Shapes of Reform: 1780 to 1835

EXEMPLARY prisons in terms of architecture and programs were rare before the late eighteenth century. It was not until around 1780 that a strong prison reform movement began to develop in some European countries, and later in other parts of the world. The reformers demanded more from prisons than that they simply punish criminals in a structure that was secure against external intrusion and escape. Following a number of reports detailing conditions of incarceration, coupled with the new spirit of rationalism, imprisonment was now expected to reform the prisoner. As described recently by Foucault and others, this required the development of bureaucratic routines established by governments to control the behavior of both inmates and their keepers.

The ideal prison structure was now expected to separate the worst criminals from the milder offenders, men from women, and adults from juveniles. In addition, the prison layout must allow surveillance—or, as it was called, "inspection"—by its managers of the activities taking place within the prison. New demands on the architecture were also being made to provide other means for reform—religious instruction, possibly education, and labor, onerous but sometimes constructive. The new humanitarianism resulted in greater concern for the health of the inmates and the expectation that some of the abuses of earlier prisons would be replaced by a more humane treatment. By 1780 professional architects were increasingly likely to design those prisons and to give at least the public spaces an appearance that characterized the institutions' nature and purpose—what architects have referred to as "architecture parlante."

Reforms Begin

Although crime has always existed in society, toward the end of the eighteenth century social thinkers and commentators speculated increasingly about the causes of crime. They pointed to external conditions, such as lack of education, drunkenness, a rapid increase in wealth and city life, as the causes of wrong doing. They placed less emphasis on "evil will" and the criminal's sinful nature. Officials were less willing to use death penalties or corporal punishment, and they abandoned penal colonies. As a result, greater numbers of criminals were confined and they remained incarcerated for longer periods of time. Prisons became crowded and disorderly, which came to the attention of the public, especially to those individuals attempting to determine public policy. There consequently was a need not only for replacements of old prisons but for more prison space, which resulted in the construction of an extraordinary number of institutions in some countries. Attention was now paid to the details of the design and construction of prisons and jails.

Criminal-law reforms were effected here and there throughout Europe with varying degrees of thoroughness, but it was in England that the reform of the law and of penal treatment reached its greatest development. The story of the reform of European prisons traditionally begins with the investigations of John Howard. A minor landowner and philanthropist in Bedfordshire, England, Howard was taken prisoner by pirates from a ship bound for Portugal, where he intended to aid the victims of a Lisbon earthquake. This experience, along with his
election as high sheriff of the county, was a factor in his later interest in prison matters. Howard visited prisons in both Britain and abroad, beginning in 1773 and ending with his death in the Crimea in 1790 from "jail fever." In four massive editions between 1777 and 1792 he published detailed observations of physical conditions, governance, and the health of inmates of the prisons he visited. After seeing Dublin's new prison in 1783, Howard wrote the following description, which would have applied to almost all prisons in England and elsewhere at the time:

It is not kept clean. The pumps being out of order there is no regular supply of water. There is no proper separation of the sexes from one another, or of petty offenders from the most abandoned criminals. Numbers of acquittcd prisoners are detained for the fees [unpaid charges customarily levied for various services rendered while in jail]. Such as are condemned to hard labour are confined in idleness. There is no bedding, though the floors are stone. Spirituous liquors are sold in the prison. Newcomers are robbed, or stripped and abused for the penny-pot or garnish. The proper prisoners have not the use of the day-rooms. The dungeons are used as lodging-rooms for prisoners before they are condemned. The sick have no proper rooms or beds, and no attention was paid to them. No bath [Howard pointed out in a footnote here that the only bath building he saw in the prisons in Ireland was at Trim, and it was used as the jailor's pig-sty]. No divine service. . . . Criminals are made turnkeys. . . . The allowance, two-pennyworth of bread a day, but being delivered only twice a week, and not fixed by weight, some of the prisoners are almost starved.3

Jailers, who often regarded the running of the prison as an income-producing sinecure, set up a system of charges for services such as decent food, beds, and heated quarters. Inmates often had to pay corrupt jailers for such essentials as water or candles. Assaults on officers, fights among prisoners, and other forms of disorderly behavior were made worse by the free distribution and sale of contraband. Food, playing cards, gin, questionable books, knives, saws, chisels, and the services of prostitutes were often available, and the inmates were permitted to drink, gamble, and play games with outside visitors. Even though prisoners were punished severely for some misbehavior, such as "attempting to pick pockets in chapel," they instructed one another in the arts of thieving. "There is a practice among them," a witness testified before a parliamentary committee in 1819, "of forming a circle by way of amusement, and one boy will go round alternately and pick the pockets of the rest, and he who is most dexterous is the envy and admiration of the circle."4

Howard was a highly religious man of very modest education. He believed men's and women's souls could be saved by the discipline of "continuous work, physical abstinence and religious exercises" to which he subjected his own family, and he pursued the remediation of poor conditions with singleness of purpose, persistence, and directness. Stimulated by Howard and by the loss of the American colonies as a dumping ground for felons,5 Parliament drafted a Penitentiary Act, the Hard Labor Bill, in 1779 (19 Geo. III, c. 79). It called for the central government to establish two places of confinement, one for men and one for women, to be based on the principles of nonintercourse of prisoners by means of solitary celling at night and supervision by day;6 hard and servile labor that involved drudgery for the prisoner but profit for the prison; a coarse but sufficient diet; graduated severity of treatment on the basis of behavior; and a regimen of fixed daily routine, no luxuries or amusements, cleanliness, and compulsory attendance at religious services. Advocates hoped that this system would not only deter others but also reform the prisoners and teach them the habits of industry regarded as essential in a society already decades into the Industrial Revolution.7

A national penitentiary was not built then, but the goals embodied in the Penitentiary Act influenced subsequent legislation and some of the model "bridewells" and jails established in later years. Pending the construction of the projected penitentiaries, the Penitentiary Act stipulated that local jails were to be used to house prisoners. Although transportation to penal colonies was resumed in 1787—now to Australia—prisoners flooded the inadequate local jails. Magistrates who had done little to remedy conditions in spite of several national penitentiary acts or the disclosures of Howard now embarked on a program of building. Howard noted that by 1789, forty-two new jails or houses of correction were under construction, though few of these were cellular. Hampered by a lack of money, the counties completed some of them only by the turn of the century. With few exceptions, reforms were confined to buildings and sanitary conditions.

Some county magistrates did make substantial progress, however; the Duke of Richmond's cellular county jails at Horsham (1775) and Petworth (1781), based on separate confinement; Sir Thomas Beevor's
house of correction at Wymondham, Norfolk (1785); and T. B. Bayley's prison at Manchester (1790), with a capacity of one hundred in solitary cells, all became model institutions. Perhaps the greatest of the local reformers was Sir George O. Paul, a magistrate of Gloucester. In 1786 he began to set up a county penitentiary system with night separation of prisoners in cells, contact during the day, and hard labor. Other reformers were at work, too. The Quaker Elizabeth Fry, through the initiation of prison visitation at Newgate, did much to acquaint the upper classes with prison conditions; and James Neild (1744–1814) published accounts of prison conditions, closely patterning his career after that of Howard. Jeremy Bentham (1748–1832) was perhaps the leader among the legal reformers of this period. Bentham was opposed to the death penalty except for extreme crimes. He labored hard and long for the repeal of the sanguinary penal codes then existing and for the adoption of a national penitentiary system. His specific proposals for penitentiaries, which will be discussed at length later, were never carried out in England, but his stress on surveillance of prisoners was to have wide currency.

