THE BUILDING CODE

AND

TUBERCULOSIS PREVENTION

Memorandum Submitted
to the
Committee on Buildings
of the
Board of Aldermen

BY THE
COMMITTEE ON THE PREVENTION OF TUBERCULOSIS
OF THE
CHARITY ORGANIZATION SOCIETY OF THE CITY OF NEW YORK.
May 15, 1912.

THE Committee on the Prevention of Tuberculosis, which is deeply interested in decreasing in every way practicable the extent of tuberculosis in this city, and which includes among its members most of the city's leading physicians who have made a special study of this disease, respectfully submits for the attention of the Board of Aldermen and the public the following considerations with reference to the proposed building code now pending before that Board:

While we appreciate the disinterested public service which has been rendered, and the genuine desire for improvement over present conditions which has actuated the members of the Committee who have formulated the proposed building code now under consideration, we are constrained to point out certain vital considerations in which the code is so defective as to make unwise its adoption in its present form.

We are not unmindful of the many good features of the code, nor of the attempt made to advance the interests of the public, but the methods employed are so inadequate and fall so far short of what is desirable as the "irreducible minimum," that we are forced to the conclusion that it would be far better for the community to have the code remain entirely silent upon certain questions than to attempt to enact provisions as inadequate as those contained in it.

This Committee is primarily interested only in those provisions of the code which affect adversely or favorably the living and working conditions of our citizens from the point of view of tuberculosis prevention. While as individuals we may be deeply interested in many provisions of the code having to do with the safety of buildings and the protection of their inmates in case of fire, as members of this Committee our interest centers only around questions which deal with light and ventilation.

We realize fully that at the present time, with the exception of tenement houses, lodging houses, hotels, office buildings and private dwellings, there are no legal requirements limiting the amount of lot that can be covered or regulating the spaces that shall be left unoccupied for the purpose of supplying light and ventilation. The effort made in the code to extend these require-

ments to other classes of buildings is to be commended, but it is to be regretted that the attempt to carry out this purpose should have failed so signally.

THE EVILS OF BORROWED LIGHT.

The evils due to the failure to provide proper light and ventilation for each building upon its own lot at the time the building is erected, which, up to twelve years ago, was exemplified so strikingly in the city's tenement houses, have in recent years developed to an alarming extent in connection with hotels, office buildings, factories, lofts, private dwellings, two-family houses and other similar buildings, until the community generally is aroused to the evils of borrowed light, and even property owners themselves have become aware of the disadvantages of permitting a new building to be erected securing its light above the roof of an adjoining building, or from property abutting it, and at the time vacant, but which will sooner or later be built upon, and, when built upon, will result in the shutting out of light and air from the building in question, thus creating numerous dark rooms.

THOUSANDS OF WINDOWLESS ROOMS FOR NEW BUILDINGS.

It would seem that the time had come when the City of New York should prohibit the erection in the future of buildings with windowless rooms. We have heard so much in recent years of the great number of these rooms in our tenement houses, and of their intimate bearing upon the tuberculosis problem, that it hardly seems possible that any responsible group of citizens, in formulating a code regulating the types of buildings to be constructed in the future, should have knowingly permitted the erection of all kinds of buildings with any number of windowless rooms.

We regret to have to point out that this is the case with regard to the present code. Notwithstanding the fact that a dark room without a window to the outer air, and without proper light or ventilation, is just as dangerous in a two-family house, in a one-family house, in a boarding house, in a factory, or in a hotel, as in a tenement house, it is proposed to permit the erection of such rooms practically without limitation. The dark room will foster and develop tuberculosis in one case quite as much as in the other.

The framers of the code apparently set out with the intention of doing away with dark and windowless rooms, but succeeded only in proposing a weak compromise which vitiates the entire effort.

In the first place, to limit only to sleeping rooms the requirement that rooms shall have windows to the outer air, is singularly shortsighted. Light and ventilation are quite as necessary in the other rooms of a dwelling as in the sleeping room. In the kitchen, for instance, in many houses the mother of the family spends two-thirds of her time, as against one-third in the sleeping room; and in the parlor, back parlor, dining room, and other rooms, the other members of the family spend quite as much time as in the sleeping rooms, and often more. Windowless rooms are objectionable, whether in sleeping rooms or in other rooms.

Moreover, if the requirement is limited to "sleeping rooms," the law will be easily evaded, and architects who wish to escape compliance with its provisions will simply mark various rooms on their plans, with some designation other than sleeping room, such as parlor, back parlor, storeroom, etc., and the authorities will be powerless to prevent this evasion, even though they may be morally certain that the rooms are to be used for sleeping purposes. Our building departments are not so organized that they can station inspectors in all houses to see that rooms are used for the purposes stated on the plans. It would require an army of inspectors to do this, nor would it be desirable.

