

The 21st century model prison

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By 2002 there were more than 70,000 prisoners in Britain. The number of prisoners exceeded the number of available prison places. This paper records the development of a model prison building designed to compliment a new regime founded on the principle of learning. The director of the Do Tank Hilary Cottam commissioned the research. Buschow Henley developed the design over a two-month period in Spring 2002 in conjunction with the Do Tank and the Home Office Prison Service. Prior to, and during the design process visits were made to HMYOI Reading, HMP Wormwood Scrubs, HMP Wandsworth and HMP Grendon.

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It is now a year since the design was developed, and “Learning Works: The 21st Century Prison” was published. This paper represents the model design, drawing comparisons with a number of historic examples and current conventions. Given that this is in essence a design exercise, whilst logical, it cannot claim to be absolutely rigorous. This may at times be evident.

The 21st Century Model Prison seeks to define a new prison typology organised to achieve freedom of activity and inhabitation for the prisoner. The prisoner is enabled to engage in a range of activities inside and outside the building, supported by a circulation and management system that brings the human expertise to the prisoner environment. The design inverts the logic of Bentham’s Panopticon ‘inspection house’ (1791) and subsequent radial prison models (Figure 1).

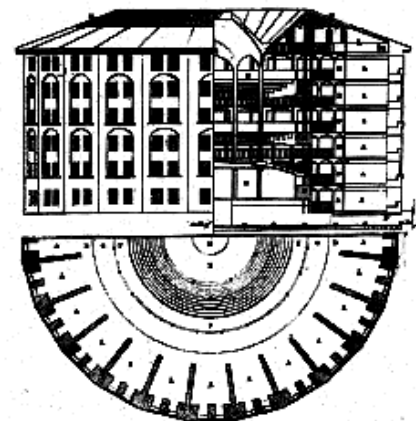


Figure 1: The Panopticon
(source: Bentham, 1791)

The model evolved to enable learning to be integrated in to all aspects of prison life and to be integrated into every space, the objective being to enable prisoners to resettle into society with a significantly reduced incidence of recidivism. The

building enables both staff and prisoner time to be redirected towards the new learning regime. It helps in the management of the prisoner, freeing up staff time for learning initiatives and better management. It mitigates the intense and wasteful aspects of managed movement and security through the organisation of prisoners into viable groups, housed in simple spaces, ostensibly learning environments adjacent to freely accessible discrete external space. As a result staff and prisoners are enabled by the architecture to focus on activity.

A prison population of 400 was chosen, this being the upper limit advocated by the Woolf Report (Woolf and Tumim, 1991) following the HMP Manchester (Strangeways) riots. The size also ensures that prisons can be sited locally in towns and cities close to the prisoners' families and to the courts. The need to free up capital assets within the prison service to reinvest in the new model imposed a further physical restriction on the prison. It was agreed that the footprint must be smaller

than a typical Victorian inner-city prison releasing land for commercial development. The model is site non-specific (Figure 2).

British prisons are categorised from high security Category A to open prisons Category D. This reflects the category of prisoner housed in the prison. In this new regime the model prison would accommodate all the current prisoner categories A to D.

Our starting point was the brief. For our purposes we will define the brief as a list of activities, which give rise to a list of places or parts, which in turn are ascribed a size and are aggregated. In a prison the activities include work, education, cooking, eating, exercise, administration and management, time in the open air and movement,

and the parts include the cell, wing, education, association, resettlement accommodation, visitor provision and the deployment of outside space. We found spaces to be inappropriate for their use, and their relative position unsuitable. This functional analysis of the brief led us to a new prison typology, which is defined by a radical strategy of restricted and efficient movement. The result is a building, which is the converse of the Panopticon and the radial prison-type. This paper presents our model within a limited historic context.

In the Panopticon and radial prison (e. g. HMP Pentonville, 1842) we find a building type designed to separate and “warehouse” people (Figure 3). Long linear wings of cells (140-260 cells over three landings per wing at HMP Wandsworth) are laid out for the most efficient surveillance. Although the radial prisons have subsequently had to adapt to accommodate a contemporary non-separated regime,

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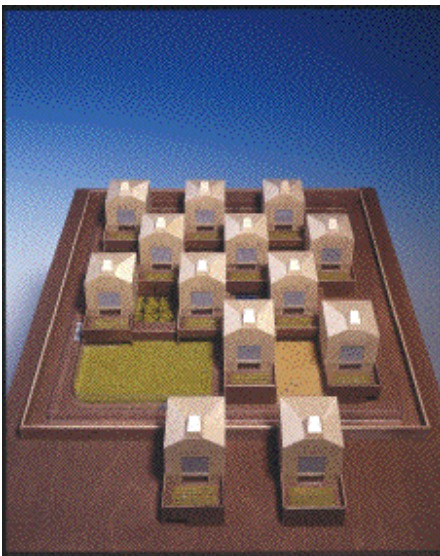


Figure 2: The 21st Century Model Prison (photograph by Andrew Putler, 2002)

their original arrangement was conceived to accommodate a regime focused on prisoner reflection and purposelessness. Today the prisoners remains largely confined to their cells, otherwise exposed by the plan to the total prison population-the crowd. Each is an anonymous inmate. At best, each will conform but not commit psychologically to prison society. Each is confined deep within the prison, a freestanding building, and pavilion in a landscape.