What the Reformers Wanted

A single prerequisite for prisons of the past—with a few notable exceptions, such as the Maison de Force at Ghent and the San Michele house of correction in Rome—was that they be strong and secure structures. However, from about 1780 to 1835 in England, as the result of constant debates in Parliament, the recommendations of individual reformers such as Jeremy Bentham and John Howard, and the vigorous activities of the London Society for the Improvement of Prison Discipline and for the Reformation of Juvenile Offenders—usually referred to as the Society for the Improvement of Prison Discipline (SIPD)—founded in 1813, all of the basic expectations for a prison structure were defined. These requirements would remain in force down to the present, the importance of each increasing or diminishing from one period to the next. The reformers expected that the architect and the officials would erect a structure that would provide for

1. punishment;
2. security from escape and defense from outside force;
3. systematic supervision of both guards and prisoners;
4. prevention of corruption arising from prisoners' mutual contact;
5. good health of the occupants;
6. reformation by means of labor, religion, and possibly education.

Let us look at these expectations more closely before noting the architecture that evolved. As in the past, one of the universal requirements of the prison was that it should provide a fitting setting for punishment. Sydney Smith, an influential author and commentator, wrote in the 1820s the following strictures, which leave no doubt about his position on the punitive nature of the ideal prison: "In prisons, which are really meant to keep the multitude in order, and to be a terror to evil-doers, there must be . . . no visiting of friends—no education but religious education—no freedom of diet—no weavers' looms or carpenters' benches. There must be a great deal of solitude, coarse food, a dress of shame, hard, incessant, irksome, eternal labour, a planned and regulated and unrelenting exclusion of happiness and comfort." He objected to instructing prisoners in reading and writing inasmuch as free citizens had to pay for such service.

Although writers such as Smith did not always feel that such an obvious point needed mentioning, they assumed that prisons were to be unpleasant. Given the very low standard of living of the slum-dwelling industrial worker of the late eighteenth century, it was difficult to build a prison with even the minimum standards of diet, cleanliness, and accommodations that would not immediately place the prisoner in better physical conditions than his law-abiding neighbors. In fact, prison structures were frequently criticized as overly elaborate during the entire period of wide-scale prison construction, particularly after 1840.

Security or the prevention of escapes had always been recognized as a prime requisite of a prison or jail, and there could be no diminution in the importance of this factor. Jonas Hanway, one of the first writers of the eighteenth century to develop a coherent set of principles for practical penal treatment, suggested that a "greater number of prisons be forsworn built, larger, stronger and better calculated for the purpose of secure confinement, with a more rational and humane correction."
ly, he recommended double enclosing walls twenty
to thirty feet high, "formidably armed with iron,"
and without windows, adding that "the passenger
who beholds [such a prison] ... should be struck
with awe." John Howard paid special attention to
the problems of internal security as well. His model
county jail placed prisoners' rooms on the upper
stories over arcades, an arrangement that would pre-
vent digging to freedom through the dirt beneath
the cell floor. The jail was to be equipped with an
alarm bell and each cell was to have double doors
and locks. But the prison structure was also called
upon to withstand external attacks. Because of un-
settled social conditions and the frequently strong
sympathies of the populace for prisoners or those
condemned to death, mobs sometimes stormed the
prisons. As late as 1832, towers were erected on the
walls of the Lancaster house of correction at Preston
to help protect the prison from attack. The build-
ing's massive stonework and high, forbidding walls
served a triple purpose: to keep prisoners from escap-
ing, to prevent assaults from outside by citizen
sympathizers, and—by the architecture's grim ap-
pearance—to deter citizens from committing

The evils of unsupervised association and the as-
saults, riots, and general dissoluteness that charac-
terized congregate imprisonment were the most
significant reasons for its failure to effect the reform
its advocates had anticipated. In reaction to this,
great reliance came to be placed upon the salutary
effects of careful and continual surveillance by the
warders and governor over the prison exercise yards,
workrooms, and, in some cases, living quarters.
Constant inspection became the magic formula, the
mechanism whereby the prison regimen could be
freed of its old abuses, the prisoner protected from
corrupting influences, and escapes, riots, and unrul-
ly behavior prevented. Furthermore, the governor
could observe the behavior of his own staff, ensur-
ing that their behavior too was appropriate. Such in-
spection, coupled with a system of either grouping
prisoners into classes according to certain character-
istics or placing them in individual cells, was now
widely regarded as the sine qua non of good jail and
prison administration.

Prison structures were evaluated by individuals
and organizations such as the London Society for
the Improvement of Prison Discipline on just such a
basis. In fact, the society developed a near preoccu-
pation with the value of "inspection," which be-
came a veritable panacea. In a tract that the society
brought out in 1826, detailing the proper qualifica-
tions and plans for model jails and prisons, nearly
every page has some reference to the values of in-
spection, or criticism of an existing institution that
lacked the possibilities for it.

There were some observers, however, who, even
in this period of intoxication with surveillance, had
reservations about its value. They did not doubt its
utility, but they recognized its limitations. George
Holford, for example, in his appendix to Thoughts on
the Criminal Prisons, expresses such doubt: inspec-
tion, he remarked, is not just looking at prisoners;
neither does it address the issue of the prisoners'
moral habits." Distant inspection may prevent
fighting but not conniving, and from the warder's
center house one can only see but not often hear
what is going on in the yards. Holford observed that
one couldn't tell by looking "whether the prisoners
are working, or gambling, reading history books or
Psalm books furnished by the chaplain, or legends
and songs of a very different description." Surveillance alone could not prevent escapes,
unruly behavior, and mutual contamination. Pris-

Ons would have to be separated completely from
one another or else placed into more or less homo-
genous classes, based on sex, seriousness of offense,
and age. Early attempts to use solitary confinement
had proved too costly and unworkable due to chronic
overcrowding and the design of the prisons them-

selves. The Gaol Act of 1823 attempted to bring some
degree of organization and uniformity to the local
prisons. It officially sanctioned the use of classifica-
tion rather than separate confinement to reduce the
adverse effects of the indiscriminate association of
prisoners. The controversy over isolation versus
classified association continued unresolved into the
1830s, however, when reports on contemporary
American systems led to the firm establishment of
the principle of solitary celling and the temporary
abandonment of classification.

In actual practice, the separation of prisoners
into too many categories had proved to be cumber-
some to manage and awkward for architects to
accommodate. Richard Elsam, writing what he re-
garded as the first systematic treatise on prison con-
struction and design, in 1818, described the nature
of classification in terms that had been well under-
stood for the previous thirty years or more: "By
keeping the young and least experienced offenders from the old, hardened, proficient in vice and wickedness, and accustoming them to a cleanly and regular course of life, it cannot be doubted that numbers will be reclaimed and their future lives rendered more happy and comfortable, than they had previously any notion of."  

Even before John Howard, some English theorists recommended solitary confinement as a solution to the prisons' problems. Jonas Hanway wrote in 1776: "Solitude in imprisonment with proper profitable labour, and a spare diet, is the most humane and effectual means of bringing malefactors . . . to a right sense of their condition." Anticipating the later Quaker philosophy, he further remarks: "It is obvious that the use of an apartment for each prisoner is the only effectual means of calling forth reflection." He suggests generous dimensions for these cells—twelve or fourteen feet square as a minimum, and the larger the better, perhaps even eighteen feet square—the cells arranged to prevent communication between them. Prisoners would be known by their numbers only, and even the chapel was to have individuals stalls with double-grated openings to preserve the anonymity of the prisoners. 

Howard himself had insisted on "separation" into individual sleeping cells, such as he had observed at Ghent, Rome, and elsewhere. As noted earlier, the Penitentiary Act had set up such a system as an ideal, and certain elements had been used in some prisons. Such a system rarely was long in effect, however, because of chronic overcrowding. George O. Paul felt that "it is by Cabal and Participation of Design, by Confidence in Numbers, that Desperate Deeds are undertaken. By Separation in their worst Designs, they are Within the Power of their Keepers." He also suggested that while some sort of classification scheme was desirable, too many separations caused confusion to the keeper and difficulties for the architect. 

Advances in medical knowledge—particularly the first crude awareness of the relationship between filth and illness—and liberal political movements led to a new concern with health and sanitation in the eighteenth century. The nature of contagion was not yet clearly understood, however, and the period saw a renaissance of the classical view that epidemics could be traced to noxious airs or "miasmata," decaying materials, and dampness. 

