

Making Prefabrication American

The Work of A. Lawrence Kocher

Anna Goodman
Portland State University

This article discusses the work of A. Lawrence Kocher in order to capture the relationship between the social and technical commitments of early twentieth-century architectural modernism in the United States. It analyzes Kocher's professional activity, scholarship, policy advocacy, design-build pedagogy, and editorship at *Architectural Record* (1927–1938). In these realms, Kocher helped introduce prefabrication and standardized detailing to the American architectural profession. He emphasized the accessibility of prefabrication in both historical research and cutting-edge material experimentation. In so doing, Kocher provided a version of modernism that appealed to an American audience. While his vision of design as a social good differed from that of his European social democratic contemporaries, it represents an important and too little studied conception of the potential of building technology to support democracy and the fair distribution of housing for all.

In a review of William Lescaze's 1942 book *On Being an Architect*, A. Lawrence Kocher reflected on his profession's efficacy in moments of crisis. "It is a curious inconsistency in modern life that the architect contributes so little to the devising of statutes or other instruments of action which would further the elimination of squalid slums in cities and within the shadow of factories."¹ In light of these concerns, which emerged in response to the deprivations brought about by the Great

Depression and World War II, Kocher committed himself to developing methods and material strategies that could address the nation's pressing housing problems. He embarked on what he would later call a "fact-finding investigation of the meaning of 'architecture' and 'the architect' with a view of discovering how architectural design may best be produced."² Ultimately, Kocher concluded that architects could best serve humankind by coordinating with industry and

by designing homes that everyday Americans could easily build and modify. Following this conclusion, he committed himself to promoting prefabrication in every realm of professional practice and culture.

Drawing from archival research, this essay analyzes three related aspects of Kocher's career. First, it describes his activity as a professional architect experimenting with prefabricated building technologies in the 1920s and 1930s. Second, it documents his promotion of prefabrication and modernist architecture as a scholar, editor of *Architectural Record* (1927–38) and policy advocate. Finally, it discusses Kocher's work as an educator at Carnegie Technical University (now Carnegie Mellon University) and at Black Mountain College, where he directed students in full-scale "design-build" projects using experimental prefabricated materials. Through his coordinated work in these three areas, Kocher argued that prefabrication was not only appropriate for the American context but was a necessary step if the profession hoped to address the nation's Depression-induced housing crisis.

After being neglected for many years, Kocher has recently begun to receive much deserved attention for his contribution to the American modernist movement.³ Kocher's story is significant because it adds to a body of literature that provides a more nuanced picture of how European modernism intersects with social and technical commitments already at work in the United States.⁴ Kocher produced his most influential and compelling work

during the Great Depression and the first years of World War II. These events shaped not only Kocher's career but also the fate of the American architectural profession. The prolonged lack of commissions that resulted from these two events pushed architects to explore new realms of possibility.⁵ As a social and political statement, Kocher's advocacy for prefabrication was less flashy and more pragmatic than the polemical positions of many well-known European modernists. Nonetheless, in all his work, he pursued a material architectural practice that he hoped would provide a better future for all Americans.

Practice: Building the Modern American House

A. Lawrence Kocher defined architecture as the appropriate and efficient assembly of available materials in order to meet the problems of a given historical and geographic situation. He wrote, "Every true and notable architecture has been first of all essentially of its time, making use of the materials available at the time, of methods of construction known at that time, designing forms with those materials, forms with elegance appropriate to the requirements of that time."⁶ This definition echoes Le Corbusier's demand for an architecture suited to the modern age.⁷ Yet, for Kocher, architects needed to look not just to the future, but also to the past in order to understand what was "appropriate."

Born in 1885 in San Jose, California, Kocher's family included artisans and architects going back several generations.⁸ He received a degree from Stanford University in history in 1909, after which he headed east to pursue a degree in architecture at the Massachusetts Institute of Technology. After graduation, Pennsylvania State College hired Kocher to organize a new focus in architectural design. While working at Penn State, he pursued independent research on eighteenth-century architecture



Figure 1. A. Lawrence Kocher and Gerhard Ziegler, Country House for Rex Stout, Fairfield Connecticut, 1930. (Courtesy of Special Collections, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation. Reproduced with permission.)

in Pennsylvania, for which he was ultimately awarded a master's degree. This research was published between 1920 and 1921 in a series of articles in *Architectural Record*.⁹ In 1923, Kocher wrote to Fiske Kimball, famed architectural historian at New York University (NYU), about the possibility of joining him for further study on the history of colonial architecture in Pennsylvania. Kimball encouraged Kocher's interests and invited him to NYU to pursue a doctorate in preservation. Kocher would eventually complete all the credits for the degree but forwent the dissertation in favor of a job as chair of the University of Virginia's School of

Architecture (a position he held for only one year, starting in 1926).¹⁰

In 1928, Kocher made what appears at first glance to be an abrupt change in his focus. He left historic building practices behind and devoted himself to "new construction methods and modern building materials, involving the adjustment of design to human requirements."¹¹ His first partnership in this effort was a collaboration from 1928 to 1930 with the German-born architect Gerhard Ziegler. Together the partners designed the Sunlight Towers, the only significant multifamily dwelling of Kocher's career. The tower design took advantage of the healthful effects of sunlight and passive ventilation.¹² Kocher and Ziegler followed this effort with a house designed for Rex Stout, the famous author of the Nero Wolfe mystery



Figure 2. A. Lawrence Kocher and Albert Frey, workmen install aluminum insulation in Ralph House, Stamford, Connecticut, 1932 (Courtesy of Special Collections, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation. Reproduced with permission.)



Figure 3. A. Lawrence Kocher and Albert Frey stand before two models of their Cotton House design on display, 1932. (Courtesy of the Special Collections, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation. Reproduced with permission.) The Philadelphia *Bulletin Index* would later describe the house thus: “There is a flat roof on the \$2,000 canvas Kocher house with which the Cotton Textile Institute hopes in one stroke to rehouse the lower classes and bring prosperity to the cotton South.” (*Pittsburgh’s Bulletin Index* 114, no. 2 [March 1939] : 8–9).

novels (Figure 1).¹³ Stout had been living in Europe and wanted a home in rural Connecticut in which to pursue his writing. As a prototypical do-it-yourself American, Stout hoped to oversee much of the construction himself.¹⁴ This was made possible by a novel system of progressive form of hollow-wall concrete. The 1930–31 Architectural Forum of New York described the house as “the first development of a contemporary domestic architecture in America, making use of indigenous materials and building processes designed to meet the needs of contemporary living.”¹⁵

In this house, Kocher first engaged in what would eventually become his lifelong project: technological experimentation in the service of efficient, simply-assembled housing.

