

DEPARTMENT OF SOCIAL POLICY



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■

SUMMATIVE COURSEWORK COVER SHEET

CANDIDATE NUMBER	2 9 6 8 3	ACADEMIC YEAR	2013/14
5 digit number – available via LSEforYou			
COURSE CODE	S A 4 6 5		
COURSE TITLE	Criminal Justice Policy - Long Essay		
ASSIGNMENT TITLE	Analysing the Impacts of Prison Architecture on Offenders and Their Rehabilitation		
WORD COUNT	10017	Excludes reference list (bibliography) and appendices. SA485 and SA499 students should disregard this word count and adhere to the required 10 page (SA485) and 45 page (SA499) limits.	

DEPARTMENT USE ONLY

Please tick this box if the External Examiner should be referred to the feedback prepared for the candidate. Any further comments can be entered below (or attached on a separate sheet if there is not sufficient space).

MARKER 1 COMMENTS	SUGGESTED MARK	%
MARKER 2 COMMENTS	SUGGESTED MARK	%
	AGREED MARK	%

EXTERNAL EXAMINER COMMENTS

FINAL MARK	%	SIGNATURE	DATE
------------	---	-----------	------

Awarded by External Examiner



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■



London School of Economics and Political Science

DEPARTMENT OF SOCIAL POLICY

MSc Criminal Justice Policy

1st September 2014

Supervisor: Dr. Coretta Philips

Candidate Number: 29683

ANALYSING THE IMPACTS OF PRISON
ARCHITECTURE ON OFFENDERS AND
THEIR REHABILITATION

Acknowledgements

I am thankful to my parents for their unconditional support and encouragement throughout my time at LSE

I would like to express sincere gratitude to the following for their kindly advice, assistance and guidance:

Dr. Coretta Phillips of the Department of Social Policy, LSE

Prof. Tim Newburn of the Mannheim Centre for the Study of Criminology and Criminal Justice, LSE

Prof. Yvonne Jewkes of the Department of Criminology, University of Leicester

Prof. Xiaowei Zhang of the Department of Criminal Justice, East China University of Political Science and Law

Abstract

A great correlation between prison architecture and its impacts on offenders has been noticed and researched by many scholars. Catering to the needs to the development of prison architecture, this paper tries to draw from advanced research results about how the architectural factors contribute to offender's rehabilitation and applies these findings to the construction of prison in China.

Table of Contents

<u>INTRODUCTION</u>	1
<u>LITERATURE REVIEW</u>	2
BALANCE BETWEEN HUMAN RIGHTS AND 'LESS ELIGIBILITY'	2
PRISON ARCHITECTURE INFLUENCES THE EFFECTIVENESS OF REHABILITATION	4
THE PRISON FACADE SHOULD CATER TO THE REFORMATIVE IDEOLOGY	5
INTRODUCTION OF PANOPTICON AND FORMS OF PROPER SUPERVISION	6
THE DISCUSSION OF SOCIAL DENSITY	7
DECENT DESIGN OF PRISON ARCHITECTURE CONTRIBUTES TO RESOCIALIZATION	8
<u>PRISON ARCHITECTURE IN CHINA</u>	9
<u>DISCUSSION</u>	11
THE LOCATION OF PRISONS	11
THE SIZE OF PRISONS	11
THE STYLE OF PRISON ARCHITECTURE	12
THE COLOUR OF PRISON ARCHITECTURE	13
THE STRUCTURE OF PRISON ARCHITECTURE	15
THE LAYOUT OF FACILITIES IN PRISONS	16
<u>THE CONCEPT OF 'GRADUAL REFORM' AND THE DESIGN OF THE 'CORRECTIONAL PRISON'</u>	19
THE CONCEPT OF THE 'HORIZONTAL CORRECTIONAL PRISON'	20
THE CONCEPT OF THE 'VERTICAL CORRECTIONAL PRISON'	25
<u>CONCLUSION</u>	26
<u>BIBLIOGRAPHY</u>	28
<u>FIGURES</u>	40

Introduction

Based on the idea that 'offenders can be reformed', this paper aims to analyse the links between prison architecture and its impacts on prisoners, especially in terms of their rehabilitation. Prison architecture has played an irreplaceable role in rehabilitation and prison construction is not only associated with the civilization and humanization of prisoners, but also improves the quality of the inherent requirements of correction (Hancock & Jewkes, 2011). Although the establishment of the 'Prison Law of the People's Republic of China' in 1994 embodied advanced theory in prison administration, penal strategy and reformative ideology, rules about prison architecture were largely ignored. In contrast, the history of Western prisons shows that prison architecture has followed a continuous process of amelioration, transformation and innovation, which is consistent with the development of executive and rehabilitative ideologies (Johnston, 2007). Therefore, it is crucial for China to examine this area of research, because as the famous architect Sullivan (1896) put it, '[f]orm ever follows function' (p.408). Without a suitable carrier, advanced reformative ideologies can hardly be realised.

This paper first illustrates the basic philosophy related to imprisonment and the appropriate treatment of prisoners. It then uses a sea of literature to prove that there are some causal links between prison architecture and rehabilitation. After that, some very heated debates around supervision, prison facade, solitary confinement, social density and resocialization have been elaborated. In the second section, the paper briefly introduces the current situation of Chinese prison architecture. The discussion chapter concretely analyses how factors of location, colour, size, layout, style, and structure of a prison could impact on the daily life of prisoners and on their rehabilitation. Finally, having regard to the China's national conditions, it puts forward two types of 'correctional prison' with the notions of 'gradual reform', aiming to create a better environment for rehabilitative programs and thus to decrease the re-offending rate.

