

I. T. Arlidge: On some Prin-
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[From the Treatise "On the State of Lunacy, and the Legal Provision for the Insane." By J. T. ARLIDGE, M.B., A.B. (Lond.)]

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PUBLIC LUNATIC ASYLUMS.

THE substance of the following remarks formed the subject of a chapter on Asylum Construction published by us in the 'Asylum Journal' (vol. iv. 1858, p. 188) above a year since, and, as we then remarked, the principles put forward had been adopted by us some five or six years previously, and were strengthened and confirmed by the extended observations we had personally made more recently on the plans and organization of most of the principal asylums of France, Germany, and Italy.

All the public asylums of this country are, with slight variations, constructed after one model, in which a corridor, having sleeping-rooms along one side, and one or more day-rooms at

one end,—or a recess (a sort of dilatation or offset of the corridor at one spot), in lieu of a room, constituting a section or apartment fitted for constant occupation, day and night, forms—to use the term in vogue—a ‘ward.’ An asylum consists of a larger or smaller number of these wards, united together on the same level, and also superposed in one, two, three, and occasionally four stories. There are, indeed, variations observed in different asylums, consisting chiefly in the manner in which the wards are juxtaposed and disposed in reference to the block and ground plans, or in the introduction of accessory rooms, sometimes on the opposite side of the corridor to the general row of small chambers, to be used as dormitories or otherwise; but these variations do not involve a departure from the principle of construction adopted.

Those who have perambulated the corridors of monastic establishments will recognize in the ‘ward-system’ a repetition of the same general arrangements,—a similarity doubtless due in part to the fact of ancient monasteries having been often appropriated to the residence of the insane, and in part to the old notions of treatment required by the insane, as ferocious individuals, to be shut apart from their fellow-men.

Whilst the ideas of treatment just alluded to prevailed, there was good reason for building corridors and rows of single rooms or cells; but, since they have been exploded, and a humane system of treating the insane established in their place, the perpetuation of the ‘ward-system’ has been an anomaly and a disastrous mistake. The explanation of the error is to be found in the facts,—that medical men in England, engaged in the care of the insane, have contented themselves with suggesting modifications of the prevailing system,—than which indeed they found no other models in their own country; and that the usual course has been, to seek plans from architects, who, having no personal acquaintance with the requirements of the insane, and the necessary arrangements of asylums, have been compelled to become copyists of the generally-approved principle of construction, which they have only ventured to depart from in non-essential details, and in matters of style and ornamentation.

The literature of asylum architecture in this country evidences the little attention which has been paid to the subject. The only indigenous work on asylum-building—for the few pages on construction in Tuke’s introduction to his translation of Jacobi’s book, and the still fewer pages in Dr. Brown’s book on asylums, published above twenty years ago, do not assume the character of treatises—is the small one by Dr. Conolly, and even this is actually more occupied by a description of internal arrangements in connexion with the management of lunatics, than by an exa-

mination of the principles and plans of construction. This bald state of English literature on the subject of construction contrasts strongly with the numerous publications produced on the Continent, and chiefly by asylum physicians, the best-qualified judges of what an asylum ought to be in structure and arrangements.

However, to resume the consideration of the 'ward-system' as it exists, let us briefly examine it in its relations to the wants and the treatment of the insane. Every day adds conviction to the impression, that the less the insane are treated as exceptional beings, the better is it both for their interests and for those who superintend them. In other words, the grand object to be kept in view when providing for the accommodation of the insane, is to assimilate their condition and the circumstances surrounding them as closely as possible to those of ordinary life. Now, though it is clearly impracticable to repeat all the conditions of existence prevailing in the homes of the poorer middle and pauper classes of society who constitute the inmates of our public asylums, when these persons are brought together to form a large community for their better treatment and management, yet we may say of the 'ward-system,' that it is about as wide a departure from those conditions as can well be conceived. It is an inversion of those social and domestic arrangements under which English people habitually live.

