



American Academy of Political and Social Science

Prison Architecture

Author(s): Robert L. Davison

Source: *The Annals of the American Academy of Political and Social Science*, Vol. 157, Prisons of Tomorrow (Sep., 1931), pp. 33-39

Published by: [Sage Publications, Inc.](#) in association with the [American Academy of Political and Social Science](#)

Stable URL: <http://www.jstor.org/stable/1018578>

Accessed: 18-02-2016 15:19 UTC

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



American Academy of Political and Social Science and *Sage Publications, Inc.* are collaborating with JSTOR to digitize, preserve and extend access to *The Annals of the American Academy of Political and Social Science*.

<http://www.jstor.org>

Prison Architecture

By ROBERT L. DAVISON

Director, Housing Research, John B. Pierce Foundation, New York City;
formerly, Director of Research, *Architectural Record*

PRISON design is so extremely backward that history and precedent are of no positive use to the socially-minded designer. In many states the only buildings that are at all instructive are certain "farm colonies" that were not designed as prisons. The architect who begins by visiting existing jails simply clutters his mind and inhibits his imagination. Real use can be made of them only in checking up on new plans after they have been made on an entirely new basis, not with reference to old blueprints but with reference to statistical analysis. Such an analysis of the Massachusetts prison population on one day of a recent year indicated that only about 30 per cent of the prisoners were of a type requiring strong safeguards against escape.

Custom does not yet recognize this situation, and so in large part we are engaged in grafting improvements on what are fundamental errors. It comes about quite naturally. The architect and the building committee visit the latest and best prison of the type that they think is required. Here they talk with wardens and guards; and since the

first duty of these men is to keep their prisoners safely till the end of their terms, no matter in what condition they are then returned to society, almost all the factors they emphasize have to do with secure devices for detention.

The desire for safety explains the prevalence of the prison consisting of a cell block within a cell house, as at Sing Sing. The older buildings of this type are unsanitary and poorly lighted, and the precautions against escape have not always been entirely adequate. Even in the newest there is a difference in temperature of 10° to 15° F. between the bottom and top tiers of cells.

After his visit, the architect may plan for improvements: a sanitary toilet in each cell, larger windows, mechanical ventilation (which will seldom be used because of the cost of operation), and very expensive tool-proof steel bars. Yet supposing that the cell-house type itself was obsolete—what then?

Prison authorities will never get the most out of their architects until specifications are presented not in terms of definite plans and materials, but in terms of performance. Let

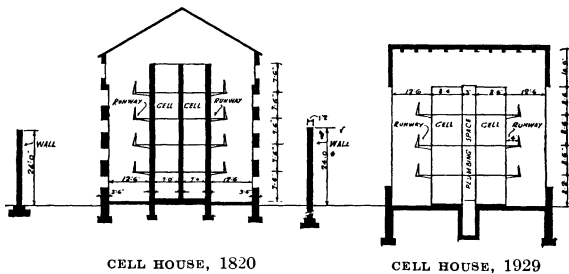


FIGURE I.—Old and new type of cell house at Sing Sing, N. Y. The new type has larger cells, better light and ventilation, and individual plumbing.

them state not that they want a cell block within a building, but that they want a sleeping space from which escape is practically impossible; not that there shall be mechanical ventilation, but that there shall be good air for every prisoner. Then let the solution be worked out. In many instances the result will be astonishing. It will not resemble the present jail at all.

In order to illustrate this approach, let us take up some of the many prison requirements and see how an analysis based on the need rather than on an acceptance of the time-honored solution will affect the design.

SAFETY REQUIREMENTS

When we ask how safe a prison needs to be, the answer is that it depends on the type of population it is to house. There are different sorts of prisoners, with relation to the strength of their desire to escape, and the degree of efficiency they are likely to use in attempting it. An analysis of the prison population may reveal that, roughly speaking, approximately one third of the total will need to be kept under conditions of maximum security, one third will necessitate practically no precautions to prevent their escape, and the other third can be held in with limited security measures. Under such circumstances, to design a prison with maximum precautions all around is the height of folly and waste; yet it is done again and again!

The additional sentence that will be imposed if they are caught after escaping from a prison is considered a sufficient deterrent against attempts to escape by the "minimum security" group. If the prison authorities tell the architect that one third of the prisoners will not make necessary any special provisions against escape, he is free to provide a type of housing that will meet the requirements of this par-

ticular case. It may be that the architect will provide cottages on a farm or barracks on a road camp; or, if the jail is in the city, his model may be found in the type of cheap hotels for workmen that are built by the Salvation Army and other similar organizations.