It is clear from the investigations of Neil, Howard, and the others that earlier suggestions for sanitary improvements in prisons had rarely been acted upon. Howard's plan for an ideal prison provided for an adequate infirmary, a supply of pure water, and adequate sewers located in courtyards to prevent "noxious vapors." Other reformers such as John Jebb, Richard Elsam, and Jonas Hanway stressed the need for similar improvements. Hanway had even suggested in 1776 that cells should be above ground and steam heated, with a piped supply of water and a toilet. The sanitary reform gained momentum in the first half of the nineteenth century, in part because of these eighteenth-century influences but also because of the real fear of the epidemics and pandemics of cholera, typhoid, yellow fever, and typhus that had been ravaging Europe and North America.

Although reformation of the criminal was now one of the aims of the prison reform movement, a consistent and detailed program or internal regimen would not be developed and adopted widely until the 1830s. Occasionally, reformers would mention the need for education but the new prisons rarely included school buildings, probably because taxpayers were not comfortable paying to educate criminals when free education was not provided in the law-abiding community. Religion was regarded as essential to true reformation, and chapels were almost always provided in the new prisons. Specific suggestions were seldom made concerning proper facilities for labor because no definite policy about inmate work had developed, and idleness was common among inmates. Most theorists agreed that the work should be unpleasant and wearisome, but others believed that useful work was important.

**Basic Forms of Penal Architecture Develop**

The nineteenth century might be characterized as a century in search of systems—including systems for the proper kind of government, for the best method of production and distribution of economic goods, and for the correct handling of law-breakers. Max Grünhut has wisely observed that during the first decades of that century "the general discussion on prison reform degenerated into a competition between different abstract systems. . . . [A] rationalistic age was in search of a system which, once properly established, was expected to warrant satisfactory results by its mere functioning."  

In response to demands made by the penal theorists of the period, a number of architectural forms
were developed by architects, magistrates, and prison governors-turned-architects, as well as by master builders and stonemasons who sometimes designed prison structures. These forms were of three main types: the rectangular, or nonradial, based largely upon the earlier church buildings; the circular, including polygonal layouts; and the radial, by far the most prevalent after 1790. The technological advancements of the industrial and scientific revolutions of the period gave considerable impetus to innovation and experimentation by architects and builders. Cast iron was of particular value to prison designers. Available since the 1770s, cast-iron columns were in wide use by the turn of the century. The decreasing cost of iron made its extensive use for bars, doors, door jambs, and even floors and walls feasible for the first time. New developments in the central heating, ventilating, and plumbing of large buildings found some of their earliest applications in the prisons of the first decades of the nineteenth century.

Nonradial Responses

The rectangular jails and prisons erected from the time of John Howard’s travels until about fifty years later represented no real innovations, although by the early nineteenth century they were likely to contain single cells arranged in rectangles, “U” shapes, or hollow rectangles with inner courts. Although these types became increasingly unacceptable to reformers, during the early period of jail construction a number of new prisons were built in the rectangular form.

John Howard, certainly the most influential of the first reformers, had proposed a plan for a prison. Although the layout was unexceptional, it did provide care for adequate sanitation and, as noted earlier, it featured cell buildings raised on arcades for ventilation of the inner courts and to discourage escapes. Women, youthful offenders, male felons, and debtors were to be held in separate sections. It is not surprising that Howard’s work influenced contemporary architects.

William Blackburn (1750–90), the first architect to specialize in prison design, was a friend of Howard and much impressed by his writings. Born in Southwark, to working-class parents, Blackburn in 1782 was awarded his first premium for the design of a male prison for the Commissioners for Penitentiary Houses under the act of 1779. Although this insti-
tution was never built, the award, won in a competition against prominent architects including Sir John Soane, led to Blackburn’s extensive employment as a prison architect. He recognized the need for a prison design that provided a healthy environment for the occupants and was at the same time secure. In a period of just eight years Blackburn designed at least sixteen—possibly eighteen—prisons in England and Ireland, including five in Gloucestershire built under the tutelage of the reformer Sir George O. Paul. Although Paul was one of the earliest to introduce systematic cellular isolation at night and daywork in silence, his reforms did not last long, as noted earlier, primarily due to overcrowding. The county prison at Gloucester has often been regarded as the first penitentiary for adult felons. Its three-story cell buildings allowed the separation of different classes of offenders that he advocated. The two levels of cells were supported by a series of arcades providing ventilation and shelter for workshops beneath.

Blackburn’s Gloucester county prison at Dorchester (1789–95), another example of the nonradial prison form, was completed after the architect’s death. Four freestanding cell buildings were located in a square prison enclosure. In the center was a keeper’s house, with a chapel above, dayrooms, visiting facilities, and infirmary below. The four cell buildings were connected to the corners of the center building, just a few feet away, by iron catwalks, which also went around two sides of each cell building. In each cell building there were two ranges of cells, one opening into a center corridor, the other opening onto the exterior iron walk, which was located on the side of the building that did not overlook another cellhouse. In this way there could be no communication between the occupants of one range of cells and any other range. There were separate sleeping accommodations for eighty-eight prisoners, as well as two dormitories for male debtors, each containing four beds. Besides the dark and unheated refractory cells located in the center building, separate quarters were provided for male debtors, felons, convicts in three classes, bridewell prisoners, and females. Workrooms were on the ground floor. Although the elaborate system of prisoner classification was not completely carried out, the regimen was patterned after that of George Paul’s Gloucester county prison.

How did these rectangular, nonradial forms satisfy the demands of the penal philosophy of the
time? No criticism was raised concerning their deterrent value. These prisons were never described as “play-houses” or “palaces,” as were some of the latter-day institutions. They were superior to their predecessors in terms of security, and even in the matter of health. Where solitary cells were provided, however, they were usually small, dark, and poorly ventilated and heated, partly because the architects had no experience with the solitary system, partly because of budgetary constraints. Criticism appeared in the writings of the period about a lack of air and ventilation in the interior courts, which were usually divided into smaller courts for classification purposes.

However, the two great criticisms voiced—with some justification—concerned the lack of opportunity for proper separation of prisoners into various classes, and the inability of keepers to observe prisoners adequately in their activities in the yards, dayrooms, or night cells. In a report of the Select Committee of the House of Lords in 1835, G. T. Bullar, an architect, complained that the new jails being erected subsequent to Howard’s recommendations were still concerned solely with safekeeping. Built on a rectangular plan with a center corridor, the prisons contained cells with doors that were usually arranged so that prisoners could converse at night, and “no means were provided for the secret inspection of the Day-rooms and airing-courts.”

The Society for the Improvement of Prison Discipline published Remarks on the Form and Construction of Prisons with Appropriate Designs (1826), whose purpose was “‘to present the public with a series of examples that shall at once illustrate the evils of defective and the advantages of well-arranged designs for Gaols.” The publication gave plans of a number of existing prisons as “horrible examples.” The society’s main criterion was the degree to which the plans offered possibilities for continual inspection of prisoners. Society members were highly critical of such institutions as the Stafford County Jail and London’s Horsemonger Lane prison, where the officers had to pass through the exercise yards or other buildings to inspect the dayrooms and living quarters. Complaining of the latter institution, they commented: “the interior of the prisoner’s wards cannot, however, be inspected or approached, without an officer visiting each department, in doing which he is seen by the prisoners, as he must cross the intermediate courts before he can enter the building.” None of the rectangular designs, according to the society, was satisfactory. Later in the book it was noted that during the period following Howard’s disclosures of prison conditions, and despite the concern of enlightened magistrates, “it does not appear that sufficient degree of importance was ever attached to the attainment of complete Inspection over the several departments of a prison,—that power which subsequent experience has shown to be of primary importance in the regulation of a gaol.”

Unobserved inspection had become the dominant criterion, and the society, as well as individual reformers, would not tolerate any designs that did not satisfy this demand.

