researchers especially city and regional planners, social scientists, and engineers—and partake in their disciplinary power. Architects followed this route as well, hiring social scientists in architectural firms and linking departments of architecture with planning and landscape architecture. In each of these routes, architectural research took on different, specific and practical, meanings.

**The Department of E&R at the AIA**

The AIA established the Department of E&R in 1946 as part of a larger reorganization of the Institute. Taylor, the appointed director, had (as we have seen) an ambitious vision for architectural research, and he was a staunch supporter of a research-based practice. His goal was to establish architects as the leaders of the factory-based building industry. In a memo written circa 1946, Taylor wrote optimistically: “It appears that many members of the profession and many interests outside of the profession look to The Institute, and particularly to the Department of E&R to create an active program of reporting, investigating and research.”

The AIA did provide some support for the Department’s initiatives, but Taylor and his colleagues relied on the building industry for major funding. They even lobbied the Producers Council (one of the representatives of industrialists) to pay the Director’s salary! More than this, Taylor and his colleagues saw their work as a service to society and argued that “because society as a whole will benefit through research for better shelter and environment, it should contribute major support through foundations, government agencies and elements of the building industry that are dependent upon the public for markets.”

Measured against these ambitious plans, the E&R achievements were very few, mainly due to a shortage of funds. In 1949, the Department set up an advisory service to act as a “listening post and reporting agency, clearing house and coordinating center, and the instigator of needed activities.”

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conducted under its auspices. Without such an endorsement from the AIA, corporate businesses in the building industry looked elsewhere for a safer return on their investment, either within their own research departments or in the academy. Moreover, the Advisory Service was rapidly dwarfed by the work of the Building Research Advisory Board, a private, nongovernmental, nonprofit organization under the auspices of the National Academy of Sciences. In 1954, Taylor and his staff conceded to this larger entity and discontinued their own service.

In its heyday, the Department of Educational and Research at the AIA worked to direct the research and development in this field. (Source: Harold E. Group, ed., *House-of-the-Month Book of Small Houses*. Garden City, NY: Garden City, 1946. p. 130.)

We believe that if the architects can in some way carry out a continuous research program within their own offices, if only on a very small scale, good advancement can be made. We also believe that if architects will exchange ideas, and will unselfishly work towards improving our architecture, the profession will be much better off.30

Caudill and his partners made serious efforts to incorporate research into the work of their own firm, CRS.31 Their scheme, in fact, bears a strong resemblance to Stephen Kieran’s description of a profession structured around a kernel of research.32 But, as Caudill complained, this project was supported, and therefore also controlled, by the design work done in the firm: “when we are busy we cannot spare the personnel; when we are not busy we cannot afford research.”33 Caudill’s comment also points to the
snag in the AIA program. Although cooperation and collaboration were seminal ideals in the profession projected to emerge from the reprofessionalization project, the existing profession was based on competition between private practitioners—and the AIA apparatus was not strong enough to overcome these internal differences. The AIA continued with its efforts to collect practical knowledge, but as early as 1973 the authors of the AIA Research Survey acknowledged that architects, both in schools and in firms, did not recognize the need to share information and that there was a gap between the two realms.34

The AIA project, based as it was on outside resources, was also thwarted by a circumstance beyond its control. The project relied on continued growth in the demand for factory-made homes—but by 1948, revised lending policies limited the buying power of many home consumers. Industrialists and builders were faced with an array of problems, in production and distribution and from local building codes and zoning laws, and they were unable to develop the industry to the level envisioned at the end of the war. Moreover, standardized housing was often rejected by members of the building trade unions and by banks which refused to finance experimental ideas. Prefabrication also became associated with impermanence, and as the success of Levittown, New Jersey, made clear, Americans wanted mass-produced houses that did not look as if they had been made in a factory. With the market uninterested in the E&R project and the AIA unable to provide full financial support, the goal of creating a central research agency within the profession was stalled and never realized in its entirety.

The School of Architecture at Berkeley

If the AIA favored a centralized policy that focused on applied research, the School of Architecture at Berkeley represents the opposite extreme. (The School later became the College, and it is now an academic Department.) Wurster, appointed dean of the school in 1950, was emphatic in his interpretation of research as a decentralized project. In 1959, for example, he wrote this in response to the proposal of establishing a position of Director of Architectural Research at the AIA:

I feel that the appointment of such a Director might well be contrary to the very idea of research and would do more harm than good. . . . The appointment of a Director would lead Foundations to believe that architects were primarily interested in the development work rather than basic research. A true research approach is based upon the freedom of dedicated individuals to pursue their particular research interests and not in a directed program.35

At Berkeley, Wurster and his colleagues were supported by a generous university policy and were free to devise a research program on the model outlined by Vannevar Bush. Postwar Berkeley was in many ways an ideal institution in which to experiment with such research projects and policies. The University of California, benefiting from the enrollment of numerous students funded by the GI Bill, had deep reserves that allowed for long-term planning.36 The Berkeley campus was also able to draw on considerable federal funding for research projects. Though the natural sciences, especially nuclear physics,
attracted most of the federal and military investment, the top administration at Berkeley, led first by President Sproul and later by President Kerr, made and adhered to a policy of sharing the money throughout the university to benefit the less lucrative departments. Both presidents also warmly backed the fundamental changes in the School of Architecture.