By contrast, the new model is founded on the principle of learning and training, where the prisoner lives in a semi-autonomous unit, or house, adjacent to a “roundabout” of efficient circulation, which feeds directly to each of the spatial components of the prison. Within the house the prisoner is a member of an accountable group, living close to external space, defined and controlled by a chequerboard array of buildings and external courtyard gardens.

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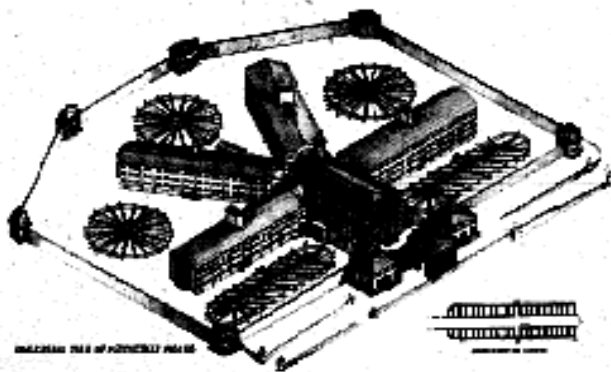


Figure 3: Pentoville Prison, aerial view (source: Toy et al., 1994)

Currently, the role of the prison officer is to manage the prison population and maintain security. Much of their time is spent moving prisoners between wings, and shuttling them to and from workshops, education, library and association spaces, back and forth from reception, and across to healthcare, counselling and sports facilities. This entails numerous security checks, employs many staff and consumes much of the day, resulting in a regime which leaves little useful time. In the event of a delay a prisoner will be forced to forego the activity. When there are staff shortages prisoners are restricted to the wing and may be locked in their cells for up to 23 hours a day.

The key to our research was to question the efficiency of the prison, and to recognise that time is a constraint on the prison regime. The logic of the 21st century prison lies in its morphology, and in the extent to which prisoners physically move about within the building. It is evident that a conventional prison is a complex place, with a complex morphology. It comprises many parts, each linked to the others in numerous ways. This is borne out in a variety of buildings developed to accommodate large organisations, its purpose being to centralise services and hardware in order to

achieve economies of scale. The dispersed population moves to and from centralised activities when required. This is a tried and tested model for efficiency for many organisations and their buildings, ranging from the factory, hospital and supermarket, to the university and prison, each governed by the same principles of economy and apparent efficiency. However, this assumes that there is freedom of movement for the dispersed population to the centralised activity, and that moving the majority to the serving minority (people) or hardware is the cheapest option. In the case of the prison this assumption does not seem to apply.

In a simple study (where a node (n) represents a dispersed activity, a point on a map, or a place in a building, and L the number of possible connecting lines or routes.), we have shown that with an increase in the number of nodes there is a multiplying effect on the number of links or possible connections between those nodes. For example, when an organisation consists of one node there are no links, for two there is one, for three there are three, for four there are six, for five there are ten, for six there are fifteen and so on. Where there are 100 nodes there are 4950 connecting lines. This observation is formalised in the arithmetic series $L = n(n-1)/2$ where n is the number of nodes and L the number of links (Figure 4). Each link will employ staff time and eat into the regime. With increased complexity this equates to a multiplying increase in time and cost. Our model seeks to simplify the prison and can be seen as a direct response to this arithmetic formula.

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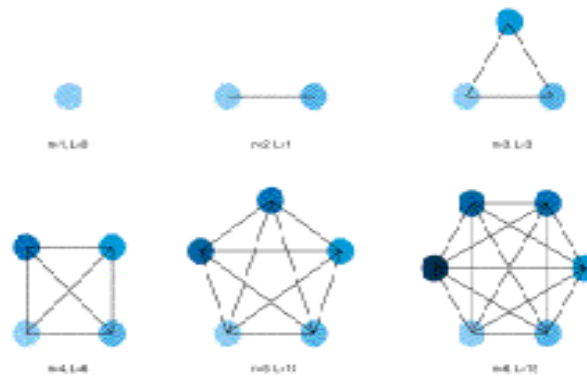


Figure 4: The Arithmetic Series $L = n(n-1)/2$. The effect on circulation of increasing numbers of location-based activities

(source: Buschow Henley, 2002)