After Ziegler returned to Europe, Kocher hired the young Swiss architect Albert Frey, who had worked in Le Corbusier’s office from 1928 to 1929. Kocher and Frey worked on a number of proposals for novel home designs including a “Low Cost Farm House” developed for President Herbert Hoover’s Conference on Home Building and Home Ownership (1931).¹⁶ They followed this speculative design with their first partnership with a manufacture: the Ralph House, of Stamford, Connecticut, the first American building to use aluminum foil as insulation (Figure 2).¹⁷ In another project sponsored by the Cotton Textile Institute, Kocher and Frey used stretched canvas as exterior sheathing material (Figure 3). The pair later repeated this strategy in the Week-end house, a minimal vacation home built for Kocher and his family on Long Island.¹⁸ They followed this with a small office and home complex built for Kocher’s brother, Dr. Jacob John Kocher, in Palm Springs (Figure 4).¹⁹ The complex’s clean lines, prefabricated block construction, and harmony with the desert landscape attracted considerable attention upon its publication

in *Record* in 1935. Walter Gropius himself wrote to Kocher congratulating him on the convincing and promising advancements apparent in the home’s construction.²⁰

Kocher and Frey’s most famous contribution was the “Aluminaire” House built for the Architecture and Allied Arts Exposition held by the Architectural League of New York at the Grand Central Palace in April 1931 (Figure 5). The house featured thin aluminum wall panels hung from a light aluminum frame that floated atop six Duralumin columns. Sponsored by a group of manufacturers, publicists advertised the house as the first all-metal residence. It received a large amount of both positive and negative attention in the popular press.²¹ Catherine Bauer concluded that the house was the sole exhibit to display any “curiosity what-so-ever about modern possibilities in a type of solution for small dwelling.”²² It would become one of only six American examples featured in Philip Johnson and Henry-Russell Hitchcock’s 1932 International Style Exhibit at the Museum of Modern Art in New York.²³

After Frey elected to pursue a career in Palm Springs, Kocher continued to independently design

Figure 4. A. Lawrence Kocher and Albert Frey, Palm Springs House, 1934–35. (Courtesy of Special Collections, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation. Reproduced with permission.)



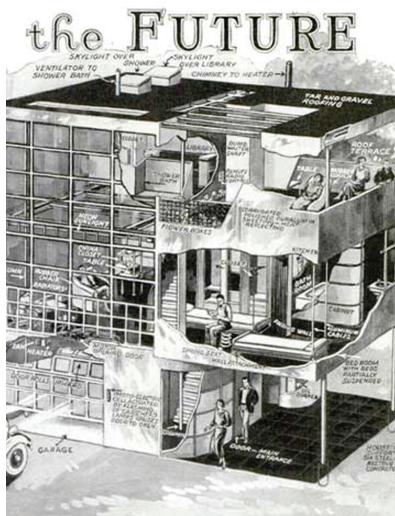


Figure 5. Aluminaire House diagram illustrating one invention thought to be capable of solving the problems of the Depression. (Logan U. Reaves [illustrator], "Cut-Away Representation of the Home of the Future," *Popular Mechanic Magazine* [September 1932], 277. Reproduced with permission.)

experimental housing with another full-size demonstration house in the "Town of Tomorrow" exhibit at the New York World's Fair of 1938–39 (Figure 6). The Plywood House was one of the first uses of plywood for domestic construction. It included novel applications in storage systems and furniture design. Lewis Mumford described it as "the best house on the lot ... done with a little of the real inventiveness that has been conspicuously lacking in house design, even among the advocates of prefabrication."²⁴ Though Mumford still felt Kocher's design lagged behind those of his European contemporaries, compared to the other houses featured in the show, the design was exceptional. In this series of experiments, Kocher systematically tested the limits of different building materials and simultaneously explored a model of practice in which architecture and industry worked in consortium. His focus on individual small house design, rather than collective housing, hints at a uniquely American interpretation of modernism that Kocher further articulated in other professional realms.



Figure 6. Publicity brochure accompanying the Plywood House built in the Town of Tomorrow, New York World's Fair, 1939. (Courtesy of Special Collections, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation. Reproduced with permission.)

Scholarship, Editing, and Advocacy: Making Prefabrication American

While the material experimentation described in the previous section comprises one component of Kocher's interest in prefabrication, he also concentrated on how those new technologies could change the way American homes were built and, consequently, who could build and own them. Kocher defined prefabrication as "any part or thing destined for erection elsewhere, which is completed, partially or wholly before leaving the factory."²⁵ He used historical research, editorials, and policy advocacy to argue that rather than being avant-garde, prefabrication was a commonsense solution, an outgrowth of existing building traditions and a means to address the housing shortages that followed the Great Depression.

In his advocacy for prefabrication in American architecture, Kocher felt that European modernism was not the only source from which to draw inspiration. For example, he wrote in an unpublished essay titled "Prefabrication by our Forefathers and Others,"

The claim of modernists as having devised "something new" in proposing the technique of prefabrication as a novel construction method with economy of design and savings "no end," because of mass production of the easily fitting parts, is being challenged.²⁶

In his mind, this challenge came from historical studies documenting prefabrication in sources ranging from the Bible to the notes of Leonardo da Vinci.²⁷ Kocher was specifically interested in traditions of prefabrication used by America's founders. For example, Kocher felt that early American settlers shared his own interest in demountable homes that could be erected by unskilled laborers. He referenced the inventor of one historic cottage who wrote, "whoever can use a common bed-wrench can put this cottage up; as none of the pieces are heavier than a man or boy could carry."²⁸ In Kocher's own work on prefabrication, he similarly emphasized the idea that a single person might use standardized material to erect a home. Kocher's hands-on view of prefabrication is well illustrated by a drawing he did titled "Prefabrication" and a photo he took of his student, Claude Stoller, constructing a house at Black Mountain College (Figure 7). Kocher believed that

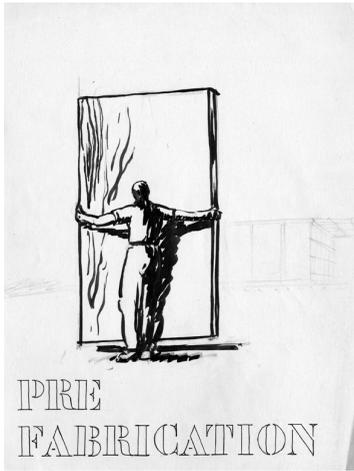


Figure 7. A. Lawrence Kocher, Sketch "Prefabrication," not dated; Claude Stoller holds a piece of plywood in front of the Jalowitz House, Black Mountain College, 1940. (Courtesy of Special Collections, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation. Reproduced with permission.)



its accessibility made prefab an appropriate reaction to both the constraints of colonial America and those characterizing the Great Depression. In both instances, self-reliance and ingenuity were both a necessity and the foundation for a democratic way of life.