Circular and Polygonal Responses

Rectangular prisons represented an inertia among builders and architects, as well as the uncertainty of prison authorities concerning how they should deal with their charges. As the prison reform movement got under way in the last two decades of the eighteenth century, particularly in England and Ireland, several long-established architectural forms began to be adapted for prison use. These were the circular, polygonal, and radial.

The eighteenth-century preoccupation with geometric architectural patterns was bound to result in circular and polygonal buildings for many different purposes. For example, several circular “amusement houses” offering music, entertainment, and dining were constructed in England and Ireland, sometimes as moneymaking adjuncts to hospitals. The most famous was Ranelagh Gardens in London in the 1740s. Ninety-four boxes, each with room for eight people, were located on the periphery of a rotunda on two levels.

Hospitals were also designed in either a circular form or a combination of circular and radial. Examples of the latter were projects for large hospitals in Paris by the architects Antoine Petit and Bernard Poyet in the 1770s and 1780s. The buildings had circular structures enclosing as many as sixteen wings converging on a hub. In Vienna there was an example of a circular hospital built to house the mentally ill under a regimen much like that of contemporary prisons. The Narrenturm, or “Lunatics’ Tower,” was part of a much larger general hospital complex. The circular structure of the Narrenturm rose five stories, each floor containing about twenty-seven individual outer rooms that opened onto a six-foot-wide passage, which in turn enclosed an inner circular court-
yard (fig. 25). The court area was bisected by a five-story rectangular structure containing quarters for a keeper on each level and connected with the corridors. The asylum was opened in 1784 and held mental patients until 1869.\textsuperscript{10}

Perhaps the earliest known plan of a polygonal prison was the one proposed in 1761 by the architect Pierre-Gabriel Bugniet. The plan was reproduced four years later in the Mercure de France but the prison was never constructed nor was Bugniet's proposal for solitary confinement adopted at the time. A single range of inward-facing cells formed an octagon with a total of sixteen short rows of cells radiating toward the center—two rows extending at right angles from each of the eight outer wall segments.\textsuperscript{31} A chapel was to be placed in the center of the large circular interior court so that Mass could be heard in all the separate courtyards and in some of the cells, in hopes that "riots which people accustomed to crime might incite if they found themselves assembled in the same place can be avoided."\textsuperscript{32}

The most important proposal for a prison in the late eighteenth century came not from an architect but from the prominent philosopher and criminal-law reformer Jeremy Bentham. At the time of his proposal, Bentham was at the height of a distinguished career. He was a powerful voice in the legal reform of the day, a writer whose books were widely translated, and an intimate of such men as Samuel Romilly and William Blackstone, influential reformers of the criminal code. Although a prison in England was never erected in the form Bentham suggested, his works and writings and those of his brother Samuel increased the attention given to the notion of direct observation and "unseen surveillance" as a prerequisite for the proper administration of a prison and for positive aid in rehabilitation.

Sir Samuel Bentham was a naval architect and inventor who went to the court of Catherine the Great in St. Petersburg about 1780, where he entered the administrative service of Prince Potemkin.

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When Jeremy Bentham visited St. Petersburg in 1787, he found his brother in charge of manufacturing using imported foreign artisans and modern methods. It was one of two of the prince’s ultimately unsuccessful experiments on his estate, in what is now Byelorussia.

At the time his brother visited him, Sir Samuel had designed and was beginning to construct a circular two-story textile mill, about one hundred feet in diameter. Jeremy Bentham wrote: “The purpose to which this rotunda-form was destined to be employed by my brother, was that of a large workshop[,] . . . partitions in the form and position of radii of the circle being employed in separating from each other such as required to be so separated; in the center was the . . . Inspector’s Lodge; from thence by turning around his axis, a functionary standing or sitting on the central point, had it in his power to commence and conclude a survey of the whole establishment in the twinkling of an eye.”

To prevent the workers from knowing when they were being observed, the center lodge was surrounded by a screen pierced with small peepholes; in addition, the workers were to be seated with their backs to the inspection lodge. While in Russia, Jeremy Bentham learned of his government’s proposal for a national penitentiary, and it occurred to him that the circular or Panopticon plan, as he termed it, would be ideally suited not only for prisons but also for hospitals, schools, and poorhouses. In a letter written from Russia, in 1786, Bentham remarked in mock self-disparagement, “After all, I have been obliged to go a-begging to my brother, and borrow an idea of his.”

Bentham the rationalist had finally hit upon the formula for prison administration, a prison structure designed to provide the “external conscience” for its inmates, a corrective for most of the ills afflicting the prisons of the day. For twenty-five years Bentham wrote, talked, and maneuvered to get the British government to allow him to build and manage his circular penitentiary. He even discussed his plans with Talleyrand, hoping to interest the French government, and had correspondence with and sent plans to Scotland, Spain, and other countries. His first plan was submitted to the British Parliament in 1790 and was published the following year. Bentham proposed that he be both the contractor and operator of the thousand-man prison, which he described as “an iron cage, glazed,” with the jailers as unseen observers to beget “the sentiment of an invisible omniscience.”

In the original Panopticon scheme of 1787 the head keeper’s house was in the center, with the light coming from the external cell windows, which allowed unseen surveillance of those cells from the darkened interior of the center house. In a later version, described in the Panopticon Postscript, published in 1791, the living quarters in the center were replaced by galleries from which guards could carry out unseen observation of the cells and an innermost core where the head keeper could observe the guards through peepholes. By this time Bentham had substituted four occupants per cell for the solitary confinement of the earlier versions.

When Parliament finally authorized this “totalitarian housing project,” as Aldous Huxley later described it, George III vetoed the bill. Bentham believed it was rejected because of the king’s personal dislike of him, whom the king regarded as a “radical.” Although a site was purchased at Millbank, along the Thames, no money was forthcoming and in 1811 a committee of Parliament came out against any scheme to give a private individual control of a national penitentiary. Another act was passed for a penitentiary in 1812, but it was not to be Bentham’s circular prison. Because he had gone so far as to make the first iron castings and construct some of the necessary machinery for the Panopticon, he was granted £23,000 for his labors in 1813. While he did not live to see one of his Panopticons built, several semicircular jails were subsequently erected in Scotland, England, and Ireland.

The plans and specifications that Bentham drew up in conjunction with a young architect, Willey Reveley, whom he had met on a trip to the Continent, changed over the years and in later editions of his proposals. The Panopticon was to be a vast circular or polygonal building of from 100 to 180 feet in diameter, from two stories in the original plan to six later on (fig. 26). Cells four by thirteen feet were to be arranged in tiers on the circumference of the circle and were to contain one or several prisoners.

The side of the cell facing the center had only bars and thus the prisoners could be observed by keepers walking around inspection galleries, which had an arrangement of shutters or peepholes so that the inmates could not easily tell if they were being watched. In one variant of the plan, the governor or head of the prison was placed in the center so he could observe the staff as well. Reacting to the disclosures of John Howard and others concerning the
prisons of the day, Bentham proposed allowing members of the public into the prison to discourage abuses of power and good order.

In the six-story plan, each inspection gallery served two stories. The head keeper’s lodge and a chapel occupied the center and were lighted by skylights. Bentham proposed a complicated system of speaking tubes leading from the center area to each cell so that visitors could hold conversations with prisoners; and supposedly as a check against ill-treatment, inspectors could also hear complaints against the keepers. The latter would also be able to eavesdrop on the prisoners. Later Bentham eliminated the tubes when he realized that the prisoners could also overhear the staff.45

The analytical index to Bentham’s collected works gives a clear idea of the detail with which he worked out his plans, and the things he expected them to accomplish. For example, under the heading “Panopticon Penitentiary” are such references as: “Conduciveness to reformation through solitude, etc. . . . [He later softened this plan, being one of the first to recognize the dangers of unmitigated isolation.] Means of communication reserved for the prisoners—stairs, etc. of open iron work as means of keeping observation on their motions. . . . Amount of food peculiarly powerful in its incidence on the prisoners’ fate—remedy an unlimited supply of food, but too coarse to tempt to excess—Length of time to be consumed in meals, sleep, relaxation and work.”46 Bentham worked out the details for sanitation in each cell and for a single plant for both heating and ventilating the cells, using wall and floor ducts and artificial cooling of

the air in summer by means of ice. The cells were to be used for sleep, work, meals, and, in some plans, worship.