Given the implications of this arithmetic formula it is evident that the deployment of space and activities within a prison is wrong, and that prisoner and staff time would be better used if movement was minimised. This is achieved by creating a series of autonomous physical units (or Houses), in which groups of prisoners may live, work and learn. In this scenario centralised functions are kept to the minimum and specialist people move to the prisoner group. Because the specialists are entrusted to move themselves this is, in this instance, more economic. The Model seeks to simplify the prison, literally to uncomplicate it. It is important to

stress that the adoption of a house model, in place of linear wings is not radical. HMYOI & RC Feltham, which opened in 1983, was modelled on the ‘New Generation’ American prisons, which proposed houses in a campus layout. This was subsequently formalised in the UK Prison Design Briefing System (PDBS, 1989) and the Woolf Report (1991) advocating the construction of wings for small groups of 50-70 inmates, and put into practice in triangular houses at HMP Woodhill (Milton Keynes, 1991), Doncaster and Lancaster Farms. PDBS guidelines currently indicate paired rectangular house blocks accommodating 50-70 inmates. There are five logical developments that distinguish our House model from previous house models, which do little more than reshape and downsize the Victorian prison wing:

1. The house could be semi-autonomous, not just a dormitory, mitigating prisoner movement
2. The group size suggests an accountable prisoner group
3. Houses are integrated into a compact and efficient circulation system
4. Houses are arranged on a chequerboard (not as pavilions) thus not contributing to the controlled use of outside space
5. The house offers an immediate link to outside space, mitigating the time and cost associated with achieving time in the open air

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What follows is a more detailed explanation of these five steps of logic.

A Semi-Autonomous Unit—The House

How appropriate is it to restrict the movement of a prisoner, and confine them to an autonomous live-learn-work unit i.e. a house? Employing space-time geography to test acceptability we mapped a working adult's day to illustrate how much time people spend at work, leisure or at home (Figure 5). If a prisoner day was to conform to the same space-time geography they would normally be expected in the new regime to spend 50-90% of the day in the House, and 10-50% in centralised communal spaces. We may also benchmark this for acceptability against the current rise in home-based live work enabled by technology.

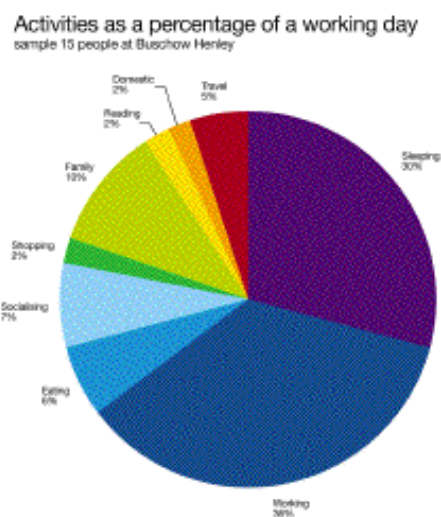


Figure 5: Breakdown of activities as a percentage of an average day
(source: Buschow Henley, 2002)

An Accountable Prisoner Group

UK PDBS guidelines concur with a similar policy in USA and Europe in advising a group size of 50-70, yet there is no evidence available to ratify this group size. Instead comparative institutions and organisations use a group size of 30-40, where each individual in the group is known and trusted by the community. School class sizes and the armed forces would suggest a group size of about 30. Models for

residential care for the elderly use a group size of 30-40 . We understand that the latter strikes a balance between anthropological and economic benefit. Key both for staff management and reformative benefit is the opportunity for the prisoner to become personally accountable to their community (the House) for their actions, mitigating problems of drugs, bullying and the resulting need for Vulnerable Prisoner Units and Segregation (cells). They become part of an identifiable group within a larger community. Uniquely HMYOI Feltham employs smaller houses with 32 inmates.

“Roundabout” of controlled, compact and efficient circulation

Whilst the model disperses activity to the autonomous house there remains a significant element of centralised Communal facilities. Historic and contemporary models for prison circulation are complex. The segregating effect of circulation between wings and centralised activities itself forms a barrier to prisoners trying to access centralised services i.e. to partake in activity. Our model proposes a single ring of circulation, in effect a “roundabout” from which there is direct dual-level access to the Houses and Communal facilities. To arrive at this arrangement we developed two distinct diagrams: a linear one and a centripetal version. The first describes a line of circulation with Houses (and gardens) to one side and Communal facilities to the other (Figure 6). The second, the centripetal diagram, envisages a cluster of Communal facilities at the heart of the organisation, with a circular array of Houses on the outside (Figure 7). The 21st Century Prison combines the two (Figure 8). The Communal facilities are clustered and into this, a ring or “roundabout” of circulation is embedded, in effect a linear arrangement. Above a ‘table’ of Houses, have direct access to the ground floor circulation.