Any of these solutions will be decidedly cheaper in first cost and in operating cost than the standard type of prison, and all of them will be infinitely superior in making possible a decent treatment of the prisoner. Since prison farm colonies are not regarded as "prisons," no attempt has been made to base their design in that of existing prison buildings, with the result that in several states they are very good.

As for the construction, local conditions will determine whether it should be of temporary frame or whether fireproof throughout, in the cause of greatest economy and efficacy. If the buildings are to be of fireproof construction, careful consideration should be given to the question of *economic height*. As a general rule, considering excavation and foundation costs and the cost of connecting corridors, it is cheaper to build a tall building than a group of connected buildings of a fireproof character. Even assuming the land to be free, the savings in construction and utilities are such that a ten-story structure is usually cheaper than the equivalent floor space distributed in a group of connected low ones.

The decision as to whether the units composing the group should be connected by horizontal corridors or by vertical elevator shafts and stairways, is affected by the problem of segregating men going to and from their work.

LIMITED SECURITY GROUP

The limited security group consists of those who can be permitted outside

of a prison wall during the daytime, and at night are kept where it will not be possible for them to escape without a great deal of effort and a considerable chance of being caught.

Limited security is obtained in existing prisons either by throwing a wall around the buildings or by installing barred windows. Either of these devices will restrain a man from escaping on a sudden whim, but will not prevent him if he makes a determined effort. Were the architect to ignore these two preventives, it is quite possible that he might develop another method of foiling escape, which would be just as effective, and possibly better from the penological standpoint, and more economical. Instead of using the wall or the bars, he might equip the windows with detention sash plus electrical alarm devices. Another solution of the problem might be to place the sleeping quarters of this class of prisoner some distance above ground (the lower floors of the building to be used for offices, dining rooms, kitchen, hospital, and so forth). If the exterior of the building were lighted at night and there were towers from which it could be seen, the chance of escape would be even less than it is in the present type of limited security prison, which is surrounded by a wall of sufficient height but of such length that it cannot be effectively guarded at night.

MAXIMUM SECURITY GROUP

For the maximum security group, defense requirements are of paramount importance. It must be assumed that the men of this group will go to any amount of trouble and run any risk in order to escape.

The architect, when basing his design on precedent, has taken the cell block within the cell house as the model for the maximum security prison. Were the modern architect to approach

the problem without any encumbering knowledge of historical methods, he might decide that one of the surest and least expensive ways of preventing escape would be to house this class of prisoners in the upper stories of a tall building (say the tenth to the fifteenth floor), with special protection around the elevators and the stairs. Guards should of course be stationed at points commanding a view of the entire exterior of the building, and this exterior should be absolutely smooth in texture, so as to offer no handhold. By the addition of a few electrical alarm devices it should be possible to make such a prison just as secure as any of our present types of interior cell houses.

If it is found that escape can be made as difficult from the upper floors of a tall building as it is from the cell house, the choice between the two types will then depend on which offers the greater advantages from the standpoints of penology, administration, and cost. All these factors should be listed, and the various methods under consideration graded for their relative efficacy, under each head. The decision should then be based on the weighted consideration of all factors, and not on precedent.

Possibly the tall building does not have the value I have appeared to be assigning to it. I am not trying to prove that it constitutes a solution. What I do wish to urge is the functional approach. Let the ends to be achieved be clearly stated in terms of what the penologist wishes to accomplish with the human material at hand. Then let the architect translate these purposes into buildings.

CLASSIFICATION REQUIREMENTS

Let us similarly consider other aspects of the problem of housing the prisoner. It is assumed that a careful and scientific system of classification is

absolutely prerequisite to any penal system that hopes to be at all successful. Classification is obviously of no constructive value unless it is accompanied by a system of segregation of classified groups. The actual treatment of prisoners begins with the very living quarters to which they are first assigned; different types of men will of course require different types of housing.

As an example of the sort of analysis which should be made before any attempt at planning is undertaken, let us take a statement recently issued by the Bureau of Prisons with reference to the new Federal Penitentiary at Lewisburg, Pennsylvania:

A small number of maximum security cells for incorrigibles, strong outside rooms for new men, dormitories for prisoners who can live at peace with their fellows, dormitories subdivided into small wards for those prisoners who show greatest improvement of character under such conditions, and for the most advanced, rooms which approximate the living quarters of normal persons.