Kocher was not alone in linking prefabrication to a history of building in the United States. As Walter Gropius, the founder of the Bauhaus school, argued in a letter to Kocher in 1934, the United States was the only country

able to realize that immense task, to erect machine-made dwellings in substantial fireproof construction—to find the toy-building-boxes of the children on a large scale . . . no other country seems prepared to accept houses from stock, as Sear's [*sic*] Roebuck and Montgomery Ward ran that job for a long time for wooden country houses.²⁹

Gropius and Kocher shared an interest in such historic examples because, in their minds, they prefigured the widespread success of prefabrication in the American context.

Beyond these historic references, Kocher took an active role in forwarding prefabrication and modernist design through his position as editor of *Architectural Record* from 1928 to 1938. Through *Record*, he introduced prefabrication and standardized detailing to both architects and the construction industry. In so doing, he helped articulate the importance of European modernists' work for an American audience.

Kocher, who had been a contributing editor to *Record* since 1926, was likely appointed editor as the result of his significant contribution to its pages in the preceding decade. In addition to the numerous articles on historic architecture in Pennsylvania, Kocher had also penned articles such as "The American Country House" and the "Library of an Architect" series (which will be discussed further below).³⁰

As managing editor of *Record*, Kocher was at the very heart of the burgeoning American modernist movement. As Albert Clauss, a German modernist trained in the office of Mies van der Rohe, would later put it, "It did not take me long to find the man around which the just beginning modern movement in architecture was circling: Lawrence Kocher, editor of *Architectural Record*."³¹ It was Kocher, he wrote, "who could give a helping hand by publishing one's

new work in his magazine, which was the first to show modern architecture."³² Yet Kocher did not simply feature modern designs in *Record*. Instead, he used his editorial role to argue why these designs and the technologies they utilized were an appropriate adaptation to changing times. These arguments, along with Kocher's gentle personality, helped the journal smoothly transition to a modernist and international focus.

Before Kocher's tenure, *Record* was a Beaux-Arts-focused journal that primarily featured contemporary American design along with some examples of historical structures.³³ Along with editor in chief Michael Mikkelsen, Kocher's first task was to update the magazine's layouts, shifting to a larger, more standardized format.³⁴ Beyond this graphic change, Kocher used the journal to make prefabrication and other new building technologies accessible to architects across the nation. He featured "Studies of Building Types" that included detailed and standardized architectural drawings that might be applied to readers' own design projects. For example, Kocher authored a 1933 spread in the journal that explained the application of manufactured wall systems through text and diagrams (Figure 8).³⁵ While framed in a noncontroversial tone, this shift was radical. If architects could design standardized buildings for unskilled laborers to build, then the architect could break from service to the wealthy and address the needs of everyday Americans.

Kocher and Mikkelsen introduced modern design to the journal in a series of editorials unfolding between January 1928 and November 1929.³⁶ Hyungmin Pai has called this series of essays "undoubtedly seminal texts of American modern architecture" because of the way they fundamentally changed the discourse around the meaning and purpose of architecture in the United States.³⁷ The editorials described how the editors saw the journal's evolution:

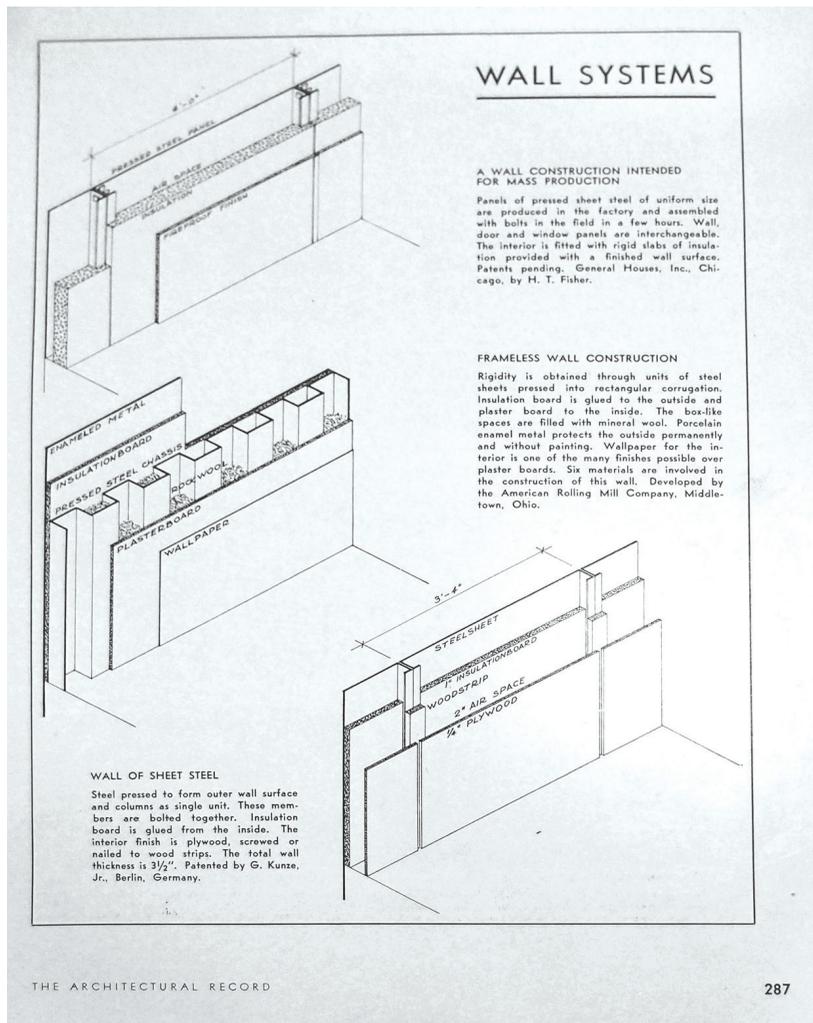


Figure 8. A. Lawrence Kocher, "Wall Systems." (*Architectural Record* [April 1933], 287. Reproduced with permission.)

pressures facing the architectural profession. This presentation—less revolution than evolution—successfully primed *Record's* audience for what would be a remarkable and swift shift in emphasis.