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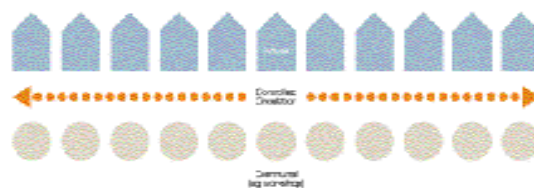


Figure 6: A linear relationship between Houses and centralised communal spaces
(source: Buschow Henley, 2002)



Figure 7: A centripetal relationship between Houses and centralised communal spaces
(source: Buschow Henley, 2002)

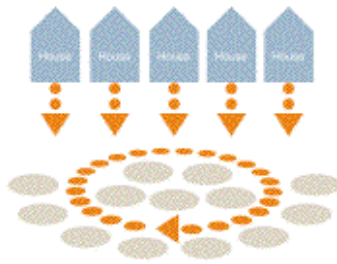


Figure 8: The 21st Century Model Prison relationship between Houses and centralised communal spaces
(source: Buschow Henley, 2002)

A Chequerboard replaces pavilions in a Landscape

Historically prisons have been designed with little regard to the shape of external space. Like pavilions in a landscape, the prison buildings float in a sea of external space bounded by a secure perimeter (Figure 9). The fluid and continuous nature of these spaces means that once outside a prisoner can move to any point inside the perimeter. This has a detrimental effect on access to and the use of this external space. It also has security implications. External space is extremely hard to control and use without intensive management. In our model we use the buildings to enclose a series of discrete external spaces in a chequerboard array (Figure 10).

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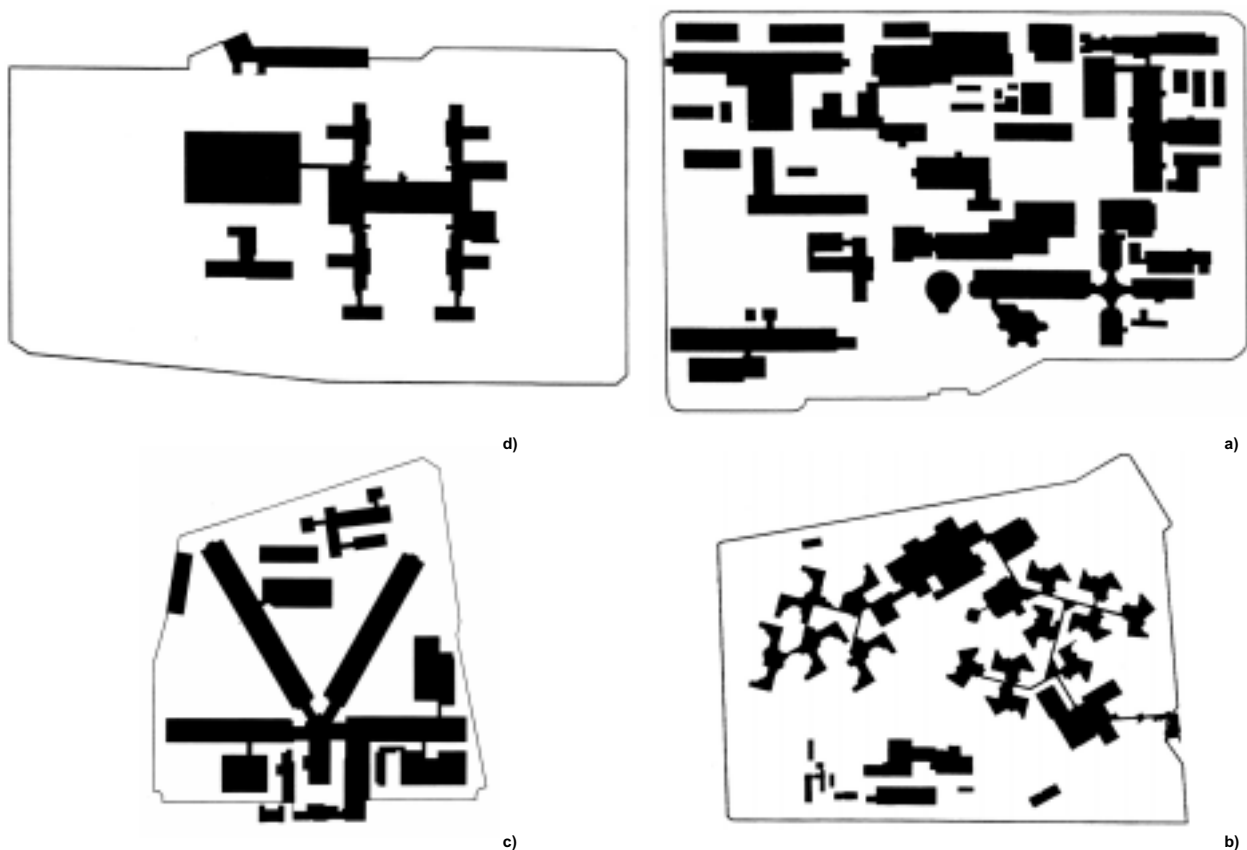


