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**Sara E. Wermeil. *The Fireproof Building: Technology and Public Safety in the Nineteenth-Century American City*. Baltimore: Johns Hopkins University Press, 2000. Pp. viii, 301. Illustrations, bibliography, index.**

Most North American cities have been affected by major conflagrations in the nineteenth and early twentieth century. As Wermeil points out in her introduction, the majority of urban conflagrations between 1815 and 1915 occurred in North America. This reflects a different construction and building culture and a different sensibility or attitude toward fire hazards in comparison to the European tradition. According to the author, in America the high cost of sound non-combustible materials such as brick, stone, slate, and tile served as an impediment to their use. Still today, while European architects and engineers might choose reinforced concrete for large buildings, structural steel – which requires fireproofing – remains the most popular building system in America. In addition, as a result of their abundance and low cost, timber and wood shingles are still extensively used for residential construction.

We know that it is impossible to construct fully fire-resistant buildings. Nineteenth-century builders were also aware of the obvious distinction between incombustible and fireproof construction. Despite the impossibility of erecting indestructible buildings, the introduction of numerous technological innovations reduced the damage caused by fire. Sara Wermeil's book covers the innovations that considerably improved the situation prevailing before the nineteenth century.

Divided into six chapters, the book deals with the different building techniques, materials, and measures introduced to enhance the fireproofing of buildings in American cities and to limit the destructive power of fire: solid masonry building (1790–1840); iron-and-brick construction (1840–60); experimentation (1860s–80s) including new fireproofing materials such as cement, concrete, and terra cotta; mill fire protection methods (1880s); fireproof skyscrapers (1870s–1900s); fire exits and egress laws (1900s–1910s). Fireproof construction is presented as a distinct system involving many components: materials, floors, tiles, columns, sprinklers, and regulations. By the end of the nineteenth century, an assortment of techniques and measures were utilized to guarantee the safety of both buildings and their occupants, although the primary aim of fireproof construction in the nineteenth century was to protect property. The safety of the tenants did not seem to be a major issue. This attitude toward the protection of the material content of buildings – and not the human content – is still very much alive. Nowadays, building owners or tenants are sometimes more preoccupied with the safety of equipment than the one of the people working inside the buildings. Maybe this is because the protection of occupants has been achieved to a great extent due to the widespread use of safety measures.

Analysis of fireproof construction reveals how specific actors such as the federal, state, and local governments were involved in the city-building process. In fact, fireproofing of buildings was not the sole responsibility of engineers and builders. The public sector was a leading promoter of fireproof construction by commissioning numerous buildings – libraries, museums, prisons,

and hospitals – in which many devices and techniques were used to fireproof buildings. Public actors also enforced building codes. Through financial incentives, private actors such as the fire insurance industry and mutual fire insurance companies prompted the dissemination of fire-safety measures. With a growing demand for safe buildings – notably from banks and city-based manufacturers – architects and engineers also fostered innovations.

Wermeil studies the experiences, failures, and successes of a range of devices applied to enhance the safety of buildings. The promoters of the new systems had to convince the public of the safety of their innovations: no one knew how well the materials of the modern fireproof buildings would perform in a fire because few had actually been tested. Once the main uncertainties regarding the validity of new materials were overcome, the cityscape began to change. Given that people had time to escape, the introduction of fireproof construction altered the urban landscape: bigger buildings (over six stories) were erected, architects and engineers experimented with new materials (terra cotta and concrete) and new forms, fire escape devices (balconies and stairs) became familiar objects of the nineteenth-century cityscape.

Obviously, thanks to the improvements introduced earlier, the twentieth century saw great progress in the development of fire safety measures, so much that we now take it for granted that our modern buildings are designed to withstand major fires, or, at least, that fireproof construction will give people enough time to escape before the fire and smoke expand. This shows the value of what Wermeil calls the “invisible infrastructure of safety” (215). As a result of the efficiency of fire-safety measures and codes, we tend to ignore their existence.

To develop her argument, the author draws on an impressive body of primary documentation (biographies, periodicals, building codes, trade journals, textbooks, etc.). By going back to the original material, she tends to pass over quickly the previous scholarly work done on the same subject, notably in the field of architectural and urban history. Due to the intense use of these sources, we sometimes lose the big picture. However, a bibliographic essay and footnotes puts the literature into its proper context.

The book mostly shows the industry's point of view. We know little of the clients' specific requirements and worries, besides the aim of getting the most out of their money. In addition, the fears expressed by the urbanites are not addressed nor is the role of discourse in shaping these fears. Despite these minor shortcomings, this book offers an original perspective on North American urban architecture during the nineteenth century and the role technological innovations played in the deployment of a new sense of security.

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