The new-comer into the asylum is ushered into a long passage or corridor, with a series of small doors on one side, and a row of peculiarly-constructed windows on the other; he finds himself mingled with a number of eccentric beings, pacing singly up and down the corridor, or perhaps collected in unsocial groups in a room opening out of it, or in a nondescript sort of space formed by a bulging-out of its wall at one spot, duly lighted, and furnished with tables, benches, and chairs, but withal not a room within the meaning of the term, and in the patient's apprehension. Presently, he will be introduced through one of the many little doors around him into his single sleeping-room, or will find himself lodged in a dormitory with several others, and by degrees will learn that another little door admits him to a lavatory, another to a bath, another to a scullery or store-closet, another to a water-closet (with which probably he has never before in such close relation), another to a *sanctum sanctorum*—the attendant's room, within which he must not enter. Within this curiously constructed and arranged place he will discover his lot to be cast for all the purposes of life, excepting when out-door exercise or employment in a workroom calls him away: within it he will have to take his meals, to find his private occupation or amusement, or join in intercourse with his fellow-inmates, to take indoor exercise, and seek repose in sleep; he will

breathe the same air, occupy the same space, and be surrounded by the same objects, night and day.

This sketch may suffice to illustrate the relations of a ward as a place of abode for patients, and to exhibit how widely different are all the arrangements from those they have been accustomed to. Let us now notice briefly the relations of the ward-system to the treatment required for insane inmates. The monotonous existence is unfavourable: the same apartment and objects night and day, and the same arrangements and routine, necessitated by living in a ward, are not conducive to the relief of the disordered mind. Where access to the sleeping-rooms is permitted by day, the torpid and indolent, the melancholic, the morose and the mischievous, will find occasion and inducement to indulge in their several humours; opportunity is afforded them to elude the eye of the attendants, to indulge in reverie, and to cherish their morbid sentiments. When the rules of the institution forbid resort to their rooms by day, the idea of being hardly dealt with by the refusal will probably arise in their minds, since the inducement to use them is suggested by their contiguity; the doors, close at hand, will ever create the desire to indulge in the withheld gratification of entering them. How many insane are animated with a desire to lounge, to mope unseen, and to lie in bed, needs not to be told to those conversant with their peculiarities; and, surely, the removal of the temptation to indulge would be a boon both to physician and patients.

Again, the corridor and its suite of rooms present obstacles to ventilation and warming, and, as the former in general serves, besides the purpose of a covered promenade, that of a passage of communication between adjoining wards, it is less fitted for the general purposes of daily life, and the passage to and fro of persons through it is a source of disturbance to its occupants, and often objectionable to the passer-by. As a place of indoor exercise, the corridor has little real value, especially when considered in relation to the other objects it has to serve. Those who desire to sit still, to read, to amuse or to employ themselves, feel it an annoyance to have one or more individuals walking up and down, and often disposed to vagaries of various sorts; few of the whole number care for perambulating it if they can get out of doors for exercise (and there are not many days when they cannot), and, as far as concerns the health of those few who use the corridor for exercise, it would be better to encourage them to walk in the grounds, than, by having such a space within doors, to induce their remaining there.

When casual sickness or temporary indisposition overtakes a patient, and a removal to the infirmary ward is not needed, though repose is required, it is a great disadvantage to have an

exercising corridor in such immediate contiguity with the bedroom, and to have the room open into the corridor; for it is an arrangement more or less destructive of quiet, and exposes the poor sufferer to the intrusion of the other inmates of the ward, unless the room-door be locked,—a proceeding rarely advisable under the circumstances supposed.

The introduction of the plan of building an open recess in a corridor as a sitting apartment instead of an ordinary room was a consequence of the difficulties experienced in exercising an efficient supervision of the inmates when dispersed, some in the corridor, and others in the day or dining rooms. Yet, although the plan in question partially removes these difficulties, no one could wish to exchange the advantages in comfort and appearance of a sitting-room with the greater approximation it affords to the ordinary structure of a house, for a recess in a corridor, if effectual supervision could in any other way be attained. But the plan of a corridor with an offset in lieu of a room does not secure a completely effective oversight, control, and regulation of the occupants, since it presents many opportunities, in its large space, and by the disposition of its parts, for those to lope who may be so disposed, and for the disorderly to annoy their neighbours, without arresting the attention of the one or two attendants.

In the construction and arrangements of a ward, it is necessary to provide for all the wants of the inmates both by day and night, to supply the fittings and furniture needed by the little community inhabiting it; and all such arrangements and conveniences have consequently to be repeated in every one of the many wards found in the asylum, at a very large cost. Again, by the ward-system, the patients are lodged on each floor of the building, and therefore the service of the asylum becomes more difficult, just in proportion to the number of stories above the ground-floor, or the basement, where the kitchen and other general offices are situated. It is chiefly to obviate this difficulty that the elevation of our public asylums has been limited to two stories, and a greater expenditure thereby incurred for their extension over a larger area. (See p. 212.)