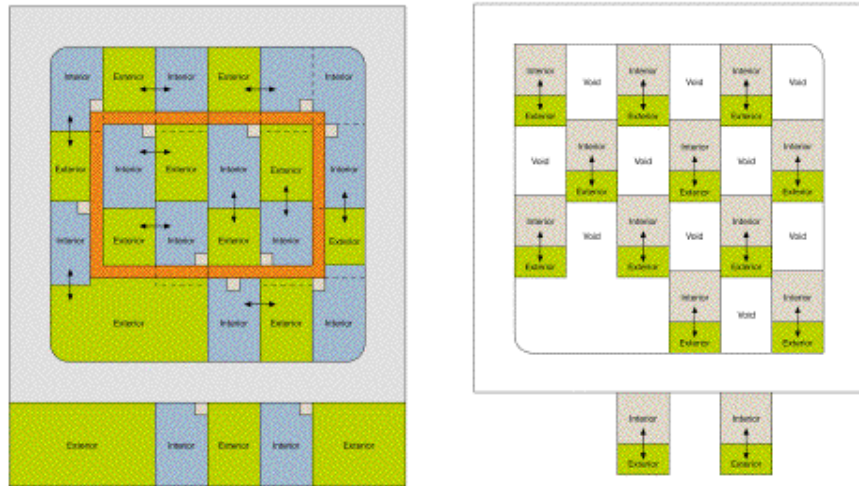
Figure 9: The existing distribution of prison buildings within their sites (clockwise from top right):

- a) HM Maidstone. Site 20.9 ha. Roll 544 prisoners. Density: 383m² per prisoner
- b) HMYOI Feltham. Site 15.5 ha. Roll 894 prisoners. Density: 173m² per prisoner
- c) HM Pentonville. Site 6.2 ha. Roll 1112 prisoners. Density: 56m² per prisoner
- d) HM Blundeston. Site 18.5 ha. Roll 424 prisoners. Density: 435m² per prisoner

(source: Buschow Henley, 2002)

Figure 10: The Chequerboard One Hectare Prison. The Houses rest above the communal facilities. The voids in the upper layer of the prison allow light to reach the external spaces on the ground floor. One hectare can house up to 396 prisoners

(source: Buschow Henley, 2002)



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Depth gives way to Immediacy

Traditionally, cells are located deep within the building, far from the exterior, exacerbating the management of access from cell to exterior. In our model the relationship between the interior, exterior and circulation is radically different. The “roundabout” is internal, intelligible and controlled, and therefore efficient. Access between each House and the Communal facilities is controlled, but critically there is free access to a specific associated enclosed courtyard from each House and Communal facility, requiring only the minimum of surveillance (Figure 11). This enables the prison service to provide time in the open air at any time throughout the day when the prisoner is not locked in their cell (Figure 12). Accessible, external space is provided close to the cell, the learning environment and the place of vocational learning/ employment. This immediacy completes a strict spatial logic for the prison. Each House garden and Communal courtyard is framed by the walls of surrounding buildings, which eases the management of external space.

Figure 11: Model for efficient circulation and accessible external space. External space is freely and immediately accessible while access between Houses and communal spaces is controlled and intelligible

(source: Buschow Henley, 2002)

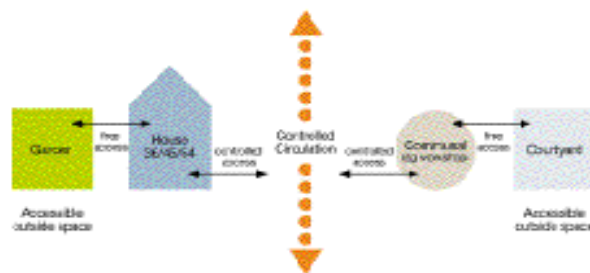
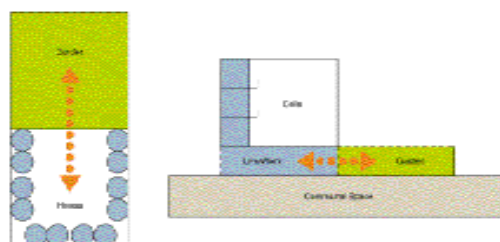


Figure 12: House and garden. An immediate connection

(source: Buschow Henley, 2002)



Analysis of the ground floor plan of the model carried out by Mavridou highlights the extent to which the spatial components of the prison are integrated by the “roundabout” of circulation. The PESH study illustrates that this is a control model (Figure 13). This relieves the prisoner from the pressure of supervision. This is the exact opposite of the Panopticon, which being an open system is a surveillance model.

