Weissmann built only two projects during this era of intensive activity. One was the Press Center in Belgrade (1934–35), one of the first Corbusian urban infill buildings in the former Yugoslavia, parallel to Le Corbusier’s own more adventurous Porte Molitor apartment building in Paris (1931–34). The other was the Agriculture and Forestry Faculty in Zagreb (1932–40), designed with Work Group Zagreb around the same time as other CIAM-related modern rural experiments, such as Alvar and Aino Aalto’s Paimio Sanatorium in Finland and the Bat’a shoe company’s industrial town of Zlín, now in the Czech Republic.

Klarin illustrates and describes Work Group Zagreb’s Functional City analysis of Zagreb for CIAM 4 in detail in a chapter that can be profitably read in conjunction with Eve Blau and Ivan Rupnik’s Project Zagreb (2007), which situates this work within the larger urban history of the city and Croatia. This chapter also expands on Klarin’s discussion of this topic in her 2014 essay “Yugoslavia: Home and Life; or, How Do People Live in Zagreb?” The book then traces Weissmann’s involvement in CIAM during the 1930s, which included the London CIRPAC meeting of 1934, where CIAM decided to avoid taking any further political stands, the result of both Stalin-era policy changes in the Soviet Union and the enthusiasm of some CIAM members, including Le Corbusier, for Mussolini’s regime in Italy, a stance very much antithetical to the side of CIAM where Weissmann had positioned himself. Weissmann also attended the 1935 Amsterdam CIRPAC meeting, where the Dutch group under Cornelis van Eesteren, then CIAM president, was actively applying Functional City planning principles. Klarin also examines Weissmann’s important role in the mid-1930s Paris efforts of Sert and Perriand to publish a “popular volume” on CIAM principles of urbanism, which was to be a (now apparently lost) precursor to Sert’s Can Our Cities Survive?, published in 1942.

The book concludes with a detailed examination of Weissmann’s little-known architectural projects in Zagreb of the later 1930s, which include several excellent built houses that in some ways parallel the work of Marcel Breuer at this time. A final chapter offers an overview of Weissmann’s technical and design contributions to the Yugoslav pavilions at two world’s fairs: in Paris in 1937 (where the pavilion was designed by Josip Seissel) and in New York City in 1939. His design work on the latter, where he used a large ramp to organize the exhibition space, allowed him to relocate to New York just prior to the start of World War II. The book only briefly alludes to his extensive subsequent career; Klarin is currently working on a second volume focusing on Weissmann’s work after 1939.

Although this book is unquestionably a major contribution to scholarship in modern architecture, and it rightly raises awareness of Weissmann’s importance as a prewar Yugoslav architect and CIAM member, it does have some flaws. The text is extremely dense with factual information, and the larger Zagreb context is not always made clear to those unfamiliar with the history of the city and region. The translation, although adequate, is at times plodding, making the book probably most useful as a reference tool rather than as an architectural biography. Nonetheless, Ernest Weissmann: Socially Engaged Architecture, 1926–1939 is a major scholarly achievement and should take its place with other recent monographs on prewar CIAM members associated with Le Corbusier, such as Sert, Perriand, Maekawa, and Junzo Sakakura.

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Notes

Leslie Earl Robertson
The Structure of Design: An Engineer’s Extraordinary Life in Architecture

The Structure of Design is a compelling and unique contribution to the discussion of an underrepresented topic: the relationship between architecture and structural engineering. It presents the truly remarkable life and career of its author, Leslie Earl Robertson, a dynamic and pathbreaking structural engineer.

The book is, as Robertson states, a product of himself—it is both by him and about him. This autobiographical effort not only documents Robertson’s past projects and innovations, as well as the architectural relationships that defined his professional career, but it also allows him to recall remarkably personal experiences and directly share his views with the next generation of architects and engineers. His stories—organized both chronologically and by architectural partnership—oscillate between in-depth discussions of specific buildings and technical achievements and more casual anecdotes and recollections of personal relationships. Robertson provides vital insight into an important period of architectural and structural history but leaves a sense that there is still much more of the story to be told.

Robertson’s professional work supports the claim that he was among the most impactful structural engineers of the last half of the twentieth century. He was instrumental in introducing the digital production of construction documents (on punch cards) and played an important role in the beginnings of computer optimization in structural design. He also pioneered the use of steel-and-concrete composite columns, the use of boundary-layer wind tunnel testing and engineering, and a variety of other specific technological leaps in structural engineering. These technologies emerged not through isolated invention, however, but through individual projects that Robertson worked on in collaboration with architects and firms such as Minoru Yamasaki, Gunnar Birkerts, Philip Johnson, I. M. Pei, and Kohn Pedersen Fox Associates. Robertson provides the essential structural engineering stories behind projects whose architectural narratives are better known—including the modernist towers of the World Trade Center in New York City (Yamasaki) and the postmodern AT&T Building, also in New York (Johnson/Burgee). He ties together these works by important architectural figures of the late 1960s through the 1990s and demonstrates how his structural engineering and inventions played a vital role in the shifting landscape of building design.