From whatever point of view the ward-system may be regarded, there is in it, to our view, an absence of all those domestic and social arrangements and provisions which give a charm to the homes of English people. The peculiar combination of day and night accommodation is without analogy in any house; whilst the sitting, working, or reading, and, occasionally, the taking of meals, in a corridor, a place used also for exercise, and for the passage of persons from one part of the asylum to another, represent conditions of life without parallel among the domestic arrangements of any classes of the community.

The principle of construction we contend for is, the separation, as far as practicable, of the day from the night accommodation. Instead of building wards fitted for the constant habitation of their inmates, we propose to construct a series of sitting or day rooms on the ground-floor, and to devote the stories above entirely to bedroom accommodation. Not that we would have none to sleep on the ground-floor, for we recognise the utility of supplying accommodation there, both by night and day, for certain classes of patients, such, for instance, as the aged and infirm, who can with difficulty mount or descend stairs; the paralytics; some epileptics, and others of dirty habits, and the most refractory and noisy patients. The last-named are, in our opinion, best lodged in a detached wing, particularly during their paroxysms of noise and fury, according to the plan adopted in several French asylums. And we may, by the way, remark, that if such patients were so disposed of, one reason assigned for internal corridors as places requisite for indoor exercise, would be set aside, inasmuch as these are supposed practically to be most useful to that class of asylum inmates.

In our paper on construction in the 'Asylum Journal,' before referred to, we illustrated (*op. cit.* p. 194) our views by reference to a rough outline of a part of a plan for a public asylum we had some years before designed; but it seems unnecessary to reproduce that special plan here, since, if the principle advocated be accepted, it becomes a mere matter of detail to arrange the disposition, the relative dimensions, and such like particulars, whether of the day-rooms below or of the chambers above. There is this much, however, worth noting, that, by the construction of adjoining capacious sitting-rooms, it is easy so to order it, that any two, or even three, may, by means of folding-doors, be thrown into one, and a suite of rooms obtained suited for public occasions, for dancing, for lectures, or theatricals. So again, even in the case of those who may be placed together in the same section of the establishment, and who join at meals, the construction of two or more contiguous sitting-rooms affords an opportunity for a more careful classification, in consideration of their different tastes, and of their capability for association, for employment, or for amusement.

However, without delaying to point out the advantages accruing in minor details of internal arrangements when the principle is carried out, let us briefly examine its merits abstractedly, and in relation to the system in vogue.

1. It assimilates the condition of the patients to that of ordinary life, as far as can be done in a public institution. They are brought together by day into a series of sitting-rooms adapted to the particular class inhabiting them, and varied in

fittings and furniture according to the particular use to which they are applied,—as, for instance, for taking meals, or for the lighter sorts of work, indoor amusements, and reading. For the sections, indeed, inhabited by the more refractory and the epileptic, a single day-room would suffice. When thus brought together in rooms, instead of being distributed along a corridor and its divergent apartments, association between the several patients can be more readily promoted; and this is a matter worth promoting, for the insane are morbidly selfish and exclusive. Likewise, it becomes more easy for the attendants to direct and watch them in their amusements or occupations, and to give special attention or encouragement to some one or more of their number without overlooking the rest. Besides this, rooms admit of being arranged and furnished as such apartments should be; whilst, whatever money may be laid out in furnishing and ornamenting corridors, they can never be rendered like any sort of apartment to be met with in the homes of English people. The separation of the sleeping-rooms from the day accommodation also has the similar advantage of meeting the wishes and habits of our countrymen, who always strive to secure themselves a sitting and a bed room apart: and, altogether, it may be said, that in a suite of day-rooms disposed after the plan advocated, and in the perfectly separated bedroom accommodation, there is, to use a peculiarly English word, a *comfort* completely unattainable by the ward-system, however thoroughly developed.