Literature review

Balance between human rights and 'less eligibility'

In order to prevent the war that 'pure liberty' would bring about, human beings agree to sign a 'social contract' to restrict the behaviours of people via rules, laws and morals (Hobbes, 2014). Therefore, in both Oriental and Western countries, people who violate the contract and revert to the 'nature of liberty' were regarded as subhuman and treated like animals in ancient times (Bulang Qi Rumsfeld, 2006). At that time, gloomy sternness was a symbol of prison, with the idea that sending criminals to 'hell' can deter their future offending (Johnston, 2007). However, as Michael Jacobson (the director of the Vera Institute of Justice) commented, '[f]or one thing, it's hard to make a lot of these places worse. Besides, people commit crimes after serving sentences in the third ring of hell. You're not going to stop them by demoting them to the fourth ring' (Lewis, 2009, p. 49).

Today, when freedom, equality, and human rights are emphasised, a reformative philosophy has overwhelmingly outweighed the philosophy of punishment. As Zhang (2013, p. 5) claimed, prisoners are not merely 'living things' but human beings who have dignity and rights. According to the International Covenant on Civil and Political Rights article 10, 'All persons deprived of their liberty shall be treated with humanity and with respect for the inherent dignity of the human person.' Moreover, resolutions such as the UN Standard Minimum Rules for the Treatment of Prisoners (SMRs), the United Nations Standard Minimum Rules for the Administration of Juvenile Justice (The Beijing Rules) and the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) have been enacted to regulate the treatment of prisoners and to protect their basic human rights. That said, even the lowest criminals have rights to be given the essentials for life, such as fresh air, clean food, and warm clothing.

In the US, the basic human rights 'shape the regulations that constrain both the design of correctional facilities and their operation' (Lester, 2004a, p. 27) and the living facilities of prisoners have been ameliorated and updated according to the standards established by the American Correctional Association (ACA). Similarly, realizing the

'ugliness' and 'bleakness' of prison architecture tends to result in negative outcomes, prison architecture across Europe has been designed to change prisoners' lifestyles to more human ways and to promote more acceptable rates of rehabilitation (Hancock & Jewkes, 2011, p. 620).

However, the recognition of human rights is not equivalent to providing prisoners with an overly high standard of living. Prisons with relaxed and pleasant environments have boosted more cliques and gangs (Jewkes, 2007) and neo-behaviourism¹ even suggests that good conditions, as a 'positive reinforcement', would amount to 'rewarding' criminal behavior. According to Blakely (1992, p. 152), in Colorado, homeless people intentionally committed trivial crime in the summer to late fall in order to be sentenced to prison and spend winter there because otherwise they feared being frozen to death. Similarly, *The Japan Times* reported that, against the background of an economic slump, old people who were homeless or poor would commit a crime to enjoy the facilities and food provided in Onomichi prison, and, at its worst, this attitude would encourage old criminals to commit more serious crimes in order to get a longer sentence (Yamaguchi, 2010). Therefore, some argue that the 'less eligibility' theory (Rusche & Kirchheimer, 2003), which holds that the deterrent function of prisons should be based on the principle that the living conditions of prisoners should not be better than the living conditions of the lowest class in free society, should be implemented. Otherwise, as White (2008, p. 56) noticed, prison will lost its punitive effect and become a 'refuge from the deprivations and uncertainties of law-abiding life, sought after by the poor'. In this matter the Woolf Report (1991) in the UK has put forward a pertinent view:

We are not seeking to achieve more comfortable surroundings, greater luxuries or increased privileges for prisoners for their own sakes. To think that would be to fundamentally misconceive the argument. We are seeking to ensure that a prisoner serves his sentence in a way which is consistent with the purpose behind the court's decision to take away his liberty and his freedom of movement, while ensuring he is treated with humanity and justice (para. 14.5).

¹ <http://www.psychologyconcepts.com/neobehaviourism/>

Prison architecture influences the effectiveness of rehabilitation

Improvement of prisons should be based on the improvement of prison architecture, for the architecture is closely related with prisoner management and rehabilitation (Bates, 1931; Shang & Liu, 2003). In the book *Prison Architecture*, McConvile (2000) encouraged criminologists to pay more attention to the study of prison architecture, for the design of a building will greatly affect the inmates' behaviours. Pevsner (1979, p. 293) claimed that 'every building creates associations in the mind of the beholder, whether the architect wanted it or not'. Foucault (1995, p. 231) also mentioned that for prisoners the scientific design of prisons could be 'fixing them in space', 'training their bodies', 'coding their continuous behavior' and 'maintaining them in perfect visibility'. The book *Situational Prison Control*, written by Wortley (2002), used Ronald V. Clarke's situational crime prevention theory (see Clarke, 1980). It pointed out that prison settings and architecture have close links to the control of inmates and to their rehabilitation. Zimmerman (1916, p. 720) suggested that correctional buildings should be designed similarly to the design of a modern hospital, with sufficient air and light. Since the prison buildings changed when the 'attempt at revenge and punishment of the law breaker will be replaced by the persistent aim at his reformation and education' (Zimmerman, 1916, p. 717), the executive director of the American Correctional Association (ACA), James A. Gondles Jr. (2001), indicated that the development of correctional architecture requires collective collaboration among professionals, architects and builders.