What follows is a brief description of the architecture. The prison has been designed throughout to provide good natural ventilation and daylight levels. Materials and construction were considered. In looking at the cell, the

House and the prison as a whole the text refers only to function and morphology.

The Cell

The Panopticon locates each individual prisoner in a cell. The prisoner inhabits a space between the governor, at the heart of the centric plan, and the light (perimeter windows). Being continuously visible, the prisoner enters a self-conscious state. One cannot experience a cell as Bentham conceived it. However the conventional position of the door, in the centre of the short inside wall, on axis with the window in the short outside wall, in a typically tall, narrow and long room places the prisoner on an axis between the light and the prison officer’s gaze.

Within the cell accommodates a lavatory, basin, bed, desk, chair & cupboard. Its proportions are most like that of the domestic lavatory - not a good association for a person to make with their living space. The result is a room that looks and smells like a lavatory. A cell is also laid out like a badly planned bathroom; the bed runs parallel to the long wall, as the bath might in a bathroom, which leaves no useable floor space. In to this we place the prisoner whom we seek to normalise (Figure 14).

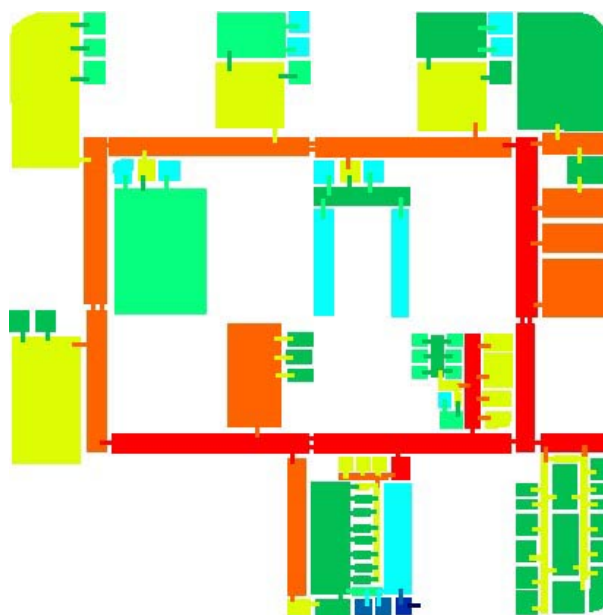


Figure 13: PESH analysis of the ground floor of the 21st Century Model prison (source: Mavridou, 2003)

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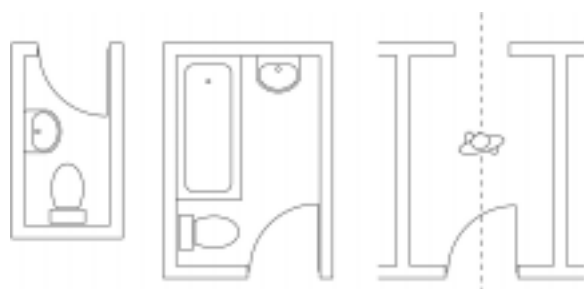


Figure 14: The Cell (source: Buschow Henley, 2002)

Our 8m² cell is instead planned to be as useful as possible, in particular for learning. The strength of modern-day construction materials has enabled us to locate the bed on the outside wall, at high level, not unlike the top bunk of a bunk bed, visible from the door. The bed is constructed as a monolithic slab, mitigating the risk of hanging. The table, pictured in front of the window, can be moved. Here a networked keyboard and screen provide the necessary tools for study and communication via an intranet/ prison cable TV network. The remaining space within the cell is open to use and furnish in a variety of ways. Each cell is paired with a neighbouring one – a buddying cell linked by a pair of sliding doors controlled by the individual prisoners, but overridden by staff in case of an emergency such as an attempted suicide. This mitigates the risk of inmate self-harm (Figure 15).

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The research findings of Erving Goffman and Peter Townsend into the idea of the ‘total institution’ and institutionalisation through ‘structured dependency’, conclude by emphasising the importance of choice within an institution. Here the prisoner’s ability to choose reduces their dependency, and their institutionalisation, directly improving their life skills and their likelihood of successful resettlement. The capacity to share space and rearrange furniture enables neighbouring prisoners to take the opportunity to enrich their personal accommodation, and in turn their day-to-day lives. The act of choosing becomes a potent antidote to institutionalisation. Choice extends throughout the prison and activity-focused prison regime. Each cell is provided with an adjoining room (included within the 8m²) accommodating a WC, basin and shower to further simplify the building and reduce pressure on prison staff to manage hygiene and ablutions. Storage is built in beside the table and bed. The cell interior is exposed concrete. Perhaps decoration or mural painting by the prisoner should be encouraged, giving further scope for choice for the purpose of reform (Figure 16).