2. Greater salubrity and greater facilities for warming and ventilation are secured. It will be universally conceded that sleeping-rooms are more healthy when placed above the ground-floor, so as to escape the constant humidity and exhalations from the earth, particularly at night. The system suggested secures this greater salubrity for the majority of the population, who occupy the upper floors during the night; those only being excepted, whom, for some sufficient reason, it is desirable not to move up and down stairs, or not to lodge at night in the immediate vicinity of the rest of the patients. Again, the separation of the apartments for use by day from those occupied at night favours the health of the establishment by rendering ventilation more easy and complete. In a ward occupied all day and all night, the air is subject to perpetual vitiation, and, whilst patients are present, it is, especially in bad weather, difficult or quite unadvisable to attempt thorough ventilation by the natural means of opening windows and doors,—a means which we believe to be preferable to all the schemes of artificial ventilation of all the ingenious engineers who have attempted to make the currents of air and the law of diffusion of gases obedient to their behests. But “the wind bloweth where it listeth,” and all the traps set to

catch the foul exhalations, and all the jets of prepared fresh air sent in from other quarters, will not serve their bidding: the airy currents will disport themselves pretty much as they please, and intermingle in spite of the solicitations of opposing flues to draw them different ways. But if, on our plan, the apartments for day use are kept completely distinct from those used by night, each set being emptied alternately, a most thorough renewal of air may be obtained by every aperture communicating with the external atmosphere.

The actual construction of a ward creates an impediment to the perfect ventilation of all its apartments. There is a wide corridor, and along one side a series of small chambers, the windows of which are necessarily small, and sometimes high up; the windows, too, both in rooms and corridor, must be peculiarly constructed, and the openings in them for ventilation small. Although it is easy in this arrangement to get a free circulation of air along the corridor, it is not so to obtain it for each room opening out of it. By the scheme of construction we propose, these difficulties are mostly removed. The day-rooms on the ground-floor need no corridor alongside, and, as a single series or line of apartments, are permeated by a current of air traversing them from side to side. But if, for the convenience of the service of the house, some passage were thought necessary, it would be external to the rooms, and in designing the asylum it should be an object to prevent such corridors of communication interfering with the introduction of windows on the opposite sides of each sitting-room. On the bedroom-floor above, a corridor, where necessary, would not be a wide space for exercise, such as is required for a ward, but merely a passage, giving access from one part of the building to another. So, with respect to the windows, except those in the single bedrooms, it would be perfectly compatible with security to construct them much after the usual style adopted in ordinary houses, and thereby allow large openings for the free circulation of air.

Further, when the patients inhabit ordinarily-constructed sitting-rooms, the warming of these may be effected by the common open fires, which are dear to the sight and feelings of every Englishman, and impart a cheerful and home-like character. Likewise, there would be no need of keeping the whole building constantly heated at an enormous expense; for only one half of it would be occupied at a time, nor would those most costly and complicated systems of heating be at all required. The saving in large public asylums would be something very large in this one item,—that of fuel to burn, without counting the expenditure which is generally incurred for the heating apparatus, flues, furnaces, and shafts. As with the warming, so

with the lighting of an institution constructed on our model,—only one-half would require illumination at the same time, and much gas-fitting would be saved by the diminution of the number of small apartments, repeated, after the prevailing model, in every ward, and requiring to be lighted.

3. Access to the airing courts, offices, workshops, &c., becomes easier to all the inmates. According to the established system of construction, the half, or upwards, of the patients have to descend from the wards on the upper floors for exercise or for work, and to ascend again to them for their meals, or to retire to rest. This ascent and descent of stairs may have to be repeated several times daily; and it must be remembered that it cannot take place without the risk of various inconveniences and dangers necessarily dependent on stairs, and that it must frequently entail trouble and anxiety upon the attendants, particularly in mischievous and in feeble cases. The plan advocated obviates all these evils, so far as practicable. The patients would have to go up and down stairs only once a-day, and the attendants, therefore, escape much of the constantly occurring trouble of helping the feeble, or of inducing the unwilling to undertake the repeated ascent and descent,—a task ever likely to be neglected, and to lead to patients being deprived, to a greater or less extent, of out-door exercise and amusement.

4. It facilitates supervision. Supervision, both by the medical officers and by the attendants, becomes much more easy and effectual when the patients are collected in rooms, affording them no corners or hiding-places for moping and indulging in their mental vagaries, their selfishness and moroseness. When the medical officer enters the day-room, all the inmates come at once under his observation, and this affords him the best opportunity of noting their cases, and of discovering their condition and progress. By the attendants similar advantages are to be gained; the patients will be more immediately and constantly under their eye than when distributed in a corridor and connected rooms; their requirements will be sooner perceived, and more readily supplied; their peculiarities better detected and provided against; their insane tendencies more easily controlled and directed; whilst, at the same time, the degree and mode of association will call forth feelings of interest and attachment between the two.