For convenience let us grade these, starting with the last, A, B, C, D, and E. It is desirable to use dormitories (C) whenever possible, not only because of the enormous saving in cost, but also because of the valuable training afforded in that which the prisoner needs most—coöperation with his fellow men. Dormitories (C) then, will be used for all except those who definitely require something else, viz., the incorrigible and dangerous (E), the prisoner who is not particularly dangerous but cannot get along in the dormitories (D), and the better classes (A and B).

For the sake of carrying out this demonstration, let us assume percentages for these various classes. The number of really dangerous men is very

small—10 per cent should be ample for this group (E); group D would probably not require more than 20 per cent; the total number of locked cells therefore would be 30 per cent, of two grades of security. Of the other 70 per cent, the most hopeful cases (A and B) would probably not total more than 10 per cent for the two classes. Of the 60 per cent housed in dormitories, 40 per cent might be of limited security and 20 per cent of minimum security. This can be tabulated as follows:

TABLE I

Class of Housing	Type of Security		
	Max. (Per Cent)	Lim. (Per Cent)	Min. (Per Cent)
A (rooms) . . . . .	..	..	5
B (wards) . . . . .	..	..	5
C (dorms) . . . . .	..	40	20
D (cells) . . . . .	..	20	..
E (cells)	10	..	..
Total	10	60	30

PREPARATION FOR SMALL GROUPS

By scientific observation and analysis it has been generally agreed that prisoners can best be treated by dividing them into groups of twenty-five to fifty men, with the lower number the ideal. This figure was determined by an effort to get the smallest group which is yet large enough not to be dominated by one man.

The living quarters should provide the maximum amount of sunlight and fresh air; window space should be as large as possible. The highest standards of sanitation should be facilitated by the use of materials that are easy to clean, for floors, walls, and ceilings. Heat should be adequate and evenly distributed, the prisoner should be able to adjust his own ventilation within reasonable limits. It is also more

satisfactory for both disciplinary and psychological reasons, if the windows of the unit do not afford a view of other imprisoned men in another wing of the prison. Now, with the aid of the above table

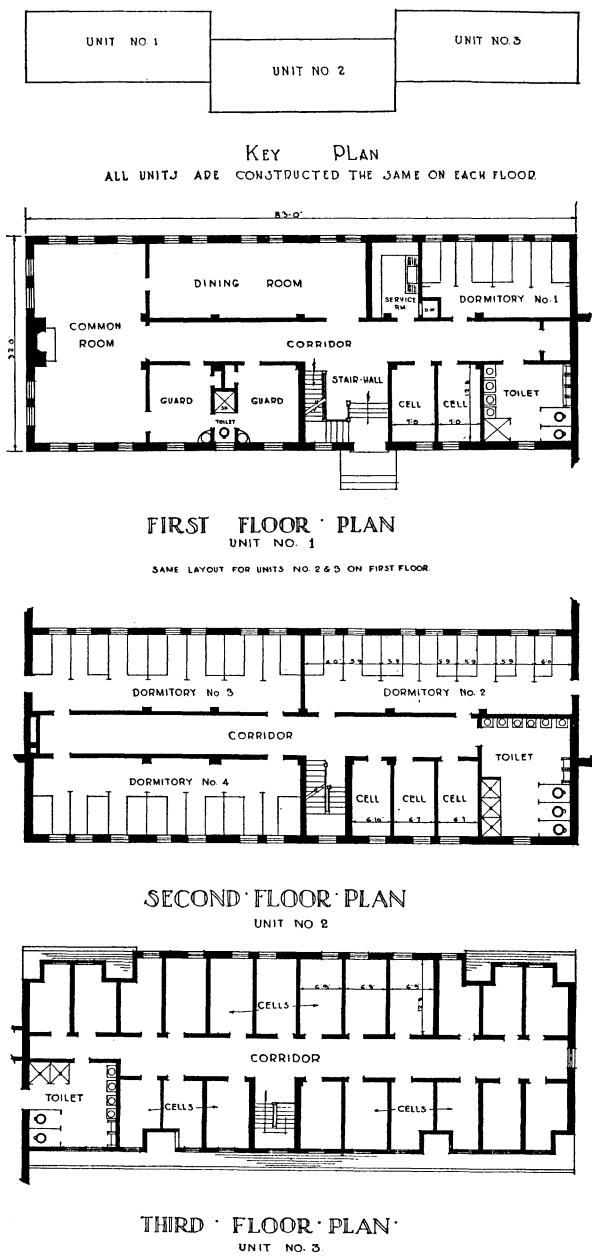


FIGURE II.—Plans of three of the units of the State Prison Colony, Norfolk, Mass. McLaughlin and Burr, Architects; Richard D. Kimball Company, Engineers.

and requirements (which are presented in outline only, each of the factors necessitating a separate and detailed analysis), the architect has something to work on. In units of twenty-five or fifty, he can lay out his different types of housing, satisfying to the best of his ability all of the requirements of the program. His plan may resemble that of Norfolk (Fig. II), or perhaps something entirely different; but in any case, he will now be working directly from the performance requirement to the rational solution, and not accepting and reproducing without question a design which has no other excuse than that prisons have always been built that way.