From the perspective of ecological psychology, Barker (1968) suggested that the relationship between environment and behavior reflects their internal ecological interdependence. Harries (1998) stressed that prison architecture has ethical functions, which can conjure us to get out of ordinary life and call for a better and ideal life. For example, Sykes (2007, p. 7) recognised that physical compression such as 'naked electric lights, echoing corridors, walls encrusted with the paint of decades, and the stale air of rooms shut up too long' would lead to severe psychological depression within which inmates feel pain and restricted. Because prisoners are isolated from society, both their mental and physical health is closely associated with the pressures of incarceration generated from the penal regime and architecture (De Viggiani, 2007).

According to arousal theory¹, clever and scientific design of prison architecture, as a stimulus, may boost inmates' better performance. As a matter of fact, Spens (as cited in Hancock & Jewkes, 2011) noticed that some European countries have taken account of the reformative functions of prison architecture — the proper use of the psychological function of colours, maximizing the availability of natural light, and minimizing repeated scenes that may cause monotony are emphasised.

The prison facade should cater to the reformative ideology

In the book *The Panopticon Writings*, Jeremy Bentham (1995) asserted that prison itself is a vivid reminder of pain. For a long time, prison construction gave people a feeling of darkness and fear. French architect Jacques-François Blondel (1771, pp. 426–427) advocated the 'architecture terrible' style to achieve a 'repulsive' style of heaviness, which should 'declare to the spectators outside the confused lives of those detained inside'. This then, as Lefebvre (1991) and Fiddler (2007) put it, the 'great power of a facade' lies in its hint of things invisible and unknown, and the 'uncanny' representation of prison has become 'reel terror'.

However, as Pratt (2002) suggested, the frightful Victorian prisons are 'obstacles' to the progressive penal philosophy that is focused on treatment and rehabilitation. As a designer of Leoben prison, Hohensinn, noticed, '[criminals] are also human beings. The more normal a life you give them here, the less necessary it is to resocialize them when they leave' (Lewis, 2009). That is why the contemporary facade of urban prisons has become increasingly similar to the buildings around it (Davis, 2006). All in all, the design of prison architecture should be consistent with the reformative ideology, but 'punishment need not lose its deterrent value simply because it is constructive' (Bates, 1931, p. 544).

¹ <http://www.instructionaldesign.org/concepts/arousal.html>

Introduction of Panopticon and forms of proper supervision

British philosopher, jurist, and social reformer Jeremy Bentham proposed the conception of a 'panopticon' (Figure A), a word derived from the Greek for 'all seeing', and he believed that '[m]orals reformed—health preserved—industry invigorated—instruction diffused—public burthens lightened—Economy seated, as it were, upon a rock—the Gordian knot of the poor-law not cut, but untied—all by a simple idea in Architecture!' (1995, p. 43). The basic construction of the panopticon is a circular building that is divided into cells with a high tower in the centre that is used for prison officers to supervise prisoners (Barton & Barton, 1993). As Foucault (1995, p. 200) stated, 'visibility is a trap.' Prison monitors could see through a window to know what was happening in the prison while the prisoners would not know whether they were being watched. The panopticon enlarged the function of the monitor to an extreme, and the power of 'inscrutability' makes the intermittent monitoring appear to be continuous (J. Bentham, 1962, p. 40). This design ingenuously uses the criminals' fear of uncertainty to control them. Although Bentham's proposal was rejected following the Holford Committee in 1810, his creative idea about continuous surveillance has become an originator of the modern design of prisons, including the construction of the first national penitentiary at Millbank in London (Ignatieff, 1978). A former warder and governor, Roger Outram (as cited in Rohrer, 2007) even stated that, in terms of maintaining order, the old Victorian designs are better than modular ones — "You get a sense of a prison immediately. With one deep breath I can tell exactly what the temperature is. You don't get that with prisons that are modular."

However, advanced technology has changed the pattern of supervision. While camera-based observation has already become prevalent, 'radio telemetry', 'electronic tagging', and 'computerized device on the ankle' has also become popular (Levy, 1995, p. 222). However, Hancock and Jewkes (2011) worried that these cutting-edge facilities might potentially, as a new and more insidious form of control, damage individuals. Both the American Jail Association (AJA) and ACA prefer direct supervision, because it allows the staff to control a housing unit more effectively. But the problem is that direct supervision increases staff vulnerability, since they are required to be stationed in the housing unit among criminals. To solve this problem, Leister (2004b) proposed a 'final prototype' (Figure B) that makes staff less exposed

and enables them to talk to prisoners directly when they circumambulate in the unit. Thus, staff can eliminate the misunderstandings and can 'kill problems in the bud'.

The discussion of social density

In addition to supervision, both the physical and social density of prisoners should be considered. At the beginning, separating prisoners from society usually aimed to prevent citizens from being harmed by criminals' aggressions (MacCormick, 1950; Zimmerman, 1916), and solitary confinement was regarded as a way of punishment to recall the conscience of the prisoners (Arrigo & Bullock, 2008). In America, The Quakers of Pennsylvania first combined ideology, morality and the design of prison architecture, and they believed criminals could reflect on their actions and find their way to God when they were totally isolated (Griest, 2012). For example, the establishment of the Eastern State Penitentiary (built in 1829), which gave rise to what was dubbed the "Pennsylvania System", was based on the notion that isolation could lead to penitent thought (Lester, 2004a). As Foucault (1995, p. 239) explained, '[The] walls are the punishment of the crime; the cell confronts the convict with himself; he is forced to listen to his conscience.' In contrast, the Auburn system emphasised the effectiveness of labour reform and group work; but as in the Pennsylvania system, prisoners were forbidden to speak to each other, and they were kept in solitary confinement at night (Johnston, 1973).