In one version of his idea Bentham proposed building three Panopticons and providing for exercise yards that would allow the separation of different sorts of inmates, such as “Decent Females,” “Dissolute Females,” “Daring Old Offenders,” “Quiet Old Offenders,” and “Thoroughbred Housebreakers.”

Perhaps relying too heavily upon purely mechanical means for accomplishing his aims, Bentham nonetheless proposed novel buildings that would have embodied the first large-scale structural use of cast iron and glass for floors, roof, and partitions. Though his plans may on some points appear naïve or quixotic, through his constant articulation of the importance of direct, unseen, and continuous inspection of inmates and guards, he turned architects’ and reformers’ minds increasingly toward central, or radial, prison plans. His influence was particularly strong upon the architects of the French Academy, whose members produced some complex geometric and circular prison plans. Although prisons designed for easier central inspection had appeared before Bentham’s ideas received currency, he gave a new purpose to these geometric forms: ease of surveillance.

Although the full Panopticon was never faithfully realized in England, two small-scale panoptic cell-blocks were built in the Lancaster Castle enclosure: one for women, put up in 1820 with the governor of the prison as architect, and a block for men, erected a few years later. Published descriptions of the female section, now destroyed, correspond closely with the male section as it appeared in the late 1950s (fig. 27). This block had six tiers of from eight to ten cells on each landing, arranged in a semicircle, with cell windows opening to the out-

Figure 27. Panoptic women's prison in Lancaster Castle enclosure. Modern plan courtesy of H. M. Prison Service, United Kingdom.
side of the building and barred fronts—rare in European prisons—facing balconies on each level. The hub once contained supervisor’s quarters.\textsuperscript{49}

Large-scale semicircular prisons did begin to appear in the thirty years subsequent to the publications of Howard and Bentham. The first of these was the Edinburgh Bridewell. John Howard on a visit to Scotland persuaded the Edinburgh authorities to hold a competition for a new prison. Robert Adam’s plan was selected. Adam approached Bentham, who responded with letters containing advice and details of the plan. Authorized by an act of 1791, the five-story stone structure was completed and occupied in 1795 (fig. 28). One hundred twenty-nine “sleeping closets” were arranged around the outer perimeter of the semicircle and opened onto an inside corridor. Doors from this same corridor also led to fifty-two much larger “working cages,” the other ends of which were iron gratings. At the center of the half circle was a “dark apartment . . . from which the governor or his deputy, without being themselves very visible, can see at a glance what is doing in all parts of the house.”\textsuperscript{50} The space between work cells and inspection lodge was illuminated by means of a skylight and used as a chapel on Sundays. Apparently there were two inspection lodges, one per two tiers of work cells.\textsuperscript{51} An imposing, castellated governor’s house overlooked the city.

Although a few prisons were built on this plan, other prisons built in England and Ireland, and occasionally in Spain, were semicircular or polygonal freestanding cell buildings, sometimes facing one another, overlooking exercise yards and probably a governor’s house. The intervening area was open rather than covered by a glass roof, as Bentham had intended. Thus one could not directly observe the cells from the center, although from either windows or balconies one could see the exercise yards located between the hub and the encircling cell building.

The first of these semicircular institutions was the Gloucester house of correction at Northleach, built between 1789 and 1791 upon designs of William Blackburn (fig. 29). An angled array of five buildings was disposed in a semicircular fashion around a two-story center building containing the governor’s residence on the first floor and a chapel above. The cells of the main building opened onto outside balconies facing the rear of the governor’s house. On the second floor of the latter there were also inspection balconies facing the yard of the prison.\textsuperscript{52} No prisons built like Northleach appeared for over twenty-five years. Then, between 1817 and 1830,

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Figure 28. Edinburgh Bridewell, 1794. Governor’s house to the left, in background. Thomas H. Shepherd, Modern Athens (1831), opposite 59.
Figure 29. Gloucester house of correction, Northleach, 1789. Courtesy of Gloucestershire County Council, Gloucester Records Office.

Figure 30. Sligo county jail, Ireland, 1818. C, cook-house; D, debtors' prison; E, entrance; F, female department and matron's house; G, governor's house; H, hospital; P, pumps; S, solitary cells, with male store over; T, tank and tread-wheel; L, laundry; W, privies. Fifty-First Report of Inspectors-General of Prisons of Ireland, 1872 (1873), 280.

at least twenty-three opened, about half of them in Ireland. Because of the tireless activity of the London prison society and the exchange of information, plans, and personnel from region to region, these little semicircular county prisons for the most part are strikingly similar. All were provided with what were then called “airing yards,” open-air spaces divided by walls or iron fences to separate the different classes of prisoners and arranged so that the governor or his staff could presumably observe the prisoners from the hub building. A chapel usually occupied the upper level of the hub, with the governor’s quarters below (fig. 30).

A variant of the semicircular prison was the Italian bagno built in 1795 on Ventotene Island near Naples.53 Constructed in a horseshoe form suggestive of theater plans of that period, the convict prison of Santo Stefano contained single cells facing a corridor on the outer curve of the structure, and group cells opening inwardly on the court (fig. 31). A small chapel was in the center area, with service and administrative quarters in the rectangular buildings at the base of the horseshoe.54 Few of these horseshoe-shaped prisons were built.55
Radial Plans

Although a few circular or polygonal plans and many rectangular ones characterized new prison construction following Howard’s and other reformers’ disclosures of prison conditions and Bentham’s Panopticon scheme, the new county jails and bridewells did not meet the rising expectations of the reformers, who fixed instead, especially in England, upon radial layouts. By “radial” I mean any arrangement of cell buildings that converge on a center, attached or separate. The wings may be in a simple T-form, a cruciform, or disposed in a fan shape or in a complete circle around a hub. Several examples of radial forms were noted in chapter 3. Hospital construction, which showed a development parallel to that of prisons, especially during the seventeenth and eighteenth centuries, provides many examples of the cross plan. Santa Maria Nuova hospital in Florence (1330) contained by the eighteenth-century two cruciform buildings side by side, one for men and one for women. Joseph Furttenbach’s Architettura Universalis of 1635 included plans of arsenals, schools, and lazarettos, all in the cross form. His plans, like others of the period for hospitals, contained open wards in each of the arms of the cross. Milan’s Ospedale Maggiore, begun in 1456, consisted of two cruciform ward buildings separated by a large court. Such cruciform plans usually were intended to facilitate the holding of worship services in the center building, thus allowing patients in the wings to participate. Examples also exist of seven- and eight-wing hospital plans as early as the 1720s in Germany and France.

William Stark designed a mental hospital in about 1807 that was erected in 1817 in Glasgow. An octagonal center building had four three-story wings attached at right angles to each other. Walls between the buildings formed eight enclosures, and Stark planned to classify the patients into eight separate groups by sex, social class, and seriousness of illness. The governor’s rooms were located in the central building, in the angles formed by the wings and connecting with them in such a way as to make supervision possible and allow a view of the exercise yards. Near the center of the octagon structure was a circular corridor into which the four wing corridors opened.
In 1814 a plan was published for a proposed London lunatic asylum (fig. 32), credited to James Bevans, undoubtedly the same Bevans who submitted circular prison plans to the London Society for the Improvement of Prison Discipline. The hospital was never constructed, but it may have provided the inspiration for John Haviland’s designs for the influential Eastern State Penitentiary in Philadelphia in the 1820s, particularly his preliminary plans. In the design for this asylum, published during Haviland’s apprenticeship in London, seven single-story wings radiated from a central hub. Six of these wings contained small outside single rooms, for 150 patients in all. The seventh wing was devoted to service facilities and dayrooms. Additional service facilities and a circular passageway called an inspection gallery were located in the center building. Other mental hospitals and workhouses were being erected at this time on similar plans. The intent was to allow better control and surveillance over the occupants. Whether or not this occurred, these arrangements at least may have allowed a more efficient flow of staff and residents than more traditional hospital and other institutional layouts had done.

