NOTES ON MINIMUM SANITARY REQUIREMENT FOR BUILDING BY-LAWS.


Read at Annual Meeting, March 22nd, 1905.

THE agitation for a reform of the building by-laws, and the suggestions made at the Royal Institute of British Architects and the Surveyors' Institute, seem to suggest that the subject might be approached from a slightly different standpoint, namely, that of the minimum sanitary requirements that can be asked for in buildings for human habitation.

In order to understand the position taken at these meetings, I give a résumé of the Proceedings. Mr. Lacy Bridge made the following suggestion for the form of by-laws at the Royal Institute of British Architects:

A. Notice.—Every person shall give notice in writing to the local authority who intends to erect a dwelling-house; a factory; a building intended for the assembly of the public; any building situate within thirty feet of a public highway.

B. Width of Road.—No person shall erect any building (other than a porch or covered way not more than one story in height) within twenty feet of the centre of any public road or highway, as defined by the local authority.

C. Open Space.—Every person who shall erect a new dwelling-house shall provide in connection therewith an open space, exclusively belonging thereto, equal in area at the least to the area of the building measured at the ground-floor story. He shall also cause two sides, at least, of the
building to be lighted and ventilated from such open place or from a street or other public open space adjoining such building.

D. Anti-damp Layer and Damp Course.—Every person who shall erect a dwelling-house, a factory, or place for public assembly shall cause the whole surface or site of such building within the external walls to be covered with a layer of cement concrete, rammed solid, at least six inches thick, and shall provide an efficient damp course of sheet-lead, asphalte, or slates laid in cement in the walls or foundations of such building, or shall provide such other means to prevent damp rising within the building as shall be approved by the local authority.

E. Lobby to Closets.—Every person who shall erect a water-closet or earth-closet in connection with any building shall cause the same to be properly ventilated and lighted by a window in the side thereof, and he shall cause every closet which is not reached through the open air to be separated from any dwelling-room, bedroom, workroom, or shop by a sufficiently ventilated lobby.

F. Privy. —Every person who shall erect a privy or closet which is not provided with means of supplying it with dry earth or other deodoriser, and with appliances for the frequent removal of filth, shall cause same to be placed at a distance of fifteen feet at the least from any dwelling-house, factory, workshop, or public building, and from any highway or public footpath.

G. Soil-pipes and Wastes.—Every person who shall erect within a building a water-closet or any sink for the reception of liquid or solid filth shall connect the waste-pipe therefrom to an examination chamber or to a soil-pipe outside the building and provided with efficient through ventilation, and he shall also cause the waste from every bath, lavatory, and sink to pass into the open air before being discharged into any drain. He shall not allow the water from any rain-water pipe, nor the overflow from any rain-water tank or from any cistern, to discharge directly into any drain used for foul water.

II. Disposal of Sewage.—Every person who shall erect, or who is liable to maintain, any system of drainage, shall provide that the discharge from any drain, or the overflow from any cesspool, shall not enter any ditch or running stream in such a manner as to pollute the water therein; nor shall the sewage be so disposed of as to be a nuisance or detrimental to health.

I. Party Wall.—One other subject not included in the Model Rural By-laws of 1903, Mr. Bridge thought, should most certainly be added, and
be of universal application. The duty of not setting one's neighbour's property on fire ought to be recognised. The efficiency of the party wall for this purpose in small buildings, such as for the most part we have now in view, is manifest. The Royal Institute have submitted to the Local Government Board a carefully drawn clause on this subject; but it was neglected in the new model in favour, apparently, of provisions as to the sizes of windows and heights of stories which seem to assume that the proposed buildings are to be carried out by lunatics. It may be well to remind some of you that the Institute does not suggest that party walls should be carried through the roof in small buildings, while in warehouses it suggests increased height, as in the London Building Act. Considerations of comfort and decency, apart altogether from risk of fire, suggest that houses intended for occupation by different families should be efficiently separated.