However, solitary confinement is argued to be a very cruel punishment and is inhumane (Evans, 2011). Sommer (1974) propounds that isolation leads to de-individuation, disculturation and stimulus deprivation, while psychiatrists such as Jeffrey L. Metzner and Jamie Fellner (2010) and Arrigo and Bullock (2008) argue that solitary confinement boosts and exacerbates mental illness. Charles John Huffam Dickens (as cited in Chinlund, 2009, p. 220) even regarded 'this slow and daily tampering with the mysteries of the brain, to be immeasurably worse than any tortures of the body.'

Not only solitary confinement is a problem, but also most countries are suffering from the problem of prison over-crowding. Both physical density and social density are associated with the design of prison settings (Cox, Paulus, McCain, & Karlovac, 1982). Since crowding greatly correlates with high blood pressure, bad temper and illness (D'Atri, 1975; Singer, Lundberg, & Frankenhaeuser, 1974), unwanted contacts and misconduct are more likely to take place when too many people share a living area (Baum & Valins, 1977). Added to that concern is that prison has been thought of as a graduate school or university for criminals and a breeding ground for further offences (Pritikin, 2008; Rangel, 1999; Schlosser, 1998). Sutherland (1992) also pointed out that 'Criminal behavior is learned (p. 88)', which corresponds to the proverb in China, which indicates '[p]urity begets purity, like begets like'. Thus, if too many prisoners share a cell, cross-infection would be a crucial problem that raises re-offending rates and aggregates the behaviours of criminals (Lester, 2004a; Zupan, 2002). The research conducted by Schaeffer, Baum, Paulus and Gaes (1988) showed that single-cell inmates have fewer problems and Wener and Olsen (as cited in Farbstein & Wener, 1982, p. 674) asserted that 'easy access to private rooms was instrumental in reducing tension and violence'. In that case, the design of a jail with single private cells and with common areas such as recreational rooms is preferable for reform.

Decent design of prison architecture contributes to resocialization

Bo Nielsen et al. (2012, p. 10) defined resocialization as 'the process by which an existing identity or social role is adjusted, altered or replaced, by retraining a person psychologically to fit the expectations and behavior of the common society'. Indeed, losing contact with society has a great impact on rehabilitation and resocialization. According to Bulang Qi Rumsfeld (2006, p. 165), prisoners have to experience a transition from imprisonment to freedom after being released from penal institutions. The degree of this transition is similar to the transition from freedom to imprisonment that he experienced at the beginning of his sentence — 'strong, sudden and extreme'. The worst thing is that when military management was widely adopted, inmates were forced to work or play at a certain time and place. As time went on, prisoners would lose the

sense of control and fell into a situation of learned helplessness (Schill & Marcus, 1998). This makes resocialization extremely difficult to achieve. To reduce the gap between prison and society, the *SMRs* regulated that '[t]he regime of the institution should seek to minimize any differences between prison life and life at liberty which tends to lessen the responsibility of the prisoners or the respect due to their dignity as human beings'. That said, criminals have been deprived of their freedom, though all their other rights, as human beings should be protected. Jewkes (2002) indicated that the in-cell television has successfully given inmates a sense of being 'free' as are people in society; and it is conducive to minimizing the heterogeneity caused by psychological isolation. Therefore, the design of prison architecture should create an atmosphere that is similar to that of the outside community and the facilities in prisons should be set in association with the rationale of resocialization.

Prison architecture in China

In the period of the republic (1912–1949), with the idea 'to make foreign things serve China', architects considered various ideas about what prison architecture should be like in China. For instance, Xiong Sun (2011) emphasised the significance of the location of prison buildings and proposed advanced theories about the structure of prisons. He specified that the "correctional prison" could better exercise their utility to reform criminals when the location of the building was as close as possible to the town. However, since the People's Republic of China was founded, prisons are normally located in a place that is far away from cities, with only 40% of prisons being located within 10 kilometres of a town or city (Hill, 2006). This is because scholars in the 1950s and 1960s thought that using the natural environment to help prevent criminals from escaping and using free labour to reclaim uncultivated land were brilliant ideas given the national economic condition in China at that time (Z. Wu, 2003).

Besides, many old-fashioned prisons are located in dangerous environments with poor conditions that cannot guarantee the safety of prisoners and staff if a natural disaster should occur (Liang, 2012). Because of the poor conditions and inappropriate

construction of the prison, the rehabilitation programs become very difficult to implement (Liang, 2012; Pan, 2008).

Moreover, most prison architecture in China is stereotyped and of simple form, with high walls, electrified razor wire, and watchtowers (Huang, 2008; Z. Wu, 2003). Also, the colours of prison buildings are simple and similar without any consideration about the interaction between colour and people (D. Wu, 2009). Unlike prisons in Western countries, high-rise correctional buildings are rare in China, because they cost more to build and maintain (Hill, 2006). Further, the type of prisons in America is divided according to security levels, which implies that the design of prison architecture has begun to embed advanced ideas about individual treatment and education (Bates, 1931). However, China has only three types of prison — reformatories, female prisons and adult male prisons. This old-fashioned classification not only increases financial costs but also wastes human resources (Z. Wu, 2003).