While at *Record*, Kocher first began a correspondence with Walter Gropius. Kocher's agenda in this exchange was to bring Gropius to the United States in order to revitalize the American architecture scene. Gropius was open to this possibility as he found working in Germany increasingly difficult as the Nazi regime had already begun to eliminate all political opposition.⁴⁰ Kocher hoped to convince Gropius to lead a group of committed modernist architects in the United States in forming a new school committed to "new thought in planning, materials, construction and color."⁴¹ He offered Gropius his support in securing a position at Columbia University, where Joseph Hudnut was currently dean and arranged for exhibitions of Gropius's work in New York and other cities. Ultimately, Gropius would find a home at Harvard when Hudnut took over the Graduate School of Design. As Margaret Kentgens-Craig put it in her authoritative text, *The Bauhaus and America: First Contacts, 1919–1936*, "Even if no other contacts established by the Bauhaus' founder had led to immediate results, Lawrence Kocher ... was able to establish good relations with the various universities and to create opportunities for the dissemination of Bauhaus architecture."⁴² Gropius and Kocher agreed on the need for architects to partner with industry, and their combined advocacy on this point changed both the American architectural profession and its dominant institutions.

Finally, beyond his personal commitments or editorial contributions, Kocher also played a role in introducing prefabrication into housing policy at the federal

Possibly the impulse originated by Sullivan, developed by Frank Lloyd Wright and amplified abroad will bring repercussions from Europe. No doubt standardized shapes and machine-made surfaces will find their logical place in design. That there will be movement, enterprise, new feeling is clear from the evidence we—more particularly, my colleague A. Lawrence Kocher—have taken pains to bring together in the present number.³⁸

In another piece in November 1929, Kocher and Mikklesen laid out a new, but still eclectic, agenda for the journal and the profession it sought to influence:

Not a partisan of any single school of experimenters, *Record* nevertheless assumes that the keynote of modern design is to be found in all those experiments which frankly employ the artistic qualities inherent in machine-made units, and achieve their effect through an economy of line, form and color. An interest in modern design thus soundly based is not incompatible with continued respect for principles of composition established and embodied in the past.³⁹

Thus, Kocher and his team positioned modernism in the United States not only as a continuation of an *American* tradition of building, but also as an essential adaptation to the

level. In 1933, he was asked by President Herbert Hoover's office to participate in the first national Conference on Home Building and Home Ownership. This conference gathered experts in different fields to discuss the housing crisis facing many Americans as a result of the prolonged economic downturn. Kocher was also a featured speaker at the First National Housing Meeting (1933), where he advocated for lightweight roof and floor construction and discussed the possibilities of structural mechanical cores.⁴³ Hoover later thanked Kocher for "the most helpful support, which you have given all these years to the transcendent problem of better homes and housing."⁴⁴ Thus, while far less well known than the European modernists on whose behalf he advocated, Kocher played just as important a role in disseminating new building technologies into America's professional, commercial, and governmental circles.

Pedagogy: An Architect Is Made by Building

In addition to his professional practice, editorial work, and advocacy, Kocher's concern for "the meaning of 'architecture' and 'the architect'" also involved him in architectural education. Over the course of his career, Kocher taught at Pennsylvania State University, the New School of Social Research, University of Virginia, Carnegie Technical University (now Carnegie Mellon University), Black Mountain College, and the College of William and Mary. Through these institutions, Kocher promoted a studio environment that focused on hands-on over book learning and experimentation over copying of historic models. Both of these agendas grew from his commitment to adapting the profession to the challenges and opportunities of the Depression era.

In his 1936 introduction to Albert Farwell Bemis's *The Evolving House: Rational Design*, Kocher wrote,

It is probable that schools of architecture have limited the scope of their training too closely. It is essential that teachers of architecture should inform themselves in the science of planning for needs and in technical developments. The architectural schools should, by their instruction, interpret and translate the results of research in terms of applied design. Our present age is one of transition and requires guidance.⁴⁵

Faced with social, economic, and technological changes, Kocher found the "solutions" offered by his own Beaux-Arts education at MIT to be inadequate.⁴⁶ With this critique in mind, he began the pursuit of an alternative model for American architectural education.

In 1921, while at Penn State, Kocher began a letter-writing campaign in which he asked the nation's leading architects as well as a handful of architectural critics and artistic thinkers to recommend reading for young architects. While some respondents included extensive reading lists, many argued instead for either more individuality in architectural education or for architects to learn from travel, sketching, or building rather than from reference to historical precedent.⁴⁷ Kocher's favorite of these was a note from the author George Bernard Shaw. Shaw responded with the following handwritten lines:

I should say that architects are made by building, not by books. An architect may read Vitruvius, Piranesi, Adam, Ruskin and Morris to add culture to his professionalism; but a comparison of 12th century architecture with 16th century, or Greek with Latin, will suggest strongly that the more an architect knows academically the worse he builds. Reading, picture gazing, and globe trotting all tend to shift an architect's eyes to the back of his head. In England, we have so many eminent 14th century faker-experts that the 19th century never had a dog's chance architecturally.⁴⁸

Kocher's regard for the idea that "architects are made by building," does much to explain the experimental pedagogies he later developed.

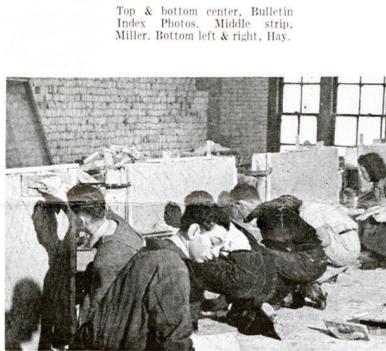
An exchange with Walter Gropius helped Kocher combine his interest in learning by building with his commitment to technological innovations through partnerships with industry. In a letter to Kocher in 1934, Gropius wrote, "I believe [*sic*] that it is absolutely necessary for modern architectural school to work together with the industrial people, to give them new suggestions and stimulations." It was imperative, Gropius felt, to "start workshops as laboratories which are paid directly by the industry, filled with the best skilled workmen, but headed by independent architects gifted both for design and for technik."⁴⁹ These industry-funded laboratories, he argued, would work hand in hand with the teaching of modern architecture.

Kocher found the opportunity to test this idea when he returned to teaching in 1938 after a decade of housing experiments and editorial responsibilities. That year, he accepted a position at Carnegie Technical University in Pittsburgh, Pennsylvania, upon the invitation of the school's chair, William Frank Hitchens. Hitchens had searched the nation for an appropriate expert to help reorient the school's curriculum, "putting new emphasis on American architecture's Depression child—housing."⁵⁰ With this pressing social context as motivation, Kocher was able to simultaneously continue his material experiments and pursue a new model of architectural education.

At Carnegie Tech, Kocher directed students in the design and physical construction of an experimental low-cost house (Figures 9 and 10). He may have gleaned this idea from his visits with Frank Lloyd Wright at Taliesin in the late 1920s.⁵¹ The novel curriculum garnered a modest amount of attention after Kocher penned an article describing his techniques for



STUDENTS at Tech get plenty of practice along with their theory. To give architects the feel of materials, a muscular knowledge of how they are put together, students are learning to mortar bricks, lay them into a brick wall.



