SCHULTE & ASSOCIATES
Building Code Consultants
3500 Creighton Road, K5
Pensacola, FL 32504
fpeschulte@aol.com
847.312.7617

FIRE PROTECTION HISTORY-PART 144: 1910 (AN ARCHITECT'S PERSPECTIVE)

By Richard Schulte

The American Institute of Architects (AIA) was included on the roster of Active Members of the National Fire Protection since the early days of the Association and representatives of the AIA took an active role in the early technical committees formed by the NFPA. Hence, the architects' viewpoint of fire protection as an integral part of the design of buildings helped shape the development of fire protection standards from the earliest days of the National Fire Protection Association.

The following is the transcript of a presentation made by the President of the American Institute of Architects at the fourteenth Annual Meeting of the NFPA held in 1910 addressing the viewpoint of the architect with respect to the work of the NFPA:

> "*The Chair: The next item on the program is an address by Mr. Irving K. Pond, President of the American Institute of Architects, one of our active members, on "The Architect and Fire Protection."*
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> *Mr. Pond: Gentlemen of the National Fire Protection Association, I am come here today rather to bear a message of good will than to try in any way to teach you anything that you do not know. Your experience in all of these matters of fire protection have been away beyond my own; away beyond that of most of the members of the American Institute of Architects.*
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> *We have had some men in the Institute who have paid considerable attention to various phases of this topic and who are indefatigable workers. Our Committee on the building code has been present in this city, in conference on the building code with your Committee.*
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> *I presume the report of the Committee has made evident to you the extent of their work, but I wish simply to present to you a few general thoughts on this topic of the Architect and His Relation to Fire Protection.*
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> *Mr. Pond then presented the following address on*[:]

THE ARCHITECT AND FIRE PROTECTION.

The general problem of fire protection is one of importance to all directly or indirectly concerned with building interests. It touches the public, the owner, the builder less directly, the insurance interests very closely, and is of especial interest to the architect; and therefore it is a duty as well as a pleasure for the American Institute of Architects, concerned as it is in advancing the standards of the entire architectural profession, to be represented in the deliberations of this body.

The subject of the relationship of the architect to substantial building and to fire protection is one of wide significance and with many ramifications. The matter is not so simple as it at first appears, for it deals not only with the present status of building development, but with the past as well, and reaches far out into the future.

Speaking from his purely personal standpoint, and regarding only his selfish interests, the architect might urge thorough and yet more thorough methods of building construction and protection, that the monument to his skill and genius may last throughout the ages, adamant against the destructive agencies of water, fire, climatic conditions and shock. The architect likes to consider himself as a maker and recorder of permanent history; but build as stably as he may, the Nile will undermine the foundations of Karnak and Luxor, fire will lay low the "Ephesian Dome," frost and moisture will sunder the massive buttresses, and earthquake will scatter the columns of the temples which man has reared to carry the glory and fame of his race on through the ages.

But the architect of the present has to deal with other causes, which go toward the unmaking of history as embodied in architecture. The changing conditions of everyday life act as destructive agents, so that the economic loss in the demolition of the present to prepare the ground for the future is as appalling in a way as is the destruction by any of the natural causes. The philosophic attitude to maintain toward the whole subject is, that out of each great loss must come some gain, and that no great good is attained without the payment of an adequate price. And so, in considering the matter of permanent building and protection against the elements, we are brought face to face with the modern problem which is taxing the ingenuity and genius of our architects and economists, the problem of city planning for the present and the future.

The value of building for permanency is to be carefully considered where conditions are ever shifting, and buildings to serve the special purpose of to-day may not meet the requirements of to-morrow. The logic of city planning must appear as keen as the logic of house planning, and the distorting of the function of one part of the city must appear just as chaotic and as fatal to the economic order as the derangement of the functions of various rooms in the dwelling. The furnace room should be equipped to receive the furnace and fuel, and calls for certain protection which need not be af-