In addition, prisons in China are located unevenly (Shang & Liu, 2003; Wan & Zhou, 2008). Trouble is generated where a prison design gives little value to considerations of capacity (Hill, 2006). Some prisons are over-crowded, which can force prisoners to leave a prison close to their home and go to a prison far away from their hometown (Wan & Zhou, 2008). When prisoners go to a new place with an ethnicity, culture and religion different to their own, they may be excluded from other local prisoners (Huang, 2010; Phillips, 2007), which is detrimental to their engagement in the reformatory process.

More recently, Chinese authorities have realised that the traditional prison modes, which cannot meet the needs of reformatory ideology, have become a thing of the past. However, although the Chinese government can afford to establish advanced and modernized prisons, it should be more pragmatic and avoid violating the 'less eligibility' principle. For example, the expenditure of 150 million yuan to establish a women's prison in Guangdong province brought about wide criticism from the public. Many students, soldiers and officers complained that the prisons' living conditions

were better than theirs and they thought such conditions encourage some people to commit offences¹.

Discussion

The location of prisons

The degree to which a prison is isolated, which can be measured by the distance between a central city and the prison, has a great impact on the effectiveness of rehabilitation. Usually, isolation means high costs and various inconveniences (e.g. transportation, education, career training) as well as less visiting and watching by the mass media (Drago, Galbiati, & Vertova, 2011). That said '[the] greater the distance of a prison from the chief province town, the weaker the social ties in which prisoners are embedded (and thus the higher the degree of isolation from the rest of society)' (Drago et al., 2011, p. 106). Similarly, locating prisons in desolate places would affect the living conditions of prison staff and their families. If living conditions put staff in a bad mood, prison monitors tend to become more rigorous and have little passion to help prisoners to rehabilitate (Shang & Liu, 2003). Additionally, to imprison criminals near their home can reduce 'cultural conflicts' in prison. That is why the American standard requires that 'the institution is located within 50 miles of a civilian population centre, of at least 10,000 people, or minimally within one hour's drive of a hospital, fire protection, and public transportation' (American Correctional Association, 1990, p. 42).

The size of prisons

Since the 'Titan Prison' was proposed in October 2007, there has been a heated debate in the UK on the subject of the size of prisons. Although the very large 'Titan Prison' is described as cost-effective and is to be equipped with advanced facilities, the

¹ <http://www.people.com.cn/GB/shehui/1063/1923610.html>

proposal has attracted much criticism. Most scholars believe that smaller prisons are more manageable, safer, and more effective at 'meeting prisoners needs and creating a healthy prison environment' (Owers, 2008; Prison Reform Working Group, 2009). According to Coyle (2008), 'big is beautiful' for commercial security companies, but not for rehabilitation, because prisoners in small prisons located near their home can get better support. Therefore, the Titan prison proposal was abandoned in the UK, and Justice Secretary Kenneth Clarke set out his expectation of the establishment of the 'modern versions of Victorian prisons with a new focus on hard work and discipline'¹. While the American standard forbids the capacity of prisons to exceed 500 prisoners, the majority of Chinese prisons have more than 1,000 prisoners (Z. Wu, 2003). Grimwood (2014) pointed out that it is not the size but the age of a prison that matters. Even if he is correct, taking into consideration national condition in China and the aim of rehabilitation, medium-sized prisons might be the best choice for China (Z. Wu, 2005).

The style of prison architecture

Facts have proved that isolation cannot reform criminals but rather boosts the incidence of mental illness (Metzner & Fellner, 2010). Crimes are the result of diseases that require treatment and the best medicine is education and correction. Therefore, Correctional Centres are massively built and the idea of 'educational punishment' causes law enforcement in prison to become more humane in that prisons have been centres of treatment and correction (Zimmerman, 1916). For example, while courtyard-design prisons are brimming with a harmonious atmosphere, the campus-design style of prison is human and scientific (Johnston, 2007; Mays & Winfree, 2008). These special styles pursue 'loose inside and tight outside' principles that are effective in dissolving and eliminating criminals' inner resentments. In that case, criminals feel that they are no longer slaves in the prison, but they are the masters of their own renewal.

¹ Clarke's vision: A return to Victorian-style prisons where inmates will find hard work, discipline... and NO drugs. On line: <http://www.dailymail.co.uk/news/article-1320494/Kenneth-Clarke-Return-Victorian-style-prisons-hard-work-NO-drugs.html>

Architecture is not only a carrier of culture but also forms an historical record of the cultural development of human beings (Xu Sun & Lu, 1994). As Huang (2010) pointed out, regional culture has a great impact on the design of prison buildings, and it affects the rehabilitative procedure. For instance, Suzhou prison in China (Figure C) adopts a Garden style, which is consistent with local architectural styles. This prison minimizes the heterogeneity between 'insiders' and 'outsiders', imperceptibly uses the external features of the building to create a good environment for rehabilitation, and fully stimulates prisoners' pride in their hometown, which can be helpful to reintegrate them into society and become law-abiding citizens (Huang, 2010). Moreover, China must keep pragmatic attitudes to absorb advanced Western thoughts. In China, prison reform should emphasise both punishment and education, and prison should not be turned into criminals' 'winter camp', because humane policies are no longer reasonable when they deviate from the 'less eligibility theory'.

The colour of prison architecture

The America visual art psychologist Bloomer (1990) believes that 'colour can evoke various emotions, feelings, and even affect our normal physiological feelings'. As both jumbled and single colours might lead to irritable moods, the Norwegian government (as cited in Hancock & Jewkes, 2011) believed that different colour palettes not only could make prisoners less likely to get lost in prison but also could create a varied and happy atmosphere. In addition, the synesthesia phenomenon (see Simner, 2012) caused by colour would lead to different feelings about warm and cold, light and heavy, and the perception of certain spaces as well.