Just as supervision becomes more easy by day, so does watching by night; for almost the whole staff of attendants would sleep on the same floor with the patients, and thereby a more immediate communication between them be established, and a salutary check on the conduct of the latter, from the knowledge of the attendants being close at hand, more fully attained. Perhaps these advantages will appear more clear when it is understood that the

subdivision of the bed-room floor into several distinct wards, cut off from each other by doors, stair-landings, &c., would not be at all necessary on the principle of construction recommended. The comparatively few noisy patients in a well-regulated asylum would occupy the sleeping-rooms of the ground-floor wings, if not placed in a distinct section; and therefore, the inhabitants of the floor above being all quiet patients, no partitions need separate their section of the building into distinct portions or wards, and act as impediments to the freedom of communication and ventilation.

This matter of the partitions needed is, however, a point of detail, which would have to be determined pretty much by the general design adopted.

5. Classification is more perfect. Owing to the sleeping apartments being quite distinct from those occupied by day, the rule usually observed in a ward, as a matter of necessary convenience, of keeping the same group of occupants in it both night and day, need not at all be followed. On retiring from their sitting-rooms, where they have been placed according to the principles of classification pursued, the day association would be broken up, and their distribution in the sleeping-rooms might be regulated according to their peculiar requirements at night. This valuable idea, of arranging patients differently by day and by night, was put forward by Dr. Sankey, of Hanwell (*'Asylum Journal,'* vol. ii. 1856, p. 473), in the following paragraph:—"Whatever the basis of the classification, it will not hold good throughout the twenty-four hours: why, therefore, should it be attempted to make it do so? At night the classification should be based on the requirement of the patient during the night; and during the day, the patient should be placed where he can be best attended during the day." Let us add, that the more perfectly Dr. Sankey's principle could be carried out, the more easy would supervision be rendered.

Since mechanical restraint has been set aside, seclusion in a specially-constructed chamber, or in the patient's own room, has in some measure taken its place, and been frequently abused; for it is more difficult to control the employment of seclusion than of instrumental restraint, and in a ward there is almost a temptation to employ it where a patient is inconveniently troublesome to the attendant; the single room is close at hand, and it is a simple matter to thrust the patient into it, and an easy one to release him if the footstep of the superintendent is heard approaching. The plan of construction we would substitute for the ward-system would almost of itself cure the evil alluded to. Furthermore, since sitting-rooms and other apartments to meet the exigencies of daily use are excluded from the upper floors, it would become easier for the architect to dispose the single rooms

and dormitories, and more especially the attendants' rooms, with a view to the most effectual supervision. We may, in fine, state under the two last heads, generally, that access to the patients, their quiet and comfort, their watching and tending and their classification will be more readily and also more efficiently secured by the arrangement pointed out, than by the system of construction hitherto pursued in this country.

6. Domestic arrangements will be facilitated in various ways. —The patients, in the first place, will be less disturbed by the necessary operations of cleaning, which every superintendent knows are apt to be a source of irritation and annoyance, both to patients and attendants. The ground-floor may be prepared for the day's use before the patients leave their bedrooms; and in the same way the latter may be cleaned during the occupation of the ground-floor. By the present constitution of a ward for use both night and day, considerable inconvenience, and many irregularities in management constantly result. The cleaning has to be hurried over, or to be done at awkward hours, to avoid alike the interruption of patients, or the being interrupted by them; and, at the best, it will from time to time happen that patients are excluded from their day or their bedrooms, or from the corridors, during the operation.

Another advantage will accrue from the system proposed. The amount of cleaning will be much diminished, for the two floors will be used only alternately, and not only the wear and tear of the entire building, but also the exposure to dirt will be greatly lessened; above all, the small extent of corridor will make an immense difference in the labour of the attendants in cleaning, compared with that which now falls to their lot.

Again, the drying of floors after they have been washed is always a difficulty, particularly in winter, and is the more felt in the case of the bedrooms, which have, when single-bedded or small, but a slight current of air through them, and consequently dry slowly. This difficulty is augmented, when, as it often happens, it is necessary for them to be kept locked, to prevent the intrusion of their occupants or of others. The ill effects of frequently wetted floors in apartments constantly occupied, and therefore dried during occupation, have been fully recognized and admitted by hospital surgeons, and have impressed some so strongly, that, to escape them, they have substituted dry rubbing and polished floors to avoid the pail and scrubbing-brush. By the arrangements submitted, however, this difficulty in washing the floors is removed, since there is no constant occupancy of the rooms, and therefore ample time for drying permitted.