If anyone is the “father” of the radial plan for prisons, it must be the nearly forgotten London architect William Blackburn. During the last six years of his life he was responsible for perhaps eighteen jails and prisons erected all over Britain. Blackburn and his contemporaries designed radial prisons that were intended to permit some kind of surveillance over the activities of inmates and guards. The building for the governor’s quarters with a chapel above was placed in the center, either connected by passageways to the several cell wings or separated from them. If freestanding, the chapel would often be linked to the upper story of the cellblocks by iron bridges. Sometimes the ground level was an arcade, as Howard had suggested, to ventilate the yards and reduce escape attempts from cells above. A dividing wall down the center of the cell wings allowed for separation of different kinds of prisoners by seriousness of crime, age, or other characteristics. Individual stalls in the chapels, a feature that has continued in some countries into the twentieth century, and separate exercise yards were also intended to prevent contacts.

The first cruciform jail to appear in Britain was probably Blackburn’s Suffolk county jail at Ipswich (1784–90), which was also the first plan to permit visual inspection of corridors from a central vantage point. This small jail was in the form of a Greek cross with four radiating cell buildings at right angles to one another that were attached to an octagonal center building (fig. 33). This center housed the governor’s quarters and a chapel on the floor above. From the center, passageways led to dayrooms and cells for seven separate classes of prisoners, each of which had its own exercise yard that could be observed from the windows of the center building. Cells accommodated eighty prisoners. By the mid-nineteenth century very few of these strict cruciform structures still were in existence. One of them, the Berkshire house of correction in Abingdon, built in 1804, consisted of three floors (fig. 34). The first had dayrooms, workrooms, and a kitchen; the upper two levels contained cells and a chapel.

Three-wing structures in a “T” form were perhaps a more common variant of the cruciform plan in both England and Ireland. Few of these T-form radial prisons were being built on the Continent during this era, although in Switzerland the Geneva penitentiary (1822–25) had two wings arranged in a “V” shape attached to a governor’s house, and a prison in St. Jacob was built in the more familiar “T” shape (1835–39).
The radial prisons described thus far had wings attached to a center house, most allowing visual observation. By far the most popular prison plan at this time in Britain consisted of a cross or "T" form separated from a center house by from ten to thirty feet. Although the first of these prisons seems to have been the small house of correction at Hereford (1793–97), designed by the well-known architect John Nash, the Glamorganshire prison at Cardiff may actually predate Hereford. The first prison of any size on this plan, one that may be considered a refined and sophisticated example of its full development, was the county jail at Cambridge (1801–7), by George Byfield. The front entrance to the prison was simple but powerful: a small door set in an arch of rusticated stone and heavy iron grillwork. Inside an enclosure, four two-story blocks surrounded a center house at a distance of about twelve feet. Each wing had a dividing wall, making two separate sections. The ground floors contained a few cells, workrooms, and dayrooms; the upper floors had a range of six cells on each side with rather large windows.
Altogether, including debtors' cells, there were about seventy sleeping rooms, most measuring six feet by nine feet six inches, with arched brick ceilings to render them fireproof. The center building, with a circular stair in the middle, contained committee rooms, a kitchen, and keeper's quarters on the ground floor, and a chapel above, which was connected with the same level in the cell wings by means of iron bridges. On the third level was an infirmary with four wards. The many windows of the keeper's house and its floor level, which was higher than that of the cell buildings, were designed to facilitate surveillance of the prisoners' yards and dayrooms.63

The early nineteenth-century ideal of classification was perhaps more elaborately reflected in the details of the nearby Suffolk house of correction at Bury St. Edmunds (1803-5), by the same architect and on a very similar plan. The chapel was partitioned so that each class of prisoner could be kept separate. There were four entrances to this center building on the ground level and four corridors joining in the center, where a circular stair was located. Each cell block had a dividing wall, creating eight distinct sections in the prison.64 Other prisons on substantially the same plan went up in a number of Irish and English counties and cities.

Not all the radial prisons of this time consisted of right-angle cell wings; many contained from three to seven wings disposed at various angles in a semicircular or fully circular fashion around a center building. The first of these was the Liverpool Borough Jail (1786-87), by Blackburn, built after John Howard had made a number of visits to that city. A year after construction work had started Howard inspected the new prison and found that the street in front had been renamed “Great Howard Street” in his honor.65 The prison must have been incomplete at this time because the first occupants recorded were French soldiers who were kept there from 1798 until 1802 as prisoners of war. Nine years later local prisoners were housed in the Liverpool jail for the first time. This large prison consisted of six cellhouses of uniform size, fanning in a semicircle around the governor's house at the hub.66 In the rear of the governor's house, which was separate from the cellhouses, a semicircular inspection room with windows commanded the several exercise yards. Above the residence was the customary chapel. Subsequently prisons with four to seven wings disposed in a half or full circle went up in England and Ireland. The Meath county jail at Trim, Ireland (1832-33), with five wings, may be considered typical (fig. 35).67 A center building housed the governor's quarters on the first floor. A chapel on the upper level was connected to the near ends of the five cell wings by iron bridges. The short wings were bisected by a dividing wall allowing further separation of prisoners in different categories.

Four other prisons of this period must be mentioned because of their size and layouts. The earliest of these is Dartmoor Convict Prison (1806-9), designed by Daniel A. Alexander and Thomas Tyrwhitt. Dartmoor is one of the two or three most famous prisons in Britain but it had little effect on subsequent penal architecture. Located on the desolate moors of southeastern England, Dartmoor was built to house up to seven thousand French and American prisoners of war. It was later temporarily abandoned but has been used continuously since 1850. Enclosed by a huge circular wall, the prison is laid out on what might be described as a large-scale campus plan, with cell buildings at angles around a central mall. Initially, prisoners slept in hammocks; later, iron cubicles were used, and still later, cells. There seems to have been no central inspection hub or tower, at least since the prison has been used for convicts.68

The county jail, bridewell, and penitentiary for the county of Kent at Maidstone (fig. 36) was the largest county prison in Britain for many years and the most elaborate example of radial planning of this period. The prison, designed by Daniel Alexander and erected between 1816 and 1818, consisted of four building groups, each with a center house from which separate wings radiated at right angles. The principal hub had three wings, while the other three clusters, one on each side and one behind, each had four wings, making altogether fifteen wings.69 Two London prisons, Tothill Fields (1829-34) and Coldbath Fields (1829-30), consisted of multiple radial arrays, but these were criticized because the complicated layout made supervision difficult.70

Radial prisons were much less frequently built outside Britain during this period, but when they were, they usually reflected the architecture of the English and Irish prisons. Certainly the best example of this is the small prison that the British constructed during 1828 to 1832 on the Greek island of Corfu (Kérkira), in the Ionian Sea near the Albanian border (fig. 37).71 The prison had been built when the British High Commission occupied the island
Figure 35. Meath county jail, Trim, Ireland, 1832. Courtesy of Office of Public Works, Republic of Ireland.