The only way to get satisfactory results is not to permit the erection of buildings with dark rooms in them, as there are no parts of the majority of buildings where it is safe, from a sanitary point of view, to have rooms constructed without direct light and ventilation. Again, the open spaces that these rooms are required to open upon are entirely inadequate to secure light and ventilation.

LAW EVASION MADE EASY.

More serious even than any of these considerations is the fact that the entire requirement is completely vitiated by permitting dark windowless rooms in the guise of alcove rooms, with a certain portion of the room open to an adjoining room. New York has had its experience with alcove rooms and has learned its lesson thoroughly. It needs no further experi-

ments. Its experience with alcove rooms in tenement houses has been entirely conclusive. Here, twelve years ago, an attempt was made to permit alcoves of exactly the same type as it is proposed to permit now, with the result that architects and builders at once took advantage of this provision and proceeded to construct in tenement houses numerous rooms without any windows to the outer air, totally dark, providing one room with windows and then opening from it, in different directions, four or five other totally dark alcove rooms.

From a sanitary point of view the alcove room, without direct outside ventilation and light, is more objectionable even than the dark room with only the ordinary doorway to the adjoining room. Where the alcove is provided, invariably curtains and portières are soon hung in the openings, shutting out generally as much light and air as the partition would exclude and in addition serving as catch-alls for germs and dirt.

The only satisfactory method is to require all rooms to get their light and air directly from a proper open space. There is no objection to the alcove treatment of rooms, but the portion thus treated should have its independent means of light and ventilation.

Attention is also called to the impropriety, in the year 1912, of permitting new buildings to be built with attic sleeping rooms, with the roof sloping down to almost nothing throughout a portion of the room. It is to be regretted also that a minimum height of 9 feet, such as is required for tenement houses, is not established in place of a height of 8 feet 6 inches, and that attic rooms are not strictly prohibited unless of that height in all their parts.

DARK AND UNVENTILATED FACTORIES.

We would also call attention to the fact that notwithstanding the new knowledge that has been gained in recent years of the importance of the adequate lighting and ventilation of places in which people work, that the old type of "Loft-factory" is continued. This highly objectionable type of building has been prevalent in this city for many years, a building getting its light and ventilation only from the street and from an inadequate yard at the rear, without proper provision for the lighting of the interior portions which consist

of a long, open floor space that gets its sole light and air from these few windows at each end of the building, and which often is subdivided in all sorts of ways.

The results of the failure to recognize the importance of this requirement are now becoming obvious in the researches that have recently been made into the study of industrial diseases.

Nor should it be forgotten that under the Labor Laws of the state, owners of all such buildings are now required to install methods of artificial ventilation. This, in many cases, has caused great hardship and has aroused great opposition. It is not strange, in view of the fact that it has involved an expenditure of from one thousand to twenty thousand dollars in many cases. And yet, notwithstanding this fact, no provision whatever has been made to remedy these conditions. Under the proposed code a building of this type may be erected in the year 1912, and shortly after it is completed and occupied, the Commissioner of Labor will cause the owners to install artificial systems of ventilation at great cost. It would seem the part of wisdom to anticipate this situation, and to require that buildings of this kind when built shall be so built as to secure such ventilation, instead of imposing serious structural alterations at great expense upon the owners of such property, after the buildings have been completed and occupied.

Yet notwithstanding the well-recognized evils of insufficient light and ventilation, the proposed code is totally inadequate in its provisions dealing with these primal necessities.

RULE OF THUMB METHODS.

Moreover, the method employed of determining the amount of space to be left unoccupied so as to furnish light and air is both unscientific and unreasonable. It is apparently based upon no principle, but seems to have been determined by "rule of thumb." The principle, which was established in the tenement house law a number of years ago, is sound and has proved satisfactory in practice. That principle is to establish a minimum size for all open spaces and then to require that such open spaces shall be increased a proportionate amount for each story that the building is increased in height. Thus in the tenement house law the minimum depth of a yard in

the case of a building 60 feet high is 13 feet, and for each additional story or 12 feet that the building is increased in height, the yard must be increased one foot in depth. A similar procedure is laid down in that statute for all other open spaces.

But not so in the proposed building code. Here, arbitrarily, every building, with the exception of two or three classes specifically enumerated, may occupy 90% of the lot irrespective of the height of the building so long as it does not exceed 75 feet in height, the equivalent of a seven-story building. Then, after this height is exceeded, 87½% of the lot may be occupied so long as the building does not exceed 150 feet in height. To require no greater amount of the lot to be left unoccupied for light and ventilation in the case of a building 150 feet high, or 15 stories, than is required in the case of a building 80 feet high or 8 stories, is obviously unscientific, unreasonable and improper.

