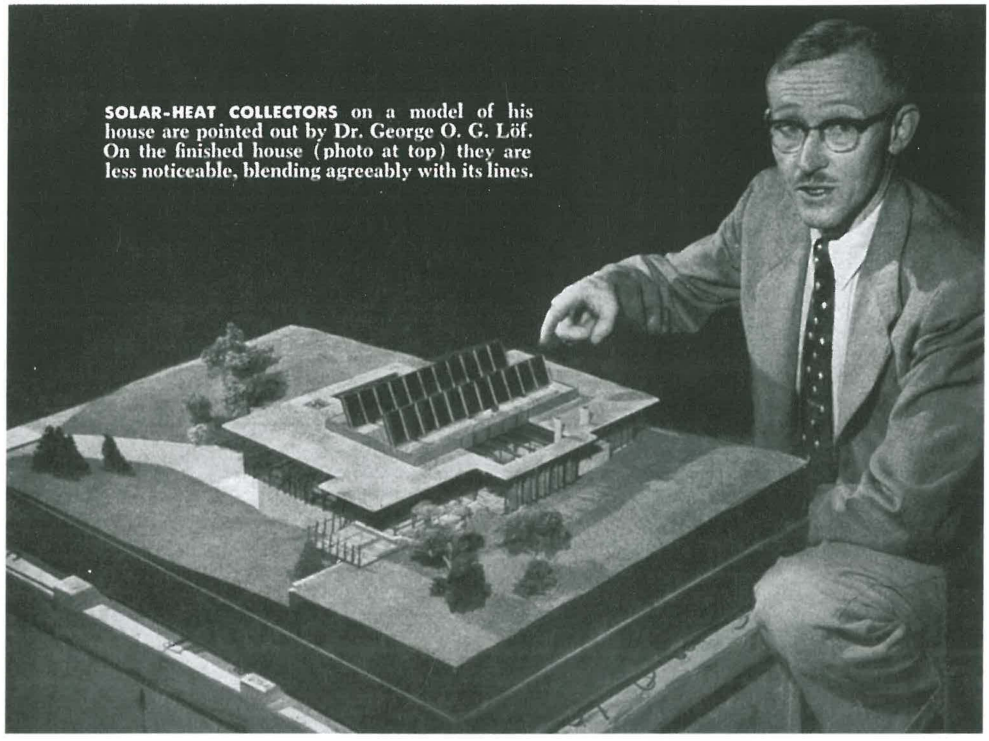
*Designing a solar house requires close cooperation between the architect, the heating engineer, and the prospective occupant; the house finally decided upon will be the result of numerous compromises by all concerned.*

—Austin Whillier (1955)[2]

After the grand conclusion of the 1950 MIT symposium, "the clear indication that the solar heating problem is closely associated with an architectural problem," integration of architecture and engineering became the dominant theme of the 1950s. Earlier, both MIT III and the Dover Sun House had represented tentative steps in this direction, in the limited sense that the architectural design had been constrained by the engineering requirements in each case. Still, until the mid-1950s, the solar house movement lacked a true example of integration, where the two disciplines worked together to transcend constraints. Three seminal projects realized in 1956–57—the George Löf House in Denver, MIT IV outside Boston, and the Bridgers and Paxton Building in Albuquerque—pointed to the possibility that the solar house could reconcile the epic schism of Giedion.

In Colorado, engineer George Löf had begun working with architect James Hunter in 1949, and their partnership can be characterized as the first effort in the solar house movement to aspire to an integrated design process. Löf and Hunter proposed a ranch-style solar house, originally meant for the Los Angeles area. Why such a benign climate? Löf said the solar equipment "might easily justify itself" there. They chose the "ranch house image," according to Hunter, in order to make the solar house "palatable and acceptable" to the house-buying public at that time.[3] The low roof slope was not optimized for winter solar heating, even at the lower latitude of Los Angeles. By placing architectural marketability ahead of engineering performance, the project would be more than a science experiment. Hunter integrated the collectors by setting them flush with the conventional roofing.

During the design process, Löf and Hunter "moved" the hypothetical house to Dallas, and then again to the Denver area. They did not alter the architecture significantly, and they kept the ranch-style roof with its low slope. Löf used solar heating equipment similar to his earlier Boulder project: an air system with overlapped-plate collectors, a gravel storage bed in the basement, and a conventional furnace for backup. He calculated that such a system could provide 70–90 percent




George Löf with model of his "Denver House" by James Hunter, 1956. *Popular Science* (February 1958)

of heating needs from the sun, even in Denver. Still, he acknowledged it "might not cut heating costs much" there due to cheap natural gas.[4] Hunter provided for direct-gain through south windows, but it is unclear if these gains were accounted for in the engineering design. At the 1950 symposium Löf and Hunter displayed a model and announced "blueprints were ready for a solar house suitable for the southwest area bounded by Denver, Los Angeles, and Texas."[5] It would include 2,000 square feet of living area and cost $25,000. Apparently they found no demand.

Hunter found the ranch-style roof form to be a "straight jacket" [sic], and in about 1955 he and Löf abandoned the 1949 scheme and "attacked the problem with new vigor." The resulting process raised immensely interesting issues about "style" and the solar house. Their solution—a flat-roofed house—responded to contemporary trends in the larger world of modern architecture, but not necessarily in the solar house movement. Hunter preferred the flat roof because "[the solar house] must be the very best and timeliest architecture within our ability." What about the tastes of homebuyers? "We feel now that the American buying public was, and is, far more discriminating in its evaluation of architecture than the speculative builder supposed."[6] The house was later celebrated in the *New York Times* for its "modern lines."[7]