Figure 36. Center building, Maidstone prison, Kent, 1816. One of the four center buildings with radiating wings in this large prison complex. Photo by author.
during its political administration of Greece (1809–64). Four cell wings with dividing walls were separate from a center house but connected on the upper level by iron bridges to a stall chapel. The portion of each cell wing closest to the center building was used as a dayroom and workroom. The end of this space faced the windows of the governor’s apartments in the center building, and an open grill allowed surveillance.\(^72\)

A few noteworthy radial examples have appeared elsewhere. The Moscow District Prison near the Butyrsk Gate probably dates from the first years of the nineteenth century. It was in the form of a Greek cross with four attached wings. The center portion contained a church, and workshops were located in sheds along the surrounding wall.\(^73\) Some members of the London prison society visited Geneva, Switzerland, and as a result plans and published reports were sent to the cantonal government. Swiss government authorities then dispatched the architect Samuel Vaucher-Crémieux (1798–1825) to London to study English prisons at first hand. Considering the strong preference for the radial plan shown by the London prison society members and reflected in their publications, it is not surprising that the new cantonal penitentiary consisted of two wings radiating from a semicircular hub containing governor’s quarters and chapel.\(^74\) There were fifty-six cells, which could be inspected from a central gallery that ran around the perimeter of the center building. The prison opened on the Auburn system in 1825. The Petite Roquette prison in Paris (1826–36), by Hippolyte Le Bas, was a complicated combination of a six-wing radial design within a hexagon, which inscribed six pentagons (fig. 38). No visual inspection of the wings from the center was possible.\(^75\)

A number of radial prisons in several different styles appeared in North America during this same period, but because of their importance for later prison architecture, they will be considered in the following chapter.

In South America the house of correction for Rio

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Figure 37. Corfu prison, Greece, 1828. Photo by author, 1963.
de Janeiro (1834–56) was the first erected in the new wave of prison reform emanating from the United States and Europe. The plan (fig. 39), by the engineer Manoel de Oliveira, was inspired by earlier English models published first in London in 1820, in Germany in 1828, and in France the following year. There is some indication that the government had received current plans from North America and had originally intended to use them instead of the older English model. This prison was undoubtedly the last ever constructed with this early nineteenth-century layout.

In Britain, to ensure the care of the large number of English prisoners who were no longer being sentenced to transportation, Parliament passed a national penitentiary act in 1812. After the competition for a plan for a large penitentiary, Thomas Hardwicke was chosen as architect. The prison was intended for county prisoners from London and Middlesex, but before it was completed it had been earmarked for a national penitentiary. The site, at Millbank, then a marshy area near the Thames a half-mile south of the House of Commons, was originally purchased for Bentham’s projected Panopticon prison. Besides the general unhealthiness of the location, the land was unsuitable for proper foundations for such a heavy building as the Millbank penitentiary. As the work began in 1813, the difficulties arising from this fact became apparent, and Hardwicke, who had designed the gateway, resigned. After two more architects came and went, the prison opened in 1816 and was completed under Sir Robert Smirke in 1821 at the hitherto-unheard-of expense of £500 a cell, a cost due partly to the complex forms of the building and partly to corrections made to improper original foundations.

Surrounded by a moat and an octagonal wall enclosing sixteen acres, Millbank had a hexagonal center formed by the inner sides of six surrounding pentagons (fig. 40). In the center enclosure was a circular chapel; the surrounding three-story hexagon housed administration offices, staff quarters, an infirmary, a laundry, and other services. Each pentagon had six 36-cell wards for various classes of prisoners. The cells, over a thousand in all, opened into a corridor running next to the outer wall of the structures. Stoves were placed in these corridors, although the night cells on the upper floors were unheated. There were only common privies on each floor. In each of the six courts was a three-story watchtower for the “taskmaster,” who was the principal keeper for the cellhouse.

Millbank was Britain’s first large-scale experiment with a penitentiary regimen and, like the penitentiary experiments in America, suffered many crises and difficulties, not a few of these originating.

Figure 39. Rio de Janeiro house of correction, 1834. João Pires Farina, Relatorio sobre as prisoes da Franca e da Italia em 1889 (1890), end plate.
in the architecture of the original building. Upkeep was high and the opportunities for internal surveillance and discipline were poor as the result of the unusual design, which was not only too large but also cut up into too many small areas. There were eighteen outer towers and six watchtowers in the pentagonal yards, and two miles of angled corridors (three miles of corridors and stairways combined), with the result that a guard could ordinarily see no farther than fifty yards. The inability of guards to supervise the cells and corridors, the need to permit prisoners out of their cells from time to time because of the lack of toilet facilities, and the opportunities for prisoners to communicate from cell to cell allowed inmates to circumvent the solitary confinement that composed at least the initial part of their sentences. The security of the prison was further endangered when portions of the outer wall began to crumble badly by 1837 and had to be propped up. The unhealthy location on the mud flats near the polluted Thames seems to have brought about considerable illness, and only two years after the prison had been completed an epidemic closed the entire institution for a year. Because of these problems and the obstacles to carrying on manufacturing in the small cells, the prison of twelve hundred cells rarely had over six hundred inmates. The cumbersome and complex physical layout—clearly an imitation of the superficial features of the Ghent plan with some circular details added—was never repeated in a prison plan.

Proposed Prison Plans

The prisons built during the early decades of the prison reform movement represent only a fraction of the prison designs submitted in competitions, published in tracts on penology, and in other ways put before the authorities or the public. Some designs were fanciful and grandiose, and almost all of them were geometric. From the advantage of hindsight it seems no loss that they were never built. Charles Busby, for example, submitted a plan in 1816 for the Bristol jail competition. Busby was a prominent architect and had had a hand in the building of the disastrous Millbank Penitentiary. His design for Bristol consisted of two intersecting parabolas formed by rows of two hundred cells on three levels. The kidney-shaped courtyards, one for males and one for females, were so arranged that every prisoner could be kept under surveillance by the keepers in the towers. The curvature of the cell corridors, however—like the angles of the Millbank cellblock areas—would have made internal supervision extremely difficult. A number of the prison plans of Sir John Soane have survived, probably because he had the foresight and the means to set up a museum to care for them. Like many of his other schemes, they are on a grand scale.
and of varied geometric shapes. For example, his plan for a national penitentiary (1782) consisted of twenty-four three-story cell wings with a single range of cells opening onto arcades.83

By far the most powerful influence on prison design in Britain and even in Europe and South America in the 1820s and 1830s was the Society for the Improvement of Prison Discipline and for the Reformation of Juvenile Offenders. Through its influential members who corresponded with prison reformers abroad, visited prisons, sent designs to prison authorities, and published books, the society largely set the standards for prison construction during this period.

The society’s first major publication, in 1820, presented model plans and specifications by the architects George Ainslie and G. T. Bullar that were intended to guide the designs of new prisons then going up in the English and Irish counties, and occasionally in foreign countries. These plans were sent to the Philadelphia prison reform society and to comparable groups all over Europe. In 1826 another publication of the London society reproduced these plans again and suggested alternative forms, featuring from two to eight radiating wings about a common center building.84 The society criticized some existing prisons, such as Maidstone, Millbank, and Blackburn’s Liverpool jail, as being poorly arranged for proper surveillance. For the same reasons, society members did not approve of most courtyard and circular prison plans. Existing prisons that met with approval were all spoke-and-hub or radial designs, with blocks either attached to the center building or close to it.

The society’s annual reports in the 1820s and 1830s tell of widespread construction of county jails, city jails, and houses of correction, all on the plans that met with their approval. Clearly, the group’s active proselytizing by means of the reports had stimulated the building of radial jails and prisons in England and elsewhere. For example, in Ireland the prison authorities’ fifth Report of the Inspectors-General (1826) followed the lead of the English in recommending the radial plan.85 In the 1830 report, a rating scale was used for judging the county prisons, and architecture was one of the criteria upon which the ratings were based. The following year’s report compared the numbers of jails constructed in 1822 and 1831 arranged in six classes of suitability, according to the society’s criteria:86