forded to other portions of the house. To erect the furnace in the drawing room or to install the range in the boudoir is to derange the life of the household and stultify the meaning and design of the house, and to presage a lapse into barbarism, or to indicate a non-emergence from that state; and thus is indicated the possible connection between city planning and logical construction and necessary protection. The logical planning of the city– the laying down of permanent lines of development, the laying out of permanent avenues of intercommunication and lines of transportation that the functions of the various portions of the city shall not be deranged, but shall be susceptible of logical and rational growth and development–bears directly on the matter of comparative stability of construction. The wisdom in creating city planning commissions, and even in applying the theory to smaller districts, becomes apparent, and should be emulated in our own country by our legislative bodies, and warrant of law rather than individual initiative should bring about the desired result. This idea, which has been in practice, and has justified its existence for a long time in Austria, is coming into vogue in Germany, and is just now being adopted in England. Various of our American cities are attacking the problem from some special point of view individual to the locality, but the wider problem in all its manifold bearings on social organism, industrialism, housing, sanitation, morals and beauty has as yet to be conceived by the general body of American city planners. When our civilization is established, and we cease to be a restless body, pushing forever toward the frontier, our cities will partake more of the nature of fixed abiding places and less of the nature of the camp, as our residences to-day are smacking more of the permanency of buildings and less of the ephemeralism of the tent. At such time sanely conceived civic centers will be established, calling for permanent structures suited to the needs of the locality, and connected with other similar centers by great arteries of intercommunication, which themselves will be of a permanent and lasting nature. The industrial quarters, the residential quarters, the wholesale quarters will be distinctly differentiated, as are the apartments of the logically designed dwelling, and will be susceptible of logical and predetermined growth. When the laws of economics shall have been understood, when each man's duty to his neighbor and to the community shall be as thoroughly recognized as are the rights he arrogates to himself, when the laws of order and the love of beauty shall have been established in the heart of the race, the overtopping commercial structure in the center of other commercial structures, or in the center of the residence district, will be a thing of the past. In fact, in the logical city, overtopping commercial structures will not, as now, add their disfigurement and their problems of transportation and of sanitation to the neighborhood they infest, and the matter of protective construction and protective appliance will be simplified.

It would seem impossible that the city should develop without certain destruction of existing forms and functions, and it will be seen that this condition should be recognized in the problems of construction and of protection, especially in the earlier stages of the city's development. The possibility that factories or that apartments may be torn down within a comparatively short period of time, to be replaced by buildings more extensive, and devoted possibly to other uses, must affect the character of the construction; and to insure against great economic loss in the wreckage of existing structures the protection of life and property should be made to depend more largely upon external means and appliances.

Passing now the relationship of construction and protection to city planning and coming down to first principles, perhaps the most effective method of protection as it affects the community generally, would lie in the operation of a law making the loss or damage to extraneous property or to life to hold against the owner of the property from which the fire spreads or the damage emanates. If the title to such property were vitiated until claims had been settled there would be less argument as to the desirability of protection in specific cases, and there would be smaller need to penalize neighboring buildings of a higher type. It may at some time be the function of the American Institute of Architects by itself or in conjunction with your able body to suggest such legislation and assist in its advancement; but without awaiting that time the institute may find other methods of serving the community along these general lines.

The American Institute of Architects, the function of which not only is to elevate the status of the entire architectural profession, but to better the building conditions in general, is contemplating the formulation of a typical building code which shall be on a par with its standard form of contract and general contract conditions and its standard specification. In this it needs the affiliation of the fire protection engineer. A body like the American Institute of Architects should be eminently fitted to undertake such a work, for it not only understands the technical details of building construction, but it comes to the work without any personal bias or any individual end to serve, regarding only the highest good of the community. The architect's desire to build a monument for himself may in this instance be disregarded. The fire protection engineer, however, as represented by the National Fire Protection Association, is a necessary cooperator in any scheme of code formulation, for he has tested in his laboratory the action of the elements upon materials under the most severe conditions, and can lend most valuable technical aid. His tendency, however, from the side of underwriting, would be to stiffen up on conditions, possibly to the disadvantage of the building owner, in order to protect his interests against possible losses. There would always be the suspicion of self-interest in the advice of the underwriter. The formulation of a standard building code is quite as difficult as it is desirable, for its mandates must be in general terms, susceptible of application in all sections of the country. The architect would have a more open mind to the use of certain materials; for instance, unprotected cast iron in window mullions, or unprotected lintels

supporting short spans of masonry, for he has known the metal used in these forms to stand the most severe test possible under actual conditions, whereas under the artificial conditions of the laboratory the fire protection engineer has found them to fail. A liberal yielding by the architect from his point of view to that of the underwriter and a reciprocal action on the part of the underwriter would result in a code of great general value and equity. The architect would endeavor to study conditions so as not to penalize the high class building and legislate against the owner of such a building in favor of a neighboring building of lower type. The high class building should be protected against the lower class building by equitable legislation, and the lower class building should not be allowed to jeopardize the entire neighborhood as well as itself. At the same time the higher type of building, especially when it runs into an inordinately high structure, should not be permitted to jeopardize the safety of life and limb within its own confines. This entire subject impinges on that of city planning and the logical distribution of various types of industries and commercial activities.