DINING REQUIREMENTS

As another factor in the planning of the prison, let us take feeding. The large congregate dining room operated on the cafeteria system is efficient and economical in the distribution of food. However, it has a sufficient number of disadvantages to have caused several designers of the most recent prisons to abandon it in favor of a dining room in each housing unit. This has been done, for example, at Norfolk, Graterford, and Alexandria. The large dining room does not permit segregation of classified units. The congregation of a large number of men in a single room at the critical time of eating prepares a fertile field for prison riots, and it is a matter of record that the great majority of prison riots have started in the dining room. The marching of prisoners from their cells to the dining room and from there to the shop involves an unnecessary amount of movement, which means an unnecessary expense of guarding. Finally, the congregate dining hall requires a huge room, usually a separate building but in any case expensive to build, and used only a few hours a day.

This, then, is the problem: It is desired to feed the prisoners economically and efficiently, with a minimum of movement and guarding; the prisoners are to be kept segregated at meals, as they are in sleeping quarters; riots must be rendered impossible; food must be served so that it is attractive and palatable, and everything pertaining to it must be absolutely sanitary.

Various solutions of this problem have been attempted. At the Federal Penitentiary for Women at Alexandria, Virginia, the women in each housing unit (cottage) cook and serve their own meals; this system is also in use at several of the prison farms for men in the South. At the New Eastern Penitentiary at Graterford, Pennsylvania, there is a dining room at the end of each housing unit. These dining rooms are connected by a corridor with the central kitchen, from which food is brought in heated trucks. At the Massachusetts State Prison Colony at Norfolk, there is a combination dining and recreation room in each housing unit, for fifty men. These rooms are connected by dumb waiter with an underground tunnel from the kitchen. Each dining room has a small steam table.

None of these attempts has fully satisfied all of the requirements as listed above. One possible solution, perhaps more satisfying than any of the above examples, yet still far from perfect, might be that suggested by Dr. Hastings Hart, in the skyscraper jail plan conceived by him. A small dining room is at the end of each housing unit for the use of that classified group only; segregation is the same as in sleeping quarters; danger of riots is averted by the small units (12-18 prisoners); there is no unnecessary movement of prisoners; the room can be used at other than meal times for the recreation space for that unit.

Food is prepared in the general kitchen on the ground floor or basement and sent to the units by elevators, then removed and placed on the small steam table in the dining room. The men of each unit set up the tables and serve themselves, cafeteria style, and clean up afterwards. They are then ready to go directly to the shops.

For the evening meal, the men come back from work and change their clothes before dinner. They do not have to leave the unit again until they go to work the next day. The noon meal could be eaten in the shops, which is the normal practice of free labor. This could be of the box-lunch type or served from a traveling lunch truck; it would not need to be a hot meal, since two hot meals a day are adequate.

A RATIONAL APPROACH

This, which is not intended as a solution, may serve to demonstrate the method of working out rationally an architectural problem, once the performance requirements have been clearly stated. This same method of approach should be applied to each of the factors entering into the design of the prison quarters for work, exercise and recreation, education, hospital, classification, reception, utilities, administrative offices, provision for the staff, and other purposes.

The architect commissioned to design a new prison is confronted with an

unusually difficult task. The business or industrial firm proposing to build, usually knows exactly what it requires for its purposes, and can give the architect a complete program, which he has only to translate into drawings and blueprints and then into steel and concrete. But the prison board proposing to build has rarely worked out anything like a complete program. The lack of agreement among the penologists themselves upon almost every point becomes evident to the architect as soon as he tries to get from them a statement of exactly what they want their new prison to do. Furthermore, the penologists seem surprisingly insensitive to the enormous importance of the building in the treatment of the prisoner.

An architect can scarcely be expected to be a penal expert, but perhaps, by a persistently rational approach, he can indicate to his prison board the necessity for a prolonged and careful study of this problem. Meanwhile, the architect will have to do the work as best he can, following the analytical method outlined above. Until the penologists see fit to devote as much effort toward a thorough research in building as industry has done, or as much effort as they themselves have shown in other aspects of their work, the architecture of American prisons will continue to lag far behind industrial architecture, and far behind modern penal theory.