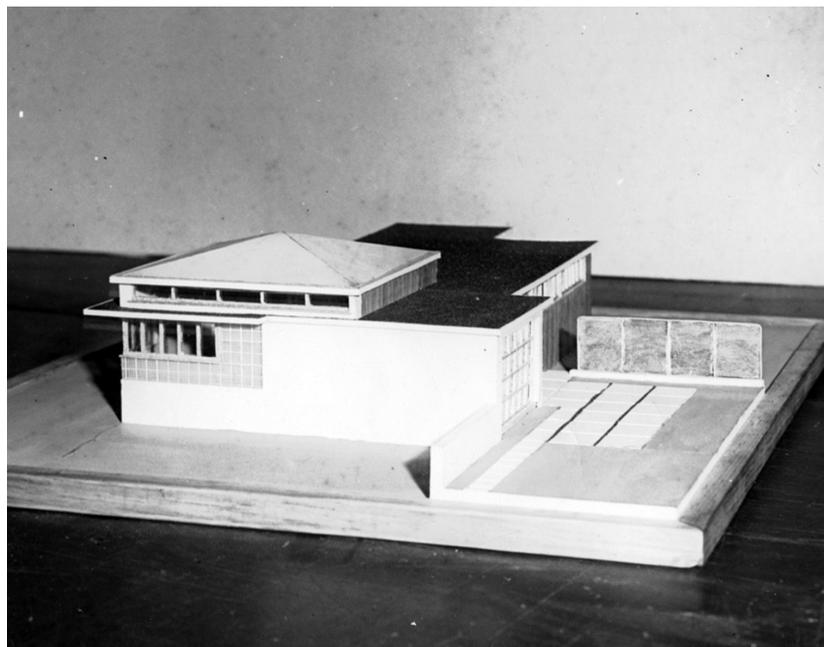
HERE Carnegie Tech students are learning to use plaster, one more of the hundreds of possible materials with which an architect can create. Architectural students this year are building a residential garden as a class project.



STUDENTS here learn to work with wood. Tech's faculty is distinguished in 1938-39 because Lawrence Kocher, former editor of *Architectural Record*, is a famed authority on small houses and their materials.

Figure 9. Above: Students in Kocher's studios at Carnegie Tech experimented with construction materials and built a small home as part of their architectural curriculum. (*Pittsburgh's Bulletin Index* 114, no. 2 [March 1939]: 8. Courtesy of Pittsburgh Photographic Library, Carnegie Library of Pittsburgh. Reproduced with permission.)

Figure 10. Right: Model of the "Low-cost Experimental House" designed and constructed with Carnegie Tech students at Forbes and Morewood Streets, just off Carnegie Tech's Pittsburgh Campus. (Courtesy of Special Collections, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation. Reproduced with permission.)



the *New York Times* in May 1939. In it, he wrote, "putting the architect in overalls' has aroused great enthusiasm instead of anticipated resistance. It has given students the realization of the true nature of building and has driven home the varied qualities of materials." In turn, this training, Kocher argued, directed students toward "self-realization" and helped "prepare the student realistically for the practice of architecture in a changed building market."⁵² As such, the dual purpose of the hands-on program was to erase the rigid constraints of Beaux-Arts pedagogy and to allow young designers a path forward in the midst of a prologue economic depression.

The following fall, Kocher was invited to teach at Black Mountain College in Black Mountain, North Carolina. Black Mountain was an experimental liberal arts school inspired by the pragmatist educational philosophy of John Dewey. It later became famous for

its arts curriculum, led by Bauhaus designer Josef Albers from 1933 to 1949. Kocher had been in correspondence with the school's rector, Theodore Dreier, since 1937, when Dreier asked Kocher's advice on the possibility of staging a competition to choose an architect for the school's new campus.⁵³ Kocher encouraged Dreier to avoid a competition and to instead hire a team of Bauhaus designers including Gropius, Xanti Schawinsky, Josef Albers, and Marcel Breuer.⁵⁴

Gropius and Breuer did eventually design buildings for Black Mountain, but they ultimately

proved too expensive. In June 1940, Dreier again wrote to Kocher, this time revealing the college's plan to abandon the Gropius-Breuer scheme and to construct a new campus with student and faculty labor. The college was being evicted from its current campus and needed an immediate and inexpensive solution to avoid closing altogether.⁵⁵ Kocher suggested that, based on his experience building with students at Carnegie Tech, the school might use his novel plywood construction system, which was "economical to build and suited to ordinary labor."⁵⁶ The following month, Dreier invited

Figure 11. *Top:* The Studies Building of Black Mountain College under construction, 1939–40. (Courtesy of the Western Regional Archives, State Archives of North Carolina. Reproduced with permission.)

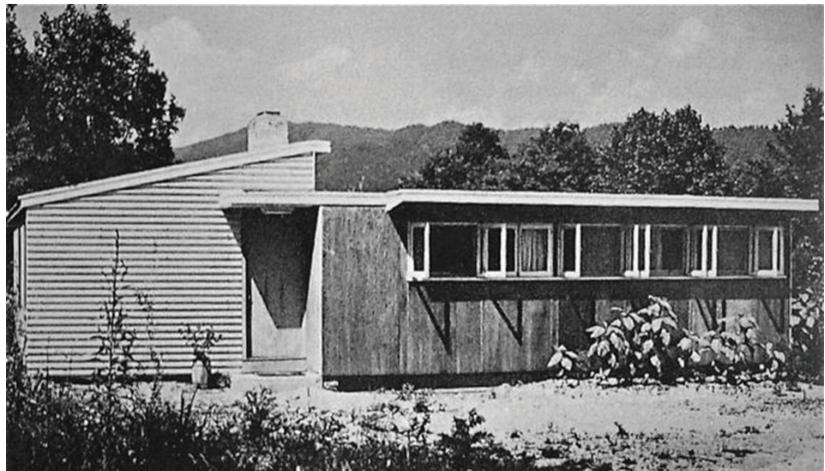
Figure 12. *Middle:* A. Lawrence Kocher, Jalowetz House, 1929–40, an experimental low-cost housing prototype built by Claude Stoller and other Black Mountain College students (*Architectural Forum* 81 [1944]: 108–109. Reproduced with permission.)

Figure 13. *Bottom:* A. Lawrence Kocher, Service Building at Black Mountain College, a building for the college's "colored" help that was constructed by Robert Bliss and students of the 1940 Summer work camp. (Courtesy of the Western Regional Archives, State Archives of North Carolina. Reproduced with permission.)