Figure 15: The 21st Century Model Prison Cell

(source: Buschow Henley, 2002)

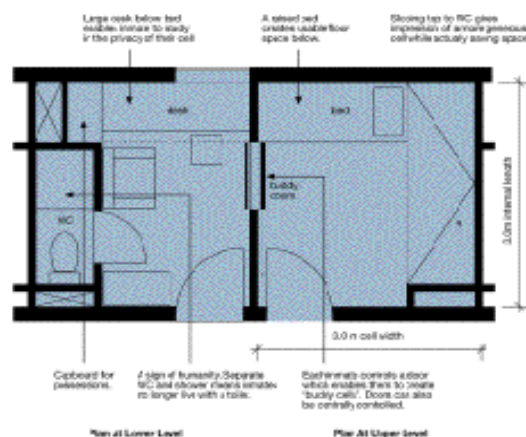


Figure 16: Plan of two cells, showing the lower level on the left and the upper level on the right

(source: Buschow Henley, 2002)

The House

Each House accommodates a number of cells (here 36 in pairs, 12 per floor over 3 floors) describing a U-shape around a central atrium (Figure 17). Below, the lowest floor of the House is laid out around a central space designed for House meetings, leisure and dining. This opens up directly onto a walled garden to the south, and is lit by a large south-facing window and skylight. Cellular space around the perimeter includes a House office, classroom and Subject Room (providing group learning facilities for 2/3 of the House at any time), kitchen and gym as well as staff and prisoner WCs. The kitchen is staffed by House prisoners who provide three meals a day at set times. Supplies are stored centrally within the communal accommodation.

The upper floors also accommodate four rooms for One-to-One mentoring, two multipurpose rooms (treatment/ consulting rooms) and a staff room (Figure 18). Access to and from the House is controlled via a stair and hall with direct access to the “roundabout” (circulation) on the ground floor. This is a key control point within the prison. There are eleven Houses, each 288m², accommodating a total of 396 people within the prison walls. The garden, a mix of hard and soft landscaping, can be used for casual games, sport and as a kitchen garden to grow fruit and vegetables for the House.



Figure 17: Sectional perspective of a House and garden built above the centralised communal facilities and courtyards
(source: Buschow Henley, 2002)

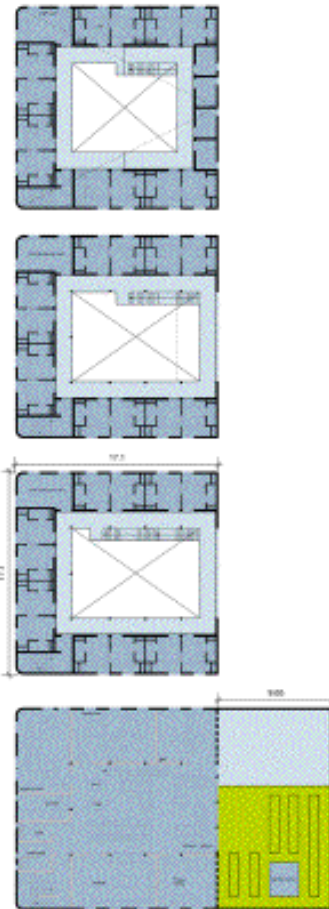


Figure 18: Plans of the House
(source: Buschow Henley, 2002)

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Communal Activities

Below the table of Houses the ground floor accommodates Reception, three central workshops providing space for half the prison population to work simultaneously, stores, a shop, a health centre, sports hall, 20m indoor swimming pool, a multi-faith centre, an administration block, visiting area and central library stacks holding up to

20,000 books distributed to the houses in a mobile unit. Each location-based activity is paired with a directly accessible outside space appropriate to the function (Figure 19). In the southwest corner there is a 5-a-side football pitch with spectator facilities from the controlled space of the Visiting area. The total footprint of the buildings including the courtyards and gardens on the upper and lower levels is one hectare. A 6m wide zone between the building perimeter and the internal fence doubles as a road (for deliveries) and a 400m running track. Between the fence and the 5.2m high outside wall there is a 6m wide sterile area. On a larger site, in a rural setting the prison buildings may be extended to accommodate larger workshops and learning facilities (Figure 20).