The first major change was to create the College of Environmental Design (CED), an umbrella institution that combined the School of Architecture with two planning and research departments: Landscape Architecture and City and Regional Planning. Wurster and Catherine Bauer, his wife and colleague at Berkeley, had begun advocating the combined school soon after they joined the faculty, but the CED came into being only in 1959. The proposed college, and even more so its name, had become the focus of protracted debate over modern architecture, design, planning, and the connection between them. The Planning and Landscape faculty feared that aligning with architecture, a design field, would undercut the special position of planning and would undermine the connection between the Department of Planning and the Social Sciences and between Landscape and Agriculture and Forestry. Wurster and others worked hard to convince the majority of the faculty to support the new institution and to bring architecture closer to these related research traditions, and they were ultimately successful (see Figures 8 and 9).

The second major change was the development of a comprehensive research policy. The departmental research committee, which was staffed in rotation so that almost all faculty members had a say, adapted the university research regulations to architecture to produce a sixty-page policy manual outlining how research was to be encouraged and supported. The committee recommended that faculty seek extramural funds, but it also worked to secure funding from the university, to provide incentives for researchers, to protect their freedom of choice of topics for research, and to support the collection of data (especially through collaborative projects) so as to avoid duplication. The emphasis on individual responsibility, however, precluded writing a concise definition of architectural research. Instead the policy includes several pages of discussion of what is and what is not included in “systematic and deliberate investigation seeking to add to the body of knowledge of architecture.”

Wurster and his colleagues also made the appointments needed to support the new research policy, particularly the position of Assistant Research Architect. Ezra Ehrenkrantz, the inaugural appointee, combined teaching and research with the administrative work of setting up the program. In 1960, the department research committee processed and approved eight research proposals that were then forwarded to the University Committee on Research. In the same year, Ehrenkrantz and others sought to expand the research program beyond the borders of the United States by preparing a program for research in India and applying for grant money from the Ford Foundation and the
Government of India. The faculty at Berkeley also initiated the first graduate program based on research rather than design. A 1956 draft proposal for the program was explicit: “The graduate program and the research activity will be very closely related although not synonymous. Graduate students and faculty in all options will be encouraged to participate in research connected with their main effort.”

The architectural research program at Berkeley in the 1960s, thriving in the climate of continued investment in research, contributed widely to the discussion of architecture. As an institution, it fared far better than its AIA counterpart, but this continuity came with a price. As the research program developed, so did a discipline of architecture that is separate from the profession. On the one hand, many sources of academic funding lie outside the purview of the profession, and on the other, the discipline is organized by the priorities of academic life at least as much as by professional requirements. This outside dependency has exacerbated the distinction between research and design as separate intellectual processes and contributes to the larger concern about the gap between the architecture schools and the profession. The original plan for the CED called for inter- and intraprofessional collaboration that would counterbalance such divisions, but as with the profession as a whole, such collaboration has proved to be easier to project than to accomplish.

The Architectural Research Laboratory at Michigan

The architectural research program at the University of Michigan, unlike the programs at the AIA and Berkeley, was rooted in prewar housing research undertaken in the department. Michigan began offering courses on housing during the Great Depression when it established the Home Planners Institutes to help Michigan citizens build affordable housing. During the war years, the school collaborated with the Engineering department to conduct two projects sponsored by the National Housing Agency and implemented through the Office of Production, Research and Development of the War Production Board. After the war ended, Dean Wells Bennet appointed C. Theodore Larson as a faculty member charged with overseeing and directing research initiatives in the department. At the same time, the architecture faculty updated the school’s bylaws to reflect the importance of research. In 1949, the department went further and established the Michigan Architectural Research Laboratory (ARL) so as to provide individual research projects with central organization including clerical and accounting services.

The ARL was one of the centers that attracted projects originating in the building industry. A notable example was the Unistrut School Construction research completed under Larson’s direction and initiated by Charles W. Attwood, an alumnus and the president of Unistrut Inc., a company specializing in building systems. Attwood asked Larson to research the application of the Unistrut modular housing system in the construction of school buildings, a market he (like Caudill) wanted to penetrate. Larson explained: “The object in research has been the development of a standardized system of low-cost schoolhouse construction offering a high degree of durability, flexibility, expansibility, demountability and reusability.” Thus, the project was in reality a hybrid between a design project and a more generalized research project, though it was completed on the university campus. The products of this project—construction drawing and specifications—were published as research, and the building itself


housed the Lab until it was dismantled in the 1970s when the School of Architecture moved to another campus (see Figures 11 and 12).