Kocher to design a series of buildings that could be constructed by Black Mountain students and staff.⁵⁷

Kocher produced plans for the new campus with remarkable rapidity, and the college began construction that fall. The first building provided space for student studies and workshops. The Studies Building (Figure 11), as it was called, features many modernist references, including ribbon windows and aluminum *pilotis* (similar to those of the Aluminaire House and Cotton Houses). It also continued Kocher's experimentation with plywood and a prefabricated corrugated asbestos paneling called transept. Lawrence Wodehouse has theorized that Kocher based the design on a series of dormitories constructed by William Lescaze in Devonshire, England, in 1933.⁵⁸ Moving beyond this precedent, the building incorporated traditional building techniques, including fieldstone found on the property.

Before construction was under way, Dreier and the rest of the faculty senate invited Kocher to join the faculty as a visiting professor who might craft an architecture curriculum that would include, in part, the school's new hands-on building program. Kocher accepted the position for the 1940–41 school year and ultimately stayed on until 1943. His salary for the first two years was paid by a Carnegie Corporation Artist in Residency grant, awarded for the continuation of the research he had been conducting with



Carnegie Tech students on low-cost housing and building technologies. In addition to standard design coursework such as classes in contemporary architecture, design, mechanics, and structures, Kocher directed students in “fieldwork” exercises in which they took significant roles in the construction of full-scale buildings.⁵⁹

Kocher built several substantial structures with his students at Black Mountain. These included the Jalowetz House (Figure 12), a prototypical low-cost plywood house, and the Service Building (Figure 13), a dormitory for the school’s African-American service workers.

Though Kocher was only at Black Mountain for three years, he was the school’s only long-term architectural faculty member. His influence on the college’s building program was paramount, as was his impact on several of his most devoted students. One student, Claude Stoller, later became chair of the Architecture Department at the University of California, Berkeley, and founded one of the nation’s first community design centers in 1965. Robert Bliss, another of Kocher’s Black Mountain students, went on to chair the University of Utah’s Department of Architecture and had his own hands-on design center called ASSIST.⁶⁰

The idea of architecture students building with experimental materials as part of their coursework might seem unremarkable today as “design-build” pedagogy has become commonplace. In Kocher’s time, the idea was revolutionary. It was born out of both the pressures and priorities of the Great Depression and his desire to teach the next generation of designers how to translate material research into solutions to real-world problems.

Whatever Happened to Kocher and America’s “Housing Problem”?

After leaving Black Mountain in 1943, Kocher briefly attempted to revive his professional practice in New York. By this time, the material and manpower requirements of

World War II had put a stop to most domestic building. Under financial pressure, Kocher returned to his training in historic preservation and accepted a position as editor of architectural records for Colonial Williamsburg in Williamsburg, Virginia. Thomas Thorne, chair of the Fine Arts Department at William and Mary College, appointed Kocher as a lecturer in architectural history.⁶¹ For the remainder of his life, Kocher led a quiet life at Williamsburg ensconced in the meticulously “restored” pre-Revolutionary capital. While this seems an about-face, it makes sense in many ways for a man who believed that “every true and notable architecture has been first of all essentially of its time.”

Yet despite his shift in professional focus, in 1950 Kocher was still working to forward his lifelong goal of establishing a school of design that could better align the profession with both industry and contemporary social issues. That year, he wrote to his old friend Joseph Hudnut, then dean of Harvard’s Graduate School of Design, about a proposal for the founding of an “Architectural Center” to organize research, education, and community engagement around contemporary housing issues.⁶² Overall, Hudnut found Kocher’s proposal admirable, but he offered the following cautions:

I believe that we ought to avoid the words “housing research” and indeed we ought to avoid the word “housing.” These are first of all, somewhat narrow in their implications and in the second place, they arouse a whole hornets’ nest of prejudices from conservative people. I think that we should hit upon a less provocative and a broader phraseology. Architecture seems to me a good word, and I should think that a school of architecture especially devoted to the study of residential problems would be most likely to attract support. Even the word “problem” has a socialist tinge, hasn’t it?⁶³

In the emerging Cold War world, the word “housing” and the very suggestion of a “problem” within the postwar building boom warranted censure. I like to imagine that Kocher was shocked to hear the suggestion that “architecture” might be conceived of outside a concern for housing problems. If Kocher’s goal in the 1930s was to launch a “fact-finding investigation of the meaning of ‘architecture’ and ‘the architect’ with a view of discovering how architectural design may best be produced,” the 1950s saw the dawn of an architectural elite concerned more with the platonic image of modernism than with its practice.⁶⁴

Through his professional work, in his research and advocacy, and as editor of *Architectural Record*, A. Lawrence Kocher argued that prefabrication was an appropriate and necessary response to the United States’ social and economic challenges. In so doing, he connected architects to the construction process by emphasizing the accessibility and appropriateness of prefabricated materials. In architectural education, these interests translated into a pedagogical model with many parallels to today’s design-build pedagogy. Ultimately, Kocher’s vision of design as a social good differed from that of his European social democratic contemporaries. It nonetheless represents an important and too little studied conception of the potential of building technology to support democracy and the fair distribution of housing for all.

Acknowledgments

I would like to express my gratitude to the Draper Architectural History Research Fund of the University of California, Berkeley for support in researching this article. Thanks are also due to Yael Allweil and Rachel Kallus for encouragement and feedback on an earlier draft.

Author Biography

Anna Goodman is an Assistant Professor of Practice at Portland State University. Her work focuses

on the politics of architectural practice and the role of making and craft in defining the boundaries of professional identity. Her most recent project focuses on the concept of the “citizen architect” and explores how American architectural educators have used humanitarian design-build practices to adapt the profession to changing governmental landscapes. She holds a doctorate in architecture from the University of California, Berkeley. Her research has been supported by the Graham Foundation for Advanced Studies in the Fine Arts and the Charlotte W. Newcombe Foundation.