The colour called Baker-Miller Pink¹ could restrain prisoners from expressing their anger, antagonism, and anxiety. One study shows that prisoners who lived in a Baker-Miller Pink cell are less aggressive than those live in magnolia-coloured cells (Bennett, Hague, & Perkins, 1991). According to Alexander Schauss (as cited in Walker, 1999, pp. 50–52), who was director of the American Institute for Biosocial Research in Tacoma Washington, '[e]ven if a person tries to be angry or aggressive in

¹See <http://www.colormatters.com/color-and-the-body/drunk-tank-pink>

the presence of pink, he can't. The heart muscles can't race fast enough. It's a tranquilizing colour that saps your energy. Even the colour-blind are tranquilized by pink rooms.' However, subsequent studies yielded conflicting results (see Gilliam & Unruh, 1988) and the effect of Baker-Miller pink on criminals lasted for only ten to fifteen minutes (Schauss, 1979). Therefore, other than using colour to constrain misconduct, it is more reasonable and effective to use colours to provide a better environment that could encourage voluntary and positive self-development .

Painting cells a suitable and appropriate colour is very important, because inmates usually spend their time inside their cells to sleep and rest. Research shows that painting the walls in natural colours such as grass green and sky blue can not only relieve criminals' nerves, making them feel calm and peaceful, but also reduces the sense of crowding and increases the sense of space in a dormitory (D. Wu, 2009). But workplaces need more passion to facilitate the effectiveness of work. Therefore, the use of warm-toned colours such as orange is a good choice because it could increase enthusiasm and simultaneously could make criminals perceive that the time goes quicker than it does in reality (D. Wu, 2009).

However, the perception of colour tends to be very different among individuals. Many people might feel the colour red represents warmth, while a killer who is in prison might regard red as a bloody colour that stirs in the memory scenes of crime. In that case, they could be negatively affected. Therefore, the colour of prison buildings should be adjusted to local conditions and it should be remembered that reactions vary from person to person (D. Wu, 2009). That means the adoption of colours should be guided by the functions of prison facilities and the types of criminals. As Pan (2008) suggested, frail people had better live in an environment with warm colours, because warm colours — especially yellow, red and orange — can make people's pupils dilate and accelerate their pulse beat. With the energy and passion given by warm colours, these people are more willing to attend activities and thus become healthier. In contrast, cool colours can help those who are extremely nervous to calm down and relax.

The structure of prison architecture

Pentonville Prison (Figure D) in England is a classic representative of the radial prison. The radial-designed prison is asterisk-shaped and uses a linear design with cells aligned in rows down the cellblocks, which are extended from a central hub. The radial model has a distinctive advantage — it can sharply reduce the numbers of prison police and reinforce monitoring, because nothing would be neglected as long as one staff member stands in the middle of the prison to watch. Prison officers with sufficient experience even believe this kind of prison is safer than modern modular buildings (Rohrer, 2007).

The radial design played a significant role in prison style for nearly a century. However, other forms of prison style began to emerge and have become prevalent. Blundeston prison (Figure E), built in Suffolk in 1963, symbolizes the emergence of T-shaped blocks (Rohrer, 2007). The main advantage of the T-shaped design is that it can house the inmates by classification, but the flaw is that its narrow and long corridor increases the difficulty for prison officers to exercise control when riots take place (Siegel & Bartollas, 2013).

Besides, since the T-shaped prison is linearly designed with multiple-occupancy cells along the corridor, Zupan (2002) and Johnston (2007) pointed out that the linear design hinders supervision by prison staffs, because they cannot see what is going on in more than two cells at a time. Even if they patrol the corridors frequently, this 'intermittent supervision' encourages prisoners to engage in misconduct when they are unsupervised.

The new-generation jail has been designed with the notion of direct and continuous supervision in mind (Johnston, 2007). This modular design consists of a 'dayroom' (common area) and several 'pods' (single-occupancy cells) around it, and each module is managed and controlled by prison staff or correctional experts 24 hours a day. Since there are no bars between prisoners and supervisors, staff can supervise prisoners continuously from a vantage point (Zupan, 1991). Additionally, in some modular jails criminals and prison staff have their own particular channel. In that case, staff can be assembled to handle riots in the prison as quickly as possible (An, 2012).

Besides, since both daily activity and visitation are held in modules, prisoners are more manageable. For example, HM prison Woodhill (Figure F), a representative of a Triangular-shaped modular prison, was established in 1992 in England. According to the US criminologist Johnston (as cited in Rohrer, 2007), triangular designs have been successful — '[t]hey forced the staff to have face-to-face contact. That has a positive effect. It cuts down on rape, it cuts down on trafficking' (para.30).

The Metropolitan Correctional Centre (MCC) in Chicago (Figure G) is a high-rise prison, and has administrative offices below and prison cells above. It is triangle-shaped with 28 stories. It has a rooftop exercise yard and each cell has a slit window, which is 5 inches wide by 7 feet long (Baldwin, 2011). The advantages of these correctional centres are manifold. First, a high-rise building located in the centre of cities is a vivid symbol of deterrence that warns people who are disposed to commit a crime to think twice and it also can attract media attention and closer social supervision, which ensures the law enforcement is just and humane. Second, offences such as homosexual rape, vandalism, and graffiti in MCC jails occur much less frequently than in traditional jails and the costs of maintenance are the same or less than costs for traditional prisons (Wener, Frazier, & Farbstein, 1987). All in all, MCC as a new-generation jail has successfully increased communication between staff and prisoners, maximized privacy, and reduced vandalism and conflicts (Nelson & O'Toole, 1983; Sigurdson, 1985, 1987). However, the disadvantages of MCC are that the self-sufficient unit generates boredom and 'rooftop outdoor space is largely inaccessible in winter' (Wener, Frazier, & Farbstein, 1985, p. 77).