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<td>1. Entirely new jails, radiating</td>
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<td>2. Entirely new jails, semicircular</td>
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<td>3. Old jails, nonpanoptic</td>
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<td>4. Large additions, radiating</td>
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<tr>
<td>5. Large additions, semicircular</td>
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<tr>
<td>6. Large additions, nonpanoptic</td>
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Although leadership in improving prison architecture came largely from England, books dealing with prison reform were beginning to be published on the Continent, and model plans and plans of satisfactory existing prisons were sometimes included. For example, Louis Pierre Baltard published his Architectonographie des prisons in 1829 in Paris. He included many plans of historic prisons, such as that in the château of Vincennes, but also those of some contemporary institutions, such as the Milan house of correction and the Petite Roquette in Paris. Some of the model plans he published were based upon plans sent to him from London, presumably drawn up by the prison society there. Most of these model plans consisted of five wings radiating in a half-circle with or without any provision for direct inspection.87 Several versions of the radial prison plan were published in Italy in the 1820s. Giuseppe Jappelli’s designs for a projected jail in Padua consisted of a Greek cross with each wing containing one range of cells and corridors opening into the center area.88 Another project for a jail at Avellino consisted of eight detached blocks radiating in a full circle from a central hub. The general construction followed closely the recommendations of Howard, with arcades on the lower level.89 In Prussia, Nicolaus H. Julius (1783–1862), a well-known lecturer on criminology, published a book in 1828, translated into French in 1831, with model plans and existing prison plans. The models, again, clearly reflected the English hub-and-spoke design.90

Style

From the vantage point of the present, earlier concern for the exterior appearance of prisons seems excessive and naïve. As modern prisons tend to be located away from urban areas, few citizens see them. Increasingly, when seen through security fences, prison buildings look little different than school buildings or the structures of industrial parks. Purpose-built prisons in the early modern pe-
riod usually had facades much like those of other civic structures. There were some exceptions. In designing the seventeenth- and early eighteenth-century Dutch equivalents of our prisons for minor offenders, the rasphuis and spinhaus, architects took great care to ensure that the entrance gates were properly embellished with stone figures and appropriate mottos. Above the gate of the Amsterdam workhouse (1595), a bas-relief depicting a man driving a wagon filled with logs and pulled by a team of lions, a wild swine, and a wolf represented the work that took place in the prison, rasping wood for dye. A Latin inscription below suggested that it is virtuous to tame those whom all fear. Later a statue of a woman, Castigatio, was added, personifying punishment used for correction, flanked by two prisoners in chains. Above the 1607 gateway to the spinhouse for women in the same city was a figure of Castigatio with the advice to the entrant, "Do not be frightened; I am not avenging wrong but forcing to do good. My hand is severe, but my mind is compassionate."[91] These civic displays were intended to announce to the citizens, if not to the inmates, the purpose of the institutions. Although the design of these early workhouses was intended to draw attention to the government's performance of its duties, people often criticized the elaborateness and pretentiousness of such gates.

Later, as reforms began on a larger scale and many purpose-built prisons were erected, a self-conscious architecture evolved. Architects and the public formed opinions of how the exterior might reflect the purpose of imprisonment, in addition to providing security. In its public face the prison must present an image likely to deter crime on the part of those who viewed it. An encyclopedia article in 1826 expressed this idea with relish:

The style of architecture of a prison . . . offers an effective method of exciting the imagination to the most desirable point of abhorrence . . . . The exterior of a prison should, therefore, be formed in the heavy and sombre style, which most forcibly impresses the spectator with gloom and terror. Massive cornices, the absence of windows or other ornaments, small low doors and the whole structure comparatively low, seem to include nearly all the points necessary to produce the desired effect. Our own Newgate perhaps embodies these as perfectly as can be desired.92

But what style would be appropriate for buildings increasingly expected to perform a whole range of new functions? During the late eighteenth and early nineteenth centuries, the Romantic movement's revolt against reason and formalism found a natural expression in the revival of various period styles. The Greek, usually Doric; Norman, that is, Romanesque; and a castellated mode, using Gothic details, were the styles most commonly revisited, although others were used occasionally.

Some of the early architecture consciously developed for prisons was straightforward, with a minimum of detail aside from plain towers and moderate crenellations, such as Dance's Gillspur Street Compter (1787), Blackburn's Liverpool jail (1786–87), and the Bury St. Edmunds jail (1805).93 Newgate, although somewhat more elaborate, received almost unanimous approbation for its powerful external facade; one observer called it "without doubt the most appropriate and correct design in the metropolis or perhaps in Europe; for no one viewing this edifice can possibly mistake it for anything but a jail, the openings as small as convenient, and the whole external aspect made as gloomy and melancholy as possible."94 Charles Western, an ultraconservative critic of most prison reforms of the time, commented in 1821: "I was particularly struck that day with the appearance of the exterior which is certainly very handsome, magnificent and characteristic; and its gloomy interior exhibits features of such a nature, as forcibly to impress the mind with awe, and lead it to melancholy contemplation."95 The main doorway of Newgate has long been famous for the chains festooned above it.

As the Gothic revival gained momentum, thanks to antiquarians, historians, and religious leaders, Gothic-style buildings became increasingly popular and elaborate, though they were often historically inaccurate. The ponderous castle towers and keeps, which could depress the onlooker and reflect a somber, stern function, sometimes became elaborated by a wasteful excess of detail. Even as early as 1789, John Howard wrote: "The new gaols, having pompous fronts, appear like palaces to the lower class of people in Ireland; and the same persons object to them on this account, especially those who are obliged to contribute towards their expense, and think it would be better if they were less commodious."96 A descriptive work on Liverpool published in 1793 had this to say about Blackburn's Liverpool borough jail:

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This Temple of the goddess Laverna [Roman goddess of thievery] is situated at the northern extremity of the town, where it rises in all the glare of ostentatious majesty. A stranger, on being informed it is the common jail, must be immediately prejudiced by a very indifferent opinion of the honesty or reputed wealth of a place which requires a building for the reception of villainy and insolvency that covers more than twice the ground occupied by the prison of Newgate and on fair calculation will hold half the inhabitants of Liverpool. . . . A distant view indicates a magnificent castle. The pile is enormous; the materials of which it is composed would build a village.97

Because the structures considered in this chapter were, for the most part, relatively small, only a modest amount of money was usually available for the front buildings and gatehouse. The highly elaborate facades that later became common seldom appeared until after 1840. Yet, even the Edinburgh Bridewell facade, relatively simple compared to those later examples, was criticized because it “assumed a fortress-like appearance.” In the words of a contemporary commentator, “the people were suspicious that it would form a sort of bastille, and be used for secret and tyrannic purposes.”98 In spite of criticism, however, it was the Gothic style, with all of its stony excrecences, that became established all over the world as the style for prisons.

The Effectiveness of the Architecture

The architecture of prisons that evolved out of the awareness of prison conditions in the last decades of the eighteenth century was an architecture of surveillance. Prisons after 1780 were increasingly erected in semicircular or radial layouts to discourage contacts among prisoners and to control the behavior of both the keepers and their charges.99

These goals of the ideal prison structure, however, remained disappointingly unfulfilled. Opportunities for observation of the prisoners were not as effective as the architects envisioned or the magistrates assumed. In many cases, the supervision of prisoners that took place in 1820 was no better than that which Howard had found in 1780. After Britain had embarked on its ambitious program of building large-scale radial prisons after 1840, Sir Joshua Jebb, the surveyor-general of prisons, noted of earlier plans: “There is a great apparent facility for inspection; but when its extent is ascertained, it is found to be confined to the exercising yards lying between the buildings. The greatest possible neglect, disorder, and irregularity either on the part of the Officers, or Prisoners, may be going on within the narrow passages, dayrooms, and cells, without anyone being cognizant of it, unless additional superintendence were maintained in each distinct portion of the prison.”100

Despite the shortcomings of the early prison designs and programs, the efforts of the reformers and architects represent the first serious attempts to fashion a specific architecture for prisons and to deal with problems such as the mingling of different types of inmates, the corruption and undisciplined behavior of the keepers, and matters of health and sanitation. The reformers knew what was bad about the prisons of the past. Could the right architecture solve these problems? Most had great confidence that it could. In matters of health and orderliness of the prisoners, the new buildings of the period met with modest success. But increasingly the reformers realized that the magic formula was still missing. Scandals continued to occur; prisoners seldom seemed to improve or benefit from their incarceration.

A new source of inspiration for both the architecture and the regimen that might change prisoners for the better came from the reformers of North America, especially one English-born architect who had recently settled there.