Notes

- 1 A. Lawrence Kocher, “Review of *On Being an Architect* by William Lescaze,” *New Republic*, August 24, 1942, 237–38.
- 2 Kocher, quoted in “Memorandum: For Dr. Walter Gropius,” ca. December 24, 1937, box 1, folder: Gropius, Walter Correspondence 1934–1939; Kocher to Madame de Mandrot, December 22, 1937, box 1, folder: Mandrot, Helene De; Gropius to Kocher, December 31, 1937, box 1, folder: Gropius, Walter Correspondence 1934–1939, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 3 For example, Suzanne Stephens, “Lawrence Kocher, Renaissance Man,” *Architectural Record*, <http://www.architecturalrecord.com/articles/11585-lawrence-kocher-renaissance-man> (accessed April 1, 2016); the recent chapter by Ruth Ericsson, “A. Lawrence Kocher,” in *Leap Before You Look: Black Mountain College, 1933–1957*, ed. Helen Molesworth and Ruth Erickson (New Haven, CT: Yale University Press, 2015), 142–45; and the excellent work of Mary Emma Harris of the Black Mountain College Project: <http://www.blackmountaincollegeproject.org/Biographies/KOCHER%20LAWRENCE/KOCHER%20LAWRENCE%20BIO.htm>.
- 4 Examples include Margret Kentgens-Craig, *The Bauhaus and America: First Contacts, 1919–1936* (Cambridge, MA: MIT Press, 2001); Hyungmin Pai, *The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America* (Cambridge, MA: MIT Press, 2002); Eva Diaz, *Experimenters: Chance and Design at Black Mountain College* (Chicago: University of Chicago Press, 2015).
- 5 R. H. Shreve, president of the American Institute of Architects, reported in 1942 that architects had lost up to 90 percent of their commissions because of the international depression. Shreve, “The Outlook of the Profession,” *Octagon* 14 (January 1942): 3–4, referenced in Andrew Michael Shanken, *194X: Architecture, Planning, and Consumer Culture on the American Home Front, Architecture, Landscape, and American Culture Series* (Minneapolis: University of Minnesota Press, 2009), 3–5.
- 6 Kocher, “Review of *On Being an Architect*” (note 1).
- 7 Le Corbusier, *Towards a New Architecture* (New York: Praeger, 1970).
- 8 John Flood Morton, “A. Lawrence Kocher, Pioneer Architect” (thesis, College of William and Mary, Department of Fine Arts, 1958), 1–2.
- 9 A. Lawrence Kocher, “Early Architecture of Pennsylvania,” *Architectural Record* 48 (1920): 513–30; 49 (1921): 31–47, 134–55, 233–48, 311–30, 409–22, 519–35; 50 (1921): 27–43, 147–57, 215–26, 398–406; 51 (1922): 507–20.
- 10 Lawrence Wodehouse, “Kocher at Black Mountain,” *Journal of the Society of Architectural Historians* 41, no. 4 (December 1982): 328, footnote 3.
- 11 He saw fit to draw this distinction himself on his CV. Resume included in booklet prepared by in nomination of A. Lawrence Kocher for Herbert Hoover Medal, 1963, box: Kocher-Marks, folder: Files about Individuals, Kocher, A. Lawrence, p. 1, Black Mountain College Research Project, 1933–1973, II. Research Files, Files about Individuals, Western Regional Archives, Asheville, NC.
- 12 A. L. Kocher and Gerhard Ziegler, “Sunlight Towers,” *Architectural Record* 65 (1929): 307–10.
- 13 A. Lawrence Kocher and Gerhard Ziegler, “House of Rex Stout near Danbury, Connecticut,” *House and Garden* 64 (1933): 42–43.
- 14 John J. McAleer, *Rex Stout: A Biography*, 1st ed. (Boston: Little, Brown, 1977), 220–22.
- 15 Resume included in booklet prepared by in nomination of A. Lawrence Kocher for Herbert Hoover Medal, 1963 (note 11).
- 16 A. Lawrence Kocher and Albert Frey, “Low-Cost Farmhouse,” *Architectural Record* 75 (January 1934): 30.
- 17 Joseph Rosa, *Albert Frey, Architect* (New York: Princeton Architectural Press, 1999), 35–36.
- 18 A. Lawrence Kocher, “The New House for Family Living: Architect’s Own House, New York,” *Architectural Record* 119 (May 1956): 86–102.
- 19 The project was included in an exhibition entitled *Modern Architecture in California* at the Museum of Modern Art, October 2–24, 1935.
- 20 Walter Gropius to Lawrence Kocher, October 22, 1935, folder: Gropius, Walter, 1934–39, box 1, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 21 For example, Hi Phillips, “All Metal House,” *The Sun Dial*, *New York Sun*, April 23, 1931, posed the following lyric about the house design: “The all-metal house may be clever / But let me remark, it will never / evoke in my bean / said the subtle sardine / The slightest regard whatsoever!” In other venues it was deemed the “zipper house” and the “magic house” in reference to the rapidness of its construction. See articles within Box 4, folder: Aluminaire House—List of Materials, Description, Handwritten Notes, Typed Transcripts of News & Periodical Articles, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 22 Catherine K. Bauer, “Who Cares about Architecture?” *New Republic* 66 (May 6, 1931): 327.
- 23 Henry-Russell Hitchcock and Philip Johnson, *Modern Architecture: International Exhibition*, Museum of Modern Art, New York, 1932; John E. Burchard and Albert Bush-Brown, *The Architecture of America: A Social and Cultural History* (Boston: Little, Brown, 1966), 260; Wodehouse, “Kocher at Black Mountain” (note 10), 329.
- 24 Lewis Mumford, “The Skyline in Flushing,” *New Yorker*, July 29, 1939, 41.
- 25 A. Lawrence Kocher, unpublished manuscript, not dated, “Prefabrication by Our Forefathers and Others,” box 8, folder: Architecture—Pre-fabrication, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 26 Ibid.
- 27 He quoted a description of Solomon’s building of the Temple from 1 Kings 6:7: “And the house, when it was in building, was built of stone and made ready before it was brought thither, so that there was neither hammer nor ax nor any tool of iron heard in the house, while it was in building.” Quoted in Kocher, “Prefabrication by Our Forefathers and Others” (note 25), 2.
- 28 O. Biddle, *The Young Carpenter’s Assistant*, ed. John Haviland (Philadelphia, 1838), 45. Quoted in Kocher, “Prefabrication by Our Forefathers and Others” (note 25), 2.
- 29 Walter Gropius to Kocher, July 7, 1934, box 1, folder: Gropius, Walter Correspondence 1934–1939, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 30 A. Lawrence Kocher, “The Library of the Architect,” *Architectural Record* 56 (July 1924): 123–28; September 1924, 218–24; October 1924, 316–20; November 1924, 517–20; 57 (January 1925): 29–32, and continued in the following issues; and A. Lawrence Kocher, “The American Country House,” *Architectural Record* 59 (1925): 400–521, and 60 (1926): 385–502.
- 31 Alfred Clauss to John Flood Morton, May 2, 1956, cited in John Flood Morton, “A. Lawrence Kocher” (note 8), 10.
- 32 Ibid., 5.
- 33 Pai, *The Portfolio and the Diagram* (note 4), 148.
- 34 Kentgens-Craig, *The Bauhaus and America* (note 4), 27–28.
- 35 Kocher to Henry Chang, April 21, 1964, box 1, folder: Correspondence: Chang, Henry, p. 1, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 36 In accepting a standardized page size, they wrote, “Our problem was in a modest way similar to that of the architect who undertakes to design specific character and distinction in a building which is really an assemblage of standardized materials and fixtures. It may as well be—has indeed been argued—that the proper aim of the movement towards modern expression in architecture is to invest buildings assembled from trade catalogues with a feeling of coherence, individuality and collectivity. ... There will probably be something about ferro-concrete, about architectural polychromy, about more effective direction and use of the allied arts and crafts.” Michael A. Mikkelsen, “A Word about the New Format,” *Architectural*