Further, by the plan in question, the distribution of food, of medicine, and of stores, becomes more easy and rapid; the

collection, and the serving of the patients at meals, are greatly simplified and expedited. A regularity of management in many minor details will likewise be promoted. As the majority of the patients are quite removed from proximity to their sleeping-rooms, the temptation and inducement to indulge in bed by day, or before the appointed hour at night, will be removed, as will also the irregularity frequently seen in wards some time before the hour of bed, of patients prematurely stowed away in their beds, and of others disrobing, whilst the remainder of the population is indulging in its amusements, its gossips, or in the 'quiet pipe,' before turning in.

7. Management facilitated.—Our own experience convinces us that there is no plan so effectual for keeping otherwise restless and refractory patients in order as that of bringing them together into a room, under the immediate influence and control of an attendant, who will do his best to divert or employ them. We are, let it be understood, only now speaking of their management when necessarily in-doors; for, where there is no impediment to it, there is nothing so salutary to such patients as out-door exercise, amusement, and employment. On the contrary, to turn refractory patients loose into a large corridor, we hold to be generally objectionable. Its dimensions suggest movement; the patient will walk fast, run, jump, or dance about, and will, under the spur of his activity, meddle with others, or with furniture, and the like; and if an attendant follow or interfere, irritation will often ensue. But in a room with an attendant at hand, there are neither the same inducements nor similar opportunities for such irregularities. Some would say, such a patient is well placed in a corridor, for he there works off his superabundant activity. But we cannot subscribe to this doctrine; for we believe the undue activity may be first called forth by his being placed in a corridor; and that it is besides rare that a patient, particularly if his attack be recent, has any actual strength to waste in such constant abnormal activity as the existence of a space to exercise it in encourages. And, lastly, it is better to restrict the exhibition of such perverted movement to the exercising grounds, or better still to divert it to some useful purpose by occupation; for in a ward such exhibitions are contagious.

These remarks bear upon the question of the purpose and utility of corridors as places for exercise, concerning which we have previously expressed ourselves as having a poor opinion, and have throughout treated corridors mainly as passages or means of communication.

8. A less staff of attendants required.—If the foregoing propositions, relative to the advantages of the system propounded, be

admitted, the corollary, that a less staff of attendants will suffice, must likewise be granted, and needs not a separate demonstration. There is this much, however, to be said, that the proposition made in a former page to distinguish attendants upon the nurse from the cleaners or those more immediately concerned in the domestic work of the house, would be an easier matter when the construction followed the principles recommended. The attendants upon the occupants of the sitting-rooms need be but few, for their attention would not be distracted from their patients by domestic details; for the cleaners would prepare the apartments ready for occupation, would be engaged in fetching and carrying meals, fuel, and other things necessary for use, and the attendants would thereby be deprived of numerous excuses for absence from their rooms, and for irregularities occurring during their occupation with household duties.

9. The actual cost of construction of an asylum on the plan set forth would be greatly diminished.—It has just been shown that the proposed plan will ensure a more ready and economical management; and if structural details could be here entered upon, in connexion with an estimate of costs for work and materials, it could without difficulty be proved, that the cost of accommodation per head, for the patients, would fall much under that entailed by the plan of building generally followed. The professional architect who assisted us made a most careful estimate of the cost of carrying out the particular plan we prepared (designed to accommodate 220 patients), and calculated that every expense of construction, including drainage of the site, gas apparatus, farm-buildings, &c., would be covered by £19,000, *i. e.* at the rate of less than £90 (£87) per head.

That a considerable saving must attend the system propounded will be evident from the fact, that, instead of a corridor, on the first floor, at least twelve feet wide, as constructed on the prevailing plan, one of six feet, or less, simply as a passage for communication, is all that is required, and thus a saving of about that number of feet in the thickness or depth of the building, in each story above the ground-floor, is at once gained. A similar, though smaller, economical advantage is likewise obtained on the ground-floor, for the corridor there need be nothing more than an external appendage, and of little cost to construct.