Robertson does not describe a philosophical position for structural engineering
on its own; rather, he shows the power of the discipline’s investigative practice. He reveals, through his own example, how structural engineers can respond to each individual project’s opportunities and challenges. Employing a “first principles of engineering” approach (not relying on conventional solutions but taking problems back to their most basic principles) and applying his inquisitive mind, Robertson opened potential new directions for building design. Within the book’s pages, he rarely presents the final design of a project as a static certainty; instead, he portrays it as a result of a complex process of discovery—negotiating personal relationships among collaborators, restrictions in site or scale, changes in finance and schedule, fabrication and construction demands, and so on. In his collaborative and vocal role as structural engineer, Robertson was vital to the success of these projects.

Throughout the text, he shows the boundaries between architecture and engineering to be fluid and difficult to define, as the book’s title conveys. At times he appears to be addressing both professional fields, as with sections titled “Some Views of Architecture and Engineering” and “Approaches to Architecture, Engineering, and Life.” At other times, while he may be specifically addressing engineers (as in sections regarding history “as seen through the eyes of the structural engineer”), the stories are really a commentary on the working relationships among various professions. Furthermore, although Robertson claims he was never interested in becoming an architect, he is consistently eager to account for his architectural contributions. He describes ridiculous instances of architectural hubris and incompetence yet remains dedicated to the intrinsic value of architecture as a public and artistic pursuit apart from structural engineering. In addition, many of his architectural clients became close friends, his relationships with them blurring the professional boundaries and hierarchies intrinsic to the position of consulting engineer. As Robertson’s tales unfold, it becomes difficult to determine which design elements are to be attributed to which individual or profession. This messy association is not necessarily something to be criticized; rather, it can be seen as reflecting the true nature of the collaborative process between architects and engineers. And despite the many criticisms embedded in the text, it is evident that Robertson has a deep respect for the practice of architecture.

Never short on self-confidence, Robertson asserts his own essential role as a structural engineer engaged in architectural production. Incredibly ambitious—and at times shrewd—he paints himself as a compelling, contradictory personality, both humble and arrogant, deeply philosophical, and surprisingly petty. The book’s anecdotes describe Robertson’s own determination in a world of high-stakes design, with slammed-down telephones, contractual standoffs, and backroom deals. His flair for storytelling is evident, while ranging from focused to sporadic. Adept at name-dropping and telling fantastical tales, Robertson relishes the opportunity to tell his own story. Yet his self-certainty ultimately leaves the impression that there are other, untold sides to the events he recounts. Recent scholarship such as Dale Allen Gyure’s book on Yamasaki has begun to examine the architects of this era, and there is undoubtedly a fuller picture behind the projects Robertson describes and the architects he worked with.1

In addition, Robertson does not fully describe his rich working relationships with other engineers in his own firm. From the beginning of the World Trade Center project until 1983, Robertson was officially running the New York office of the Seattle-based firm of Worthington, Skilling, Helle & Jackson (which became Skilling, Helle, Christiansen, Robertson in 1967). Both John B. Skilling and John V. “Jack” Christiansen (who were, like Robertson, elected members of the National Academy of Engineering) worked as partners with Robertson for more than twenty years on projects around the world—only some of which are included in this book. This assortment of talent was truly remarkable and made the collective office a significant structural engineering firm. With Christiansen’s early retirement in 1983, the firm formally split to become the Seattle-based Skilling Ward Rogers Barkshire (now Magnusson Klemencic Associates) and the New York-based Leslie E. Robertson Associates (LERA). While it is true that each office led specific projects and each partner had unique talents (Robertson indeed credits Skilling and Christiansen in some instances), attention to the larger firm would have added richness to Robertson’s account.

The book is also notable for the way Robertson establishes his personality and identity as a structural engineer. His explicit dedication to pacifism, engagement, and social justice, linked to his own early experiences, is admirable and resonates throughout the text. Robertson’s personal stances become vital to his story as he poignantly describes the devastating events of 9/11. In this section, he recalls deeply personal, emotional memories, as well as his own contemplations as he struggled to come to terms with the disaster’s full scope. Writing as citizen, structural engineer, and pacifist, he expresses himself in words that are appropriate and poetic, sensitive and aware, and his prose shines. Robertson’s resolve and dedication to broader issues are refreshing, as it is far too rare for structural engineers to state their own ethical or moral positions. Whether because of fear of isolating potential clients or because such values and actions are not taught or encouraged by the academy, few practitioners of structural engineering have demonstrated as much personal engagement with vital social and cultural issues as Robertson has.

Although unconventional, this book is a valuable contribution to the study of the mutually dependent fields of architecture and structural engineering. More than simply showcasing Robertson’s exemplary work, The Structure of Design provides a broader sense of the personal nature of structural engineering practice and the intimacy that can develop between engineers and their architectural clients. While creative tensions are embedded within that relationship, Robertson shows how a conceptual fluidity between structural engineering and architecture can be a powerful source of invention and inspiration.

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Note

Stephen Kite
Shadow-Makers: A Cultural History of Shadows in Architecture
London: Bloomsbury Academic, 2016, 331 pp., 125 b&w illus. $43 (paper), ISBN 9781472588098