The Unistrut project, like other research undertaken at Michigan, exemplified work that benefited all the participants. Attwood received the information he needed to further his business, and the university acquired a building at base cost, while gaining practical experience for faculty members and students. Such projects allowed the school to sustain a vigorous and diverse research program, albeit often responding to needs outside the profession. Its diversity is evident in the 1957 research policy: “Architectural research can be defined as comprising all those studies that are aimed at discovering new factors that should be considered in the planning and design of buildings and communities.” In 1961, Dean Phillip Youtz concurred stating: “I don’t think that it is an either-or matter but rather a question of emphasis.” This diversity of goals as well as means is not a problem in itself, but it does raise questions about the scope and nature of architectural research, as compared, for example, with housing research.

In Retrospect
Each of the institutions discussed in this article—the Department of E&R at the AIA and the schools of architecture at the University of California and the University of Michigan—were headed by avid supporters of the idea of an architecture and architectural practice based on research. These academic leaders worked hard, along with their colleagues, to implement and institutionalize those ideas. As the case studies demonstrate, the meaning, nature, and scope of architectural research was shaped not only by the research policy adopted but also by the research economy of each of the institutions. In each case, the source of funding for research projects—with whatever “strings” were attached to it—together with the means chosen to disseminate research findings shaped a different conception of what architectural research should encompass and how it should be undertaken.

But what of the future? As the Architectural Design as Research, Scholarship, and Inquiry issue (JAE 61, no. 1) demonstrated, architectural research is today once more a topic of discussion and consideration. As such discussions become more elaborate and concrete, we need to remember the experience of the postwar research program. Most importantly, we must recognize and understand the research policy and economy in which we practice and include this understanding in our consideration of goals and objectives. A definition that does not take these realities into consideration will produce an “ideal” research program that is just that—ideal but unreal. This is a difficult problem, since an apparatus for architectural research must balance between centralized and decentralized models of research, between individual and group goals, and between competing policies, methods, and types of knowledge. A system that balances all these considerations is perhaps beyond our reach, but we should surely inquire into the nature of such a system and the implications of the inevitable trade-offs that reality requires. Such a collaborative system must depend on discourse. It is well, then, that the JAE has opened the door to a sustained discussion.

Notes
1. The issue was an extension of a Special Focus Session at the 2007 ACSA Conference. The issue was coedited and the session co moderated by JAE Executive Editor George Dodds and JAE Design Editor Jon Erdman.
19. Letter to Dr. A. A. Jakkula, Acting Head, Engineering Experiment Station, A&M College of Texas, from William W. Caudill Re: Request for Research Project dated 1946. Caudill Papers, CRS Archives, CRS Center, Texas A&M University, College Station, TX.
20. Letter to Mr. Bartlett Cocke, Secretary-Treasurer, Texas Board of Architectural Examiners, from William W. Caudill Re: Interpretation of Practical Experience dated September 27, 1952. Caudill Papers, CRS Archives, CRS Center, Texas A&M University, College Station, TX.
21. For example: William W. Caudill, Sherman E. Crites, and Elmer G. Smith, Some General Considerations in the Natural Ventilation of Buildings (College Station, TX: Texas Engineering Experiment Station, 1961), p. 1–43.
23. The Continuing Educational Process: Remarks at the Southeastern Regional Meeting of the Association of Collegiate Schools, Atlanta, Georgia, Saturday, April 24, 1948. The AIA Archives Box 478S, Washington, DC, p. 5.
30. Letter to Mr. Walter A. Taylor, Director, Department of Education and Research, AIA from William W. Caudill, p. 1.
33. CRS Memorandum to Tom Bullock and William Pena from William W. Caudill, dated October 9, 1959. The Plan of Research Program. Caudill Papers, CRS Archives, CRS Center, Texas A&M University, College Station, TX.
37. Only one architecture faculty member went on record with outright opposition, but many of the practicing architects in the Bay Area raised their voices. Minutes of Faculty Meeting 10 February 8:15 AM, Cork Room. Records of the College of Environmental Design, Dept. of Architecture Faculty Minutes 1957–1981 Collection, Environmental Design Archives, University of California, Berkeley, CA.
41. College of Architecture and Design Memorandum (The Research Laboratory). A. Alfred Taubman College of Architecture + Urban Planning (University of Michigan), Records 1878–1999, Bentley Historical Library, University of Michigan, Ann Arbor, MI.
42. The Architectural Research Laboratory and its Future Development. Ibid.
45. Report for October 1957. A. Alfred Taubman College of Architecture + Urban Planning (University of Michigan), Records 1878–1999, Bentley Historical Library, University of Michigan, Ann Arbor, MI.