A further saving would attend the construction of an asylum on the plan set forth, both from the concentration of the several parts for night and day use respectively, and generally from the rejection of the ward-system. The construction of almost all the sleeping accommodation on one floor would render many provisions for safety and convenience unnecessary,—for instance, in the construction of the windows. So the substitution of what

may be termed divisions, or quarters in lieu of wards, would do away with the necessity of many arrangements requisite for apartments, when intended for use, both by night and day. As constructed commonly, each ward is a complete residence in itself, replete with all the requisites for every-day life, except indeed in the cooking department; and the consequence is, there is a great repetition throughout the institution of similar conveniences and appurtenances. Indeed, in the plan we designed, the influence of example or general usage led us to introduce many repetitions of several accessory apartments, which were, in fact, uncalled for, and added much to the estimate. For instance, we assigned a bath-room to each division, although we consider that a room, well-placed, to contain several baths (*i.e.* in French phrase, a 'salle des bains'), would more conveniently serve the purpose of the whole ground-floor inmates, and be much cheaper to construct and to supply. Yet, if this notion of a 'bath-house' be unacceptable to English Asylum Superintendents, a smaller number of bath-rooms than was either provided in the particular plan alluded to, or is usually apportioned to asylums, would assuredly suffice. The same may be said of the lavatories, sculleries, and store-rooms.

10. The plan removes most of the objections to the erection of a second-floor or third-story.

These objections generally owe their force to the difficulty of assuring the inmates of a third-story their due amount of attention, and their fair share of out-door exercise, and of much indoor amusement, without entailing such trouble upon all parties concerned, that a frequent dereliction or negligence of duty is almost a necessary consequence.

Dr. Bucknill ('Asylum Journal,' vol. iii., 1857, p. 387, *et seq.*) has well argued against the erection of a third-story, on economical grounds; and remarks that "practically, in asylums built with a multiplicity of stories, the patients who live aloft, are, to a considerable extent, removed from the enjoyment of air and exercise, and the care and sympathy of their fellow-men. They are less visited by the asylum officers, and they less frequently and fully enjoy the blessings of out-door recreation and exercise. Those below will have many a half-hour's run from which they are debarred; the half-hours of sunshine on rainy days, the half-hours following meals, and many of the scraps of time, which are idly, but not uselessly spent, in breathing the fresh air."

The foregoing considerations are certainly sufficient to condemn the appropriation of a third story for the day and night uses of patients, according to the 'ward-system' in operation; but they have no weight when the floor is occupied only for sleeping.

We must confess we cannot appreciate the chief objection of Dr. Bucknill (*op. cit.* pp. 388, 389,) to the use of a third floor for sleeping-rooms only, for we do not see the reason why "the use of a whole story for sleeping-rooms renders the single-room arrangement exceedingly inconvenient;" for surely, on the common plan of construction, a row of single rooms might extend the whole length of a third floor on one side of a corridor, equally well as on the floors beneath.

Without desiring to enter on the question of the relative merits of single-room and of dormitory accommodation, to examine which is the special object of the paper quoted, we may remark, that the addition of a third story, when the plan we have advocated is carried out, obviates the generally admitted objections to such a proceeding. The same arrangement of apartments may obtain in it as on the bedroom-floor below, and the proportion of single rooms to dormitories, viz. one-third of the whole sleeping accommodation to the former, insisted upon by Dr. Bucknill, can be readily supplied. Attention would only be required to allow in the plan sufficient day-room space on the ground-floor,—a requirement to be met without difficulty.

The existence of a third story is no necessary feature to an asylum constructed on the principle discussed, and we have adverted to it for the sole purpose of showing that the ordinary objections to it are invalid, when the arrangement and purposes of its accommodation are rendered conformable to the general principles of construction advocated in this chapter.

A hint from Dr. Bucknill's excellent remarks on the advantage of being able to utilize spare half-hours must not be lost. Two flights of stairs, he well states, constitute a great obstacle to a frequent and ready access to the open air, and we are sure he would allow even one to be a considerable impediment to it; and, consequently, that an asylum with no stairs interposing between the patients and their pleasure-grounds would possess the advantage of facilitating their enjoyment of them.

These remarks on the advantages of the principle of construction we advise for adoption would admit of extension, but sufficient has been advanced, we trust, to make good our views. We have taken in hand to write a chapter on some principles in the construction of public asylums, but we must stop at the point we have now reached; for it would grow into a treatise, did we attempt to examine the many principles propounded, and entirely surpass the end and aim of this present work.

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