When the local authority provides sewers for the use of its district a new stage is reached. Plans showing the drains needed must be submitted, and the works to be executed agreed to, as a condition precedent to having the use of the sewers. I am quite certain that the friction and unpleasantness which now arise in some cases, would be avoided if the local authority and their officers would co-operate with the architect in doing the best for the buildings under the special circumstances of each case, rather than regard their by-laws as the laws of the Medes and Persians, however useless or inapplicable they may be.

Mr. Stenning's and Mr. Menzies' papers at the Surveyors' Institution, and the discussion that followed, made suggestions that there should be uniform by-laws throughout the country and a tribunal of appeal. Mr. McMorran in the discussion suggested: (1) That the whole code of by-laws ought to be revised, and revised by experts; (2) that the power of making by-laws should be restricted to matters specially affecting localities; and (3) in so far as there was discretion to dispense with by-laws that might be applicable to local authorities, that discretion should be the subject of appeal to a competent and expert tribunal. He thought—in fact, he was almost sure—that in that meeting those propositions would meet with approval.

He thought the time had come when we ought to be out of the leading strings of by-laws, and that something like an attempt should be made to codify the rules governing matters affecting the comfort of the community, whether urban or rural, especially those relating to new streets and buildings.
Mr. William Henman, of Birmingham, who has taken a great interest in this question in a series of articles in the British Architect, suggests that the by-laws should be drawn so as to provide that certain things well ascertained to be detrimental to safety or health shall not be done. The principle on which building by-laws have been drawn up is wrong, because they generally dictate what is to be done before actual requirements have been ascertained. The proper principle would be first to decide what, in matters connected with building, is proved to be detrimental to safety and health, and then to define what shall not be done.

In support of this view he pointed out that the common law does not lay down that everyone shall do this or that for the public good; but when it has been determined that certain acts are prejudicial, the law requires that they shall not be done, or penalties will be incurred, leaving individuals to act in any other way. For instance, a by-law should not dictate that a wall must be a certain thickness, simply because it is a particular height or length, before the functions of that wall have been ascertained, but rather that a wall shall not be less in substance than can be proved by scientific means to be adequate for the functions it has to perform in a particular building. The latter, Mr. Henman thinks, is the correct principle on which all building by-laws ought to be framed, and no mere tinkering with the wording of existing by-laws will ever make them satisfactory or serviceable in the interests of communities.

The by-laws which have been approved by the Local Government Board may be roughly divided into three groups.

The Rural Model, Series IV., will allow any form of material or construction for walls above the damp course, and simply regulates the space around buildings, drainage, water-closets, and ash-pits.

The Intermediate By-laws, consisting of the urban by-laws, with some of the structure clauses modified as follows:

3. Any building such as is hereinafter described shall be exempt from the operation of the by-laws numbered respectively * * * to * * *, both inclusive, that is to say:

Any building comprising not more than one story—

(a) Each wall of which, to a height of not less than six inches above the surface of the ground adjoining such wall, shall be constructed of good bricks, stone, or other hard and suitable materials at least nine inches thick, and properly bonded and solidly put together:

(i) With good mortar compounded of good lime and clean, sharp sand or other suitable material; or
(ii.) With good cement; or
(iii.) With good cement mixed with clean, sharp sand; and provided
with a proper damp-proof course of sheet-lead, asphaltite, or slates, laid in
cement or other durable material, impervious to moisture, beneath the
level of the lowest timbers, and at a height of not less than six inches
above the surface or the ground adjoining such wall; or (b) each wall
of which shall be carried at a height of not less than six inches above the
surface of the ground adjoining such wall, upon sufficient piers con-
structed of good bricks, stone, or other hard and suitable materials,
similarly bonded and put together, and having proper footings resting on
the solid ground, or on some other solid and sufficient foundation, and
every such pier having also a proper damp-proof course of sheet-lead,
asphaltite, or slates laid in cement, or of other durable material impervious
to moisture beneath the level of the lowest timbers of the building, and
at a height of not less than six inches above the surface of the ground
adjoining such wall.