UNREASONABLE DISCRIMINATION.

Again, an attempt is made to discriminate between various classes of buildings and to require certain buildings, viz., hotels, clubhouses, dormitories and lodging houses, to leave 20% of the lot area unbuilt upon, whereas office buildings, factories, lofts, libraries, museums, theatres, colleges, courthouses, public halls, and all other kinds of buildings (except tenement houses and lodging houses which are governed by state laws) need only leave 10% of the lot unoccupied, or one-half of what is required in the former case. Upon what principle such discrimination is based it is difficult to understand. Why clubhouses should require larger open spaces than factories in which hundreds of workers are housed for ten or twelve hours at a time, is incomprehensible. Why hotels, for example, should require larger open spaces than offices buildings, is equally hard to understand. People in office buildings are there almost as many hours in the day as are people in hotels; as a rule, they need both light and ventilation more.

This discrimination is dangerous. All provisions of a building code ultimately rest upon the reasonable exercise of the police power of the state. It would be difficult to show that the discrimination just alluded to is reasonable, and we

have serious doubt as to whether such provisions would stand if tested in the courts.

But the serious thing is that the standards which have been proposed are totally inadequate. To provide that a seven-story factory building, situated on an interior lot shut in on all sides by other buildings of similar or greater height, shall leave only 10% of the area unbuilt upon for purposes of light and ventilation, obviously falls far short of what is required. A tenement house similarly situated would have to leave over 30% of the lot unbuilt upon.

The importance of regulating the height of buildings relative to the spaces upon which they open has been recognized for years both in this country and in European cities. The proper principle requires that the height of a building shall have distinct reference to the width of the street upon which it faces and also, similarly, to the open or unoccupied space at the rear upon which it abuts, and the space at the rear should be equal to the space at the front. The observance of this requirement is necessary, not only for securing both light and ventilation to the various rooms and interior parts of each building, but from the point of view of city planning, and is essential for what is technically known as block ventilation—that is, the keeping in the centre or interior of each block a continuous open space of reasonable size which shall furnish light and ventilation to the rear portions of all buildings abutting thereon.

This is accomplished by requiring at the rear of each building a yard of an adequate size. The size generally determined upon has been based upon the assumption that a yard of similar size would be left upon the property abutting from the adjoining street, thus leaving a continuous open space. In past years in all residence sections, and also in business sections, this practice has been generally observed without any legal requirements. At the present time the only laws which require this are the tenement house law and lodging house law; until very recently, the requirement of the present building code that 10% of the lot shall be left unbuilt upon, has generally been interpreted so that this amount would be left at the rear of the building, although the law has not definitely required it.

The framers of the present code are now attempting to provide that a yard shall be left in the case of every building erected in the future, and that this clear open space shall be at the rear

of the lot. Their purpose is to be commended, but it is to be regretted that they should have failed so extraordinarily in the attempt to carry it out.

FIVE FOOT YARDS.

What has been proposed is incredible. To embody in a code which seeks to regulate the type of new buildings of all kinds to be erected in future years, a provision that the yard to be left unbuilt upon to furnish light and ventilation, in the case of buildings on interior lots surrounded on all sides by other buildings of similar or greater height, shall be the inadequate dimension of five feet, is the most extraordinary proposal which New York City has ever had to consider. To ask citizens to believe that a yard five feet in depth is adequate for a building 200 feet in height requires but little comment.

Here, again, no scientific principle of regulating the size of unoccupied spaces relative to the height of buildings seems to have been employed; it has again been done by "rule of thumb," only the method employed here has less basis in reason than that referred to previously. There, some differentiation was made between buildings of different height; here, there is none, and the code assumes to state that a yard 5 feet deep is adequate for both a two-story building 20 feet high and for a 20-story building 200 feet high.

We know from the city's experience with the tenement house law that even the minimum size yard there established, viz., a yard 12 feet deep for a five-story building, is hardly adequate, and even this minimum must be increased one foot for every additional story of the building; so that a tenement house 200 feet high would have to have a yard 24 feet in depth instead of 5 feet. The same standard is what should be required for all other buildings of a similar height. The occupancy of the building, so long as it is intended for human occupancy at all, in no way changes the requirements; what determines whether the space shall be adequate, is the ratio between the height of wall shutting out light and the open space that will admit it.