As a practical phase of the general topic it is well to note the valuable work which the National Board of Fire Underwriters and your Association are doing in promulgating data with reference to fire protection. In relation to this a suggestion has been made by an eminent architect that this work is too technical in its nature to reach the generality of architects and owners who naturally should, and under certain conditions would, make use of the provisions. At present the information with regard to the simpler forms of fire protection is contained in large pamphlets from which it is to be with difficulty extracted, and moreover, the information is generally so put that it is not quite clear to any but engineers and architects who have had special practice along those lines. The few architects in the larger cities who pay any special attention to this subject of course keep up to the mark by special correspondence, consultation with insurance engineers, and constant reference to the Boards of Fire Underwriters in specific cases; but the great majority of the architects of the country know absolutely nothing about the simplest matters of fire protection methods.

An educational propaganda can best be carried on by a series of primer-like leaflets of uniform size mailed regularly, perhaps once a month, to every architect in the National directory, and to every builder, forming, in due course, a portfolio of technical sheets which can be replaced from time to time as they become obsolete. One leaflet could deal with brick enclosures for staircases, another with brick enclosures for elevators, giving diagrams of roof houses and doors, or even more important, a statement as to costs showing how little more of expense it involves to incorporate these refinements and how much it adds to safety, and finally how sure it is to be adequately recompensed by the saving in insurance. A series of leaflets on various types of fire doors and automatic and other metal window frames with an explanation of their advantages and a general statement of the cost as compared with wooden frames; data as to modern methods of mill construction embodying the latest types of girders and flooring and column and beam connections, should be given out in this form, as well as suggestions as to the construction of simple fireproof stairways, es-

pecially those of reinforced concrete, such as can be constructed in any town by a clever mason at small expense. An important feature would be a sheet on automatic sprinklers, with an appeal for their use, and a statement of approximate cost of their equipment, such as an ordinary building, 50 x 100 on the ground and six stories high, would require; and it would be quite to be desired that the information given on these sheets, as well as the information which is given to architects personally, should be such that the architect could place reliance on it and not find after he had installed certain appliances and introduced certain specific methods of protection, that they were for naught and would have to undergo costly reconstruction.

It is not infrequent in actual practice that the means adopted or appliances installed under specific recommendation of one official of local Boards of Underwriters have been summarily rejected by another official, and there is no redress. Remove and reinstall, or up go the rates; or no rates will be considered. This is rather trying to the architect, who has done his work conscientiously, and it forces a situation rather difficult of explanation to a client who naturally cannot comprehend the case, and quite naturally conceives his architect to be at fault. Discretionary power on the part of public commissions is being considered and recommended as a panacea for modern legislative ills, and should be, where the drastic enforcement of non-elastic laws operates at the same time against private interest and public good. But on whom can such arbitrary power safely be conferred in the case of the general government? The Boards of Underwriters have not to consider that question, for they need not be governed by drastic laws, but in all justice and logic may make the particular method suit the particular case.

A word as to certain specific architectural functions must be uttered, especially as it concerns a matter in which unenlightened and arbitrary rulings make or break. The architect is forever struggling to encompass beauty to endow all his forms with grace and charm; otherwise he is no architect. In this he is not aided by the Underwriters' rules, which tend more and more to make the objects to which they apply more crude and ungainly. This is especially so in the matter of frames and sash and the proportions of windows. So, too, with fire doors and their appliances; and so with many matters. In many instances the matters might be adjusted by a commission were its ruling not to be negatived immediately by another commission. These suggestions are not uttered in a carping spirit, but to indicate that equity between man and man should be conserved; equity between associations and capital also. The ethical element will enter into the operations of even a Board of Fire Underwriters, and the aesthetic element will not down where the true architect is concerned; and so it must be apparent that questions of business ethics and personal fair dealing and questions affecting public taste, inhere in the problems of the fire protection and the insurance engineer and the powerful associations they in general so wisely represent.

The Chair: Gentlemen, I am sure that we all feel ourselves under obligations to Mr. Pond for the very interesting paper that he has presented, and the very interesting suggestions that are contained in that paper, and which, perhaps, may lead to more than he or we anticipate."

The fact that the president of the American Institute of Architects addressed the National Fire Protection Association is, in itself, rather interesting, but even more interesting were many of Mr. Pond's comments included in his presentation. Clearly, the American Institute of Architects took an active interest in the early endeavors of the National Fire Protection Association.

Of particular interest was the statement that the American Institute of Architects was considering a project to develop a model building code. As evidenced by the historical record, the AIA model building code development project mentioned never came to fruition.

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Source: "*Proceedings of the Fourteenth Annual* [NFPA] *Meeting*", Chicago, Illinois, 1910.