(2.) The area covered by which shall not exceed in extent * * * *
square feet, or the capacity of which shall not exceed * * * * cubic
feet; and

(3.) The distance of which from the opposite side of the adjoining
street shall be not less than * * * feet, and the distance of which
from the boundary of any adjoining lands or premises shall be not less
than * * * feet.

Provided (i.) That where any building such as is hereinbefore described
forms, or is intended to form, part of a block of new buildings which
shall be intended for use as dwelling-houses, and shall not exceed two in
number, the two buildings shall be separated by a party wall which shall,
notwithstanding anything hereinafter contained, be constructed in
accordance with the requirements of the by-laws in that behalf.

(ii.) That this by-law shall not be deemed to apply to any building
which forms, or is intended to form, part of a block of new buildings
intended for use as dwelling-houses and exceeding two in number.

This allows the walls of a detached cottage, or semi-detached cottage,
to be of any material or construction above the damp course.

The 1903 Model By-laws contain modifications which allow cheaper
construction. The party wall height is measured to the base of the gable.
This is a relief in thickness required.

Provisos for the external wall upper stories of dwelling-house to be of
timber framing, tile-hung, etc.
The measurement of walls has been made clearer, so that a three-story building can be built with nine-inch walls.

Whether the principles of sound building should now be codified in a public statute, or the present arrangement of dealing with the matter by means of by-laws suited to the individual locality, need not seriously affect the question as to what can be stated as the minimum sanitary requirements which can be laid down to guide those framing the statute or by-laws; and the question is whether the standard set by the existing by-law is capable of modification with a view to legitimate saving of cost, or even, within proper bounds, reduced to meet the popular cry that the requirements are in advance of the public sentiment. It must always be borne in mind that too sweeping reforms stultify themselves by preventing improvements which a more moderate requisition might make feasible.

Mr. R. M. Chart, in the discussion at the Surveyors' Institute, gave the six points that could be dealt with in the public statute as follows:

1. The laying out and making and draining of new streets;
2. The sufficiency of space about buildings to secure a free circulation of air;
3. The provision of foundations and damp course, and the concreting of sites, and eaves and gutters necessary to secure the premises against damp;
4. Provision for proper sanitary conveniences and drainage;
5. Provision for sufficient windows and their being made to open; and for
6. A minimum height of living and sleeping rooms; and that special by-laws should be made with regard to other matters applicable to urban districts consisting of a specified density of population.

The only extra subjects to the Rural Model By-laws in this suggestion are the eaves, gutters, rules for windows, and height of living rooms. With regard to the height of living and sleeping rooms, I think that this should not be included in an Act. The fitness or otherwise of a room for habitation is a question of proper ventilation, which no rule of cubic capacity will insure, and the existing by-laws which lay down the height of rooms often result in foolish limitations for the sake of saving the face of the by-laws.

The question arises of timber frame houses for human habitation. They are said to be warmer, drier, and more healthy than nine-inch brick walls; on the other hand they are liable to get verminous.

The isolation exemptions offer the difficulty of future development breaking down the isolation, and what remedy is possible when the character of the neighbourhood changes? Again, many tenants make no use of garden ground except to cover it with rough sheds and litter which often create nuisances.
The By-law that requires 100 sq. feet of paving to every new house might be limited to where it is necessary for the prevention of unsanitary conditions.

I have endeavoured in this paper to set out the points for discussion rather than to lay down any minimum rules. In my opinion the Rural Model By-laws meet all the requirements of the case, the public having the power to return members to the district councils pledged to get the objectionable by-laws repealed and the rural model adopted.

And, in conclusion, I venture to express the opinion that in the event of experts being asked for further suggestions for this building code, The Royal Sanitary Institute may be consulted in a matter in which it has done such excellent previous work.