Extraordinary as this proposed provision is, even this inadequate amount of 5 feet is not to be left at all in the case of buildings on corner lots, thus making impossible any adequate scheme of block ventilation. If the corners are to be built up

solidly there is no means by which the air in the interior of the block can be renewed. The only way that this can be secured is by requiring an open space on corner lots, as well as on interior lots, although this can properly be less in size. Moreover, the code is so loosely drawn that even this tiny space of 5 feet can be completely filled up with fire-escape balconies, cornices and outside stairs projecting into it, practically covering the entire space. Similarly, again, by exempting buildings from these requirements in the case of those houses which extend through from one street to another, the entire plan of block ventilation becomes void.

THE RETURN TO THE DISCREDITED AIR SHAFT.

The inadequacy of the provisions dealing with yards is equalled in the attempt to regulate the size of the other open spaces that are to be left unbuilt upon. The minimum size of courts is also established at the inadequate dimension of 5 feet, but strangely enough here, for the first time, there is evident some recognition of the principle which should govern. The minimum standard is established, inadequate though it is, and then it is required that for each increase in the height of the building above a certain height, the size of the open space shall be increased a certain amount. But even this principle could not be adequately carried out by the framers of the code. In the first place, there is no recognition of the essential difference between the different kinds of courts—the inner court and the outer court; the inner court enclosed on all four sides by walls, receiving its only light and air over the roof, and the outer court, open on at least one side, thus permitting the light and air to stream into it from that end. The two courts are essentially different. Their difference is well recognized in the tenement house law, where the inner court is required to be twice the dimensions of the outer court. But no such discrimination is made in the code. All courts are treated alike.

The minimum width of 5 feet for a court for a building 75 feet, or seven stories in height, is grossly inadequate. In tenement houses of similar height an inner court, surrounded on all four sides, would have to be 25 feet in its minimum width, instead of 5 feet, as provided here for factories, hotels, lofts, office buildings, and all buildings. Experience with the tenement house law shows that this dimension has proved to be a proper standard, not

too much or too little, and that a court of such size will furnish reasonable light and ventilation.

When we consider the method of regulation providing for an increase in the size of courts with an increased height of buildings, and contrast the plan proposed here with what is required for tenement houses under the present law, we can see the total inadequacy of this measure. In the case of a tenement house 150 feet high, that is, a twelve story apartment house, an inner court of the type above described would have to be 32 feet in its least dimension; that is, would have to be increased 7 feet above the minimum for a building 75 feet high. In the code such a court needs only to be 8 feet wide as compared with 32 feet for tenements.

All of these provisions are, moreover, so loosely drawn that it would be possible for unscrupulous builders to completely evade them. The requirement is that the minimum width of courts shall be the distance between *opposite boundary walls.* As is frequently the practice, courts are built on the lot line with one side entirely open to the adjoining property, which may happen to be unbuilt upon at the time the building is erected or which may be above the roof of a lower building on adjoining property. In such cases it would be entirely feasible to claim that the "opposite boundary wall" was the nearest wall, which might be hundreds of feet away, and even the inadequate 5 feet would be not left, but the property could be built upon right up to the lot line. Such attempts have been made by builders in the past and would undoubtedly be made in the future, and in view of the language of the code might readily be sustained by the courts.

Attention should be called also to the impropriety of permitting open spaces on the lowest floor of the building to be without regulation and to be even narrower than the 5 feet. If any differentiation is to be made it should be upon a totally different basis. At the lowest floors the courts are needed to be wider than elsewhere, as conditions of darkness are at their maximum the lower down we go in the building, and the need for a wide court on the ground floor is much greater than it is on the top floor. Attention should be called to the fact that although this section refers to courts, the term "court" is not defined. It would be entirely feasible for an owner to evade even these meagre requirements by calling

his open spaces "shafts" and building them less than 5 feet wide. Air-shafts for light and ventilation have been recognized by architects for many years, and the term "court" has no legal significance except in the tenement house law.

As has already been stated, there is no apparent recognition of the essential difference between certain kinds of courts, of the important distinction between inner courts and outer courts. Nor is there any provision made for securing ventilation for inner courts through horizontal intakes at the bottom which will secure a proper draft, a feature which has been found in practice in recent tenement construction to be of the greatest value. On the contrary, all courts seem to be lumped together under one treatment, and can be built any shape or kind so long as they are 5 feet wide. To permit such miserable dark pockets in the case of other buildings, is to return to all of the evils which were so prevalent in tenement construction twelve years ago and which merited such widespread criticism.

In view of the above considerations, we respectfully protest against the enactment of the proposed code so long as it contains these shockingly inadequate provisions with regard to light and ventilation.

We would respectfully urge that proper provisions be enacted which will ensure in future buildings of all classes sufficient light and ventilation. Unless this is done, we submit that the city will be deliberately encouraging the spread and development of tuberculosis and thus causing each year the unnecessary death of thousands of its helpless citizens.

Respectfully submitted,

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OF TUBERCULOSIS,

By Lawrence Veiller,
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