The layout of facilities in prisons

Many prisons inspired by panopticon have a watchtower located in the centre of the prison, including a classification treatment centre, electronic control room, offices, conference rooms, training rooms, library, dining room, gym, and clinics. Prison staffs use these facilities to manage prisoners and for administration purposes. This tower is the core of the prison, and a duty platform should be set up on the top of the tower to monitor prisoners (Z. Wu, 2005).

Cells, the main places for prisoners to live and rest, are one of the most important buildings in a prison. The architecture and facilities in cells should be sufficient to protect offenders from natural disasters such as fire and flood and to prevent man-made destruction. As Zimmerman (1916) suggests, cells should preferably be situated in a place with full sun exposure, because '[t]here is no better, or at any rate no cheaper, disinfectant than the direct rays of the sun, be it to dislodge or destroy the microbe in a man's body or soul' (p.719). Furthermore, the design of cells should enable the prisoners to lead a healthy life. Cells should be in a relatively quiet location away from the work place to ensure that offenders live without unreasonable noise. The *Standard Minimum Rules for the Treatment of Prisoners item 11* stipulates that big windows are required to enable the prisoners to read or work by natural light and to enable fresh air to come into the cells. Finally, special cells should be provided for conjugal visitation, which permit sexual contact between inmates and their spouses to maintain inmate male self-image and reduce the need for homosexual relations (Hopper, 1969).

Canteens could be built downwind of living areas and low-lying places, for the smell of food may affect the emotion of prisoners when they were working (Z. Wu, 2005). In terms of the scale of canteens, it is necessary for every country to consider its own tradition and national condition. For instance, in Western countries, a big and single canteen is preferable. However, according to Traditional Chinese Medicine, Chinese food should be eaten when it is hot — 'cold and damp foods can damage the spleen' (Ettinger, 2012) — or it could affect the health of prisoners. Therefore, a number of middle-sized canteens are more suitable in China. Ideally, each canteen could have its own characteristics to cater to the tastes of prisoners from different places. Bearing in mind the theory that 'territorial boundaries reduce conflicts' (see Farbstein & Wener, 1982), special canteens for minority offenders or people who eat a religious diet should also be set up in order to respect the special needs of their religion, culture and habits.

Clinics to provide basic medical services to criminals could be set up in each district in a prison. Also, a modern, well-equipped hospital especially for prisoners who are badly ill is indispensable and within which the doctors and GPs should have some

knowledge of psychiatry (Z. Wu, 2005). In addition, it is also necessary to provide offenders with isolated places to live in if they are suffering from infectious diseases.

It would be wise to set up small shops near the cells or meeting areas. From there, inmates can get the latest books, magazines and CDs. In that case, criminals no longer lag behind the pace of social development. This can help them to return to society after serving their sentences and may reduce recidivism (Z. Wu, 2005). Besides, in order to reduce the risks of disaster caused by contraband that has been transmitted by family members during visiting hours, relatives of prisoners are not allowed to giving prisoners anything bought from outside. Therefore, building shops near meeting areas is convenient for them to buy something for prisoners from such shops.

The educational area includes educational buildings, libraries, technical training rooms, and treatment centres etc. These buildings could be gathered in an educational area that is near the cells, while labour areas should be located relatively far away from cells in a corner of the whole prison. According to the 'synaesthesia effect' mentioned above, prisoners become tired more easily when they are working if they can see their cells, where they can lie in bed comfortably. Fatigue and boredom tend to make them lose their temper and affect their effectiveness in their work. When they come out of their cells, if their first sight is their work place, they would feel a painful day is coming. On the other hand, if their first sight were sports facilities such as basketball or football courts in an educational area, their psychological pressure would reduce quickly.

In the mid-18th century, the French political philosopher Montesquieu pointed out that religion could restrict people 'who fear not human laws' (Montesquieu, 2001, p. 467). Therefore, religion is a useful tool to control some criminals (Apanovitch, 1998); in particular, some religions that incorporate the 'Karma Theory'¹ would have an effect in deterring crimes. Moreover, Fallot (2001) indicated that religion could help people with psychiatric conditions to get help and recover from mental illness. Therefore, encouraging criminals, especially those who cannot understand laws and regulations, to form a religious belief could help them to calm down and find inner peace, which tends to be conducive to their rehabilitation. Thus, prisons in Western

¹ <http://www.britannica.com/EBchecked/topic/312474/karma>

countries generally have a chapel with chaplains offering inmates religious services (Hill, 2007b). Prisons in Islamic states usually have a mosque, and there is generally a Buddhist temple in Japanese prisons (L. Sun, 2010). Therefore, as there are no full-time chaplains in Chinese prisons or religious services provided, the provision of some religious facilities in Chinese prisons should be taken into consideration when economic conditions allow.

The concept of 'gradual reform' and the design of the 'correctional prison'

Although recently Western countries seem to have gradually tilted towards the penal-welfare model (Garland, 2002) of the punishment paradigm, China still strongly believes that prisoners can be reformed and diligent work can help people to comprehend the meaning of life (Hill, 2006, 2007a). In order to achieve the purpose of rehabilitation, in which inmates feel hardly any sense of frustration and break completely with thoughts of recidivism to become masters of their 'new selves', the scientific design of prison construction and appropriate layout are indispensable (Wortley, 2002).