- Record 65 (January 1928): 1.
- 37 Pai, *The Portfolio and the Diagram* (note 4), 150.
- 38 Mikkelsen, "A Word" (note 36), 1.
- 39 Michael A. Mikkelsen, "Expansion of Architectural Record for 1930," *Architectural Record* 66 (November 1929): 502. It should be noted that although Mikkelsen is listed as author of this essay, Hyungmin Pai has concluded that Kocher was in fact at least co-author of most if not all of the editorials published in this early series. Pai, *The Portfolio and the Diagram* (note 4), 339.
- 40 He wrote, in still developing English: "The circumstances for new architecture here are really not very advantageous and knowing all about the new building movement since more than twenty years I would incline to come over, trying to start an own atelier; but from economical point of view I could do that only after having a vocation for teaching, because I believe that one needs at least one year to get acquainted with the different professional conditions of the U.S.A. before starting a building job in a responsible manner. nevertheless [*sic*] I will think about that very attractive idea of yours." Gropius to Kocher, March 25, 1934, box 1, folder: Gropius, Walter Correspondence 1934-1939, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 41 Kocher to Walter Gropius, May 29, 1934, box 1, folder: Gropius, Walter Correspondence 1934-1939, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 42 Kentgens-Craig, *The Bauhaus and America* (note 4), 200.
- 43 Pamphlets, "Lightweight Roof and Floor Construction" and "New Materials and Construction Methods in Low Cost Housing," folder: Literary Materials—Articles: Proceedings of the National Conference on Low-Cost Housing (1933), box 2, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 44 Herbert Hoover (President of the United States) to Kocher, March 23, 1933, box 1, folder: Correspondence Hoover, Herbert, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 45 A. Lawrence Kocher, "Prefabrication and Architecture: An Introduction," in *The Evolving House: Rational Design*, vol. 3, ed. Albert Farwell Bemis (Cambridge, MA: Technology Press, MIT, 1936), xxxv.
- 46 "It became increasingly a conviction of mine from around 1927 onward, that architecture in the U.S.A. had become a decided expression of formula and use made of the cliché. What I had been taught at my alma mater, in the way of 'solutions' were rules to be strictly followed." Kocher to Henry Chang, April 21, 1964 (note 35), p. 2.
- 47 This correspondence resulted in "The Library of an Architect" series. A. Lawrence Kocher Collection, 1921-1973, box 2 MS 86.12, folder: Books for Architects Series, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 48 George Bernard Shaw to Kocher, March 12, 1923, box 2 MS 86.12, folder: Books for Architect—Shaw, George Bernard 1 letter (1923), A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 49 Walter Gropius to Kocher, July 7, 1934 (note 29).
- 50 "Carnegie Architects Do Their Home Work," *Pittsburgh's Bulletin Index* 114 (March 2, 1939): 8.
- 51 Kocher talks about these visits in Kocher to Henry Chang, April 21, 1964 (note 35), pp. 1-2.
- 52 A. Lawrence Kocher, "New Type of Study Faces Architects," *New York Times*, May 7, 1939. A. Lawrence Kocher Collection, box 2 MS 86.12, folder: Clippings—Exhibits, Talks, Activities—1930; 1933-35; 1937; 1939, A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 53 "For some reason, I have a feeling of horror in contemplating the results of a competition." Kocher to Dreier, July 9, 1937, folder: Gen. Corrs., Kocher, A. Lawrence, Kocher/Dreier Correspondence, Subseries 6: Theodore Dreier Black Mountain College Correspondence, 1933-49, and Undated, PC1956.51, Private Collection Theodore and Barbara Dreier, Black Mountain College Collection, Western Regional Archives, Asheville, NC.
- 54 Kocher to Dreier (written on *Architectural Record* letterhead and signed "Editor"), September 24, 1937, folder: Gen. Corrs., Kocher, A. Lawrence, Kocher/Dreier Correspondence, Subseries 6: Theodore Dreier Black Mountain College Correspondence, 1933-49, and Undated, PC1956.51, Private Collection Theodore and Barbara Dreier, Black Mountain College Collection, Western Regional Archives, Asheville, NC.
- 55 Mary Emma Harris, *Arts at Black Mountain College* (Cambridge, MA: MIT Press, 2002), 60-64.
- 56 Dreier to Kocher (who is living in Forest Hills, NY), June 8, 1940, folder: Gen. Corrs., Kocher, A. Lawrence, Kocher/Dreier Correspondence, Subseries 6: Theodore Dreier Black Mountain College Correspondence, 1933-49, and Undated, PC1956.51, Private Collection Theodore and Barbara Dreier, Black Mountain College Collection, Western Regional Archives, Asheville, NC.
- 57 Dreier to Kocher, June 21, 1940, folder: Gen. Corrs., Kocher, A. Lawrence, Kocher/Dreier Correspondence, Subseries 6: Theodore Dreier Black Mountain College Correspondence, 1933-49, and Undated, PC1956.51, Private Collection Theodore and Barbara Dreier, Black Mountain College Collection, Western Regional Archives, Asheville, NC.
- 58 Wodehouse, "Kocher at Black Mountain"(note 10), 331.
- 59 Lauren Bellard, "The Design-Build Program at Lake Eden," in Molesworth and Erickson, *Leap before You Look* (note 3), 133.
- 60 Claude Stoller (retired architect, chair and professor in the Department of Architecture, University of California, Berkeley) in conversation with the author, February 11, 2013; Robert Bliss (retired architect, chair and professor in the Department of Architecture, University of Utah) in conversation with author, September 15, 2014.
- 61 Kocher to Kenneth Chorley, August 5, 1944, folder: Kocher A. Lawrence (Mr.) 1940-41:44:46, Corporate Archives and Records Department, Colonial Williamsburg Foundation Archives, Williamsburg, VA.
- 62 A. Lawrence Kocher and Howard Dearstyne, "The Architectural Center: An Organization to Coordinate Building Research, Planning, Design, and Construction," *New Pencil Points* 24 (July 1943), 26. The article was also published in abridged form in *New Architecture and City Planning, a Symposium*, ed. Paul Zucker (New York: Philosophical Library, 1944).
- 63 Joseph Hudnut to Kocher, March 30, 1950, box 1, folder: Correspondence—Hudnut, Joseph. A. Lawrence Kocher Collection, John D. Rockefeller Jr. Library, Colonial Williamsburg Foundation, Williamsburg, VA.
- 64 Margaret Crawford, "Can Architects Be Socially Responsible?" in *Out of Site: A Social Criticism of Architecture*, ed. Diane Gbirardo (Seattle: Bay Press, 1991), 41.