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Figure 19: Plan of centralised communal facilities on the ground floor (source: Buschow Henley, 2002)

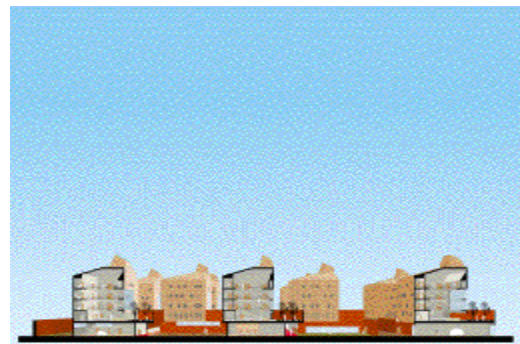


Figure 20: Sectional perspective of the 21st Century Model Prison (source: Buschow Henley, 2002)

Beyond the Wall

Two further Houses are located on the outside of the wall. At ground floor level one accommodates security, the pedestrian entry point and a covered holding area for incoming and outgoing vehicles. The other, a Visitors centre, provides a waiting room, refreshments and counselling facilities for family and friends. Above, the two Houses accommodate prisoners on resettlement programmes, becoming in effect a Category D open prison. These prisoners would be employed during the day in the community, but return to their cells in the evening. In a third scenario, the House is replicated deep in the community as a halfway house, which would be run by the probation service. Key here is the recurring presence of the House, the group and the communities within the wall, outside the wall and beyond (Figure 21). Whilst the Model does not envisage space standards changing, the specification of materials and finishes would not be so robust on the outside. Internal layouts of the houses located outside the walls could be replanned to provide family accommodation.

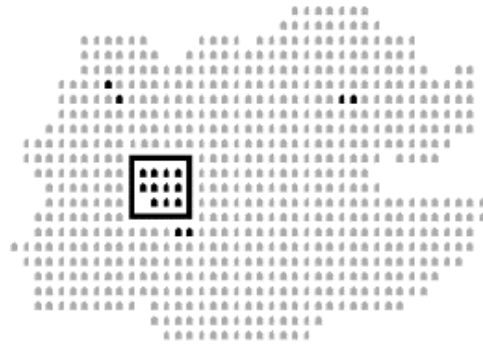


Figure 21: The 21st Century Model Prison within society. Houses are located within the prison walls, outside the prison walls and in the community
 (source: Buschow Henley, 2002)

Conclusion

The 21st Century Prison proposes a new typology in which time-based efficiency liberates the prisoner to focus on activity within the cell, the house (a semi-autonomous unit) and the centralised communal facilities. The building strictly separates functional space from a shallow “roundabout” of movement. All primary internal spaces have an immediate accessible connection to the outside, and the chequerboard architecture of the buildings controls this outside space (Figure 22). Here the prisoner becomes a member of an accountable group.

03.13



Figure 22: The 21st Century Model Prison
 (photograph by Andrew Putler, 2002)

Whilst the prison appears to be liberal, the arrangement of spaces both inside and outside is strictly controlling. It is for this reason, however, that activity within clearly defined spaces is free. In this environment the prisoner is not judged by their conformity but by their varied activity and achievement. In the one-hectare prison an invisible pedagogy is at work.

The architecture fulfils both a social and psychological role, through the creation of humane, secure but not repressive environments, and an economic role, crucially by releasing staff time to conduct the new regime. The design is a blueprint for both palpable quality and managerial efficiency.

References

- Cottam, H. et al., 2002, *Learning Works: The 21st Century Prison*, London, The Do Tank
- Fairweather, L., 1992, "Prisons", *The Architects Journal*, 9, Volume 196, pp. 28-38
- Foucault, M., 1975, *Discipline and Punish*, London, Routledge
- Goffmann, E., 1968, *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*, Hanmondsworth, Middlesex, Penguin
- Hagerstrand, T., 1975, "Space, Time and Human Conditions", in A. Karlquist, *Dynamic Allocation of Urban Space*, Farnborough, Saxon House
- Haggart, G., 1999, *Behind Bars. The Hidden Architecture of England's Prisons*, Swindon, English Heritage
- Henley, S., 2002, "The Learning Building", in H. Cottam, *Learning Works: The 21st Century Prison*, London, The Do Tank
- HM Prison Service, 1999, *Prisoners' Information Book. Male Prisoners and Young Offenders*, London, Prison Reform Trust
- HM Prison Service, 2001, *Safer Prison Building Requirements*
- Koolhaas, R., 1997, *S, M, L, XL*, Koln, Benedikt Taschen Verlag GmbH
- Markus, T., 1993, *Buildings and Power: Freedom and Control in the Origin of Modern Building Types*, London, Routledge
- Mavridou, M., 2003, *Prisons: Rules or Walls?*
- Torrington, J., 1996, *Care Homes for Older People: a Briefing and Design Guide*, London, SPON
- Townsend, P., 1964, *The Last Refuge*, London, Routledge and Kegan Paul
- Toy, M. et al., 1994, *Architecture of Incarceration*, London, Academy Editions
- Tumim, S., 1997, *The Future of Crime and Punishment*, London, Phoenix
- Woolf, 1991, *Prison Disturbances April 1990- Report of the Inquiry*, London, HMSO