Moreover, to achieve desistance is easier said than done, for all the forms of rehabilitation, be it socially, psychologically, or morally, requires families, communities, civil societies and the state itself to collectively handle this task (McNeill, Farrall, Lightowler, & Maruna, 2012). Therefore, the process of reform should be correspondingly systematic, flexible and pragmatic (Jewkes, 2007). In China, reducing the length of a prisoner's sentence was used often as a reward for good behavior in prison; but generally, prisoners will stay in the same prison with same living conditions until they are released. However, as Jewkes and Hancock (2011) noticed, prison staff had long used carrot-and-stick strategies such as treating prisoners who behaved well better, for example by moving them from a bad cell to another cell with better facilities. In the UK, the Incentives and Earned Privilege

Scheme (IEPS)¹ has clearly divided inmates into four regime levels, namely, Basic, Entry, Standard and Enhanced. Inmates at a higher level have privileges and better access to facilities, for example, they can watch in-cell TV or exercise in a gym.

The phenomenon of addiction to computer games — beat the monsters and gain an upgrade — relies on the sense of achievement and praise from other players after going through hardship in fighting against the monsters as the key factor that makes the game players so addicted. Therefore, 'upgrading gradually' might be a good approach to rehabilitate inmates. In fact, during the reformative procedure, punishment and education are two indispensable factors that should be compounded in appropriate proportion. Under the revised IEPS scheme in 2013, prisoners are expected to 'demonstrate a commitment towards their rehabilitation, engage in purposeful activity, reduce their risk of reoffending, behave well and help other prisoners and staff members'. This stipulation creates a positive atmosphere and urges inmates to behave well to make progress through their diligence and wisdom. Zhang (2009) suggested that the closer prisoners are to being released, the higher level of 'liberty' they should enjoy, and this 'liberty' should be reflected in prison architecture and in their living conditions. Thus, the idea of prison architecture should be consistent with the 'gradual reform' principle — a transformation from 'punishment' to 'humanity'. Under this rehabilitative procedure, prisoners could experience appropriate achievements and interests. That said, rehabilitation is no longer a task but an interesting thing that entails satisfaction via 'behave better competition'. Through participating in 'gradual reform' in prison, inmates form a consciousness of competition and expectations of setbacks and they tend to be continuing in this direction from 'evil' to 'normal' when they are released.

The concept of the 'horizontal correctional prison'

The 'horizontal correctional prison' borrowed the basic plan of a 'panopticon' with a watchtower and three homocentric round walls around it. The functions of the watchtower in the middle are not restricted to monitoring: more importantly, it is a

¹ http://www.prisonersadvice.org.uk/DOCS/INFORMATION/IEPS_001.pdf

centre engaged in classification and correction. As Brennan (2012) pointed out, in order to achieve rehabilitation and reduce the re-offending rate, evaluation and classification of offenders — based on their offense frequency and seriousness, age, violence levels, criminal versatility — are of great importance. Moreover, many scholars have suggested that setting territorial boundaries between groups with different culture, race and religion could reduce the stress and conflicts in prisons (see Farbstein & Wener, 1982, p. 675). Although the 'Multi-Axial' classification introduced by Brennan (2012) is very precise and scientific, China should at least first adopt methods of classification mainly by security levels rather than classifying prisoners only by age and gender (Z. Wu, 2003).

Referring to the classification, three concentric and round walls divide the prison into three zones. The height and the quality of the walls should decline from the high precautionary area to the low precautionary area, which can significantly save on building costs. Moreover, as the day of release gradually draws near, reducing the height of the wall is a signal that can alleviate the psychological stress of criminals. Beyond that, the 'correctional centre' in the watchtower should encourage prisoners to attend the 'job preparation surveys' in which criminals can acknowledge their strong points and decide their own career prospects, and the results would be sent to a 'career consulting centre' in the low precautionary area.

Locked in the high precaution zone (like a supermax prison in the US) are the most violent offenders with the longest sentences. Therefore, putting this zone in the middle of the prison has several advantages. First, it is more difficult for these criminals to break out of prison, because even if they climb over one wall, there are still two walls waiting to be broken through. Second, this design ensures that prison officers who work in the 'surveillance office' in the watchtower have plenty of time to take measures to catch prisoners who disobey the rules. Prisoners in this area should be locked in single cells with basic life necessities to avoid cross infection and reduce the conflicts in prison. Moreover, rounded-edged furnishing made of soft materials such as inflatable mattresses are highly recommended to prevent injury and suicide (Grant & Hobbs, 2013; Sommer, 1974). At the same time, these inmates are encouraged to behave well as a precondition to move into the middle precautionary zone, where living conditions are much better. Based on their behavior and

educational performance, when evaluations show that criminals are active in the reformative process and full isolation is not necessary, they would be put in the middle precautionary zone.

Facilities and conditions in the middle precautionary zone are better than those in the high precautionary zone, but rigorous and direct supervision still remains. Cells in the middle zone could draw on Leister's (2004b) 'final prototype' (Figure B) to realise direct supervision and provide inmates with a dayroom where they can relax. Although they are allowed to exchange ideas, the themes of conversation should be strictly stipulated. Prisoners who break the rules in the zone would be sent back to the highly managed zone. Within this region, criminals are encouraged to do some work that they interested in — work that can show their strong points and gain respect and through which they can cultivate their career skills. Cultural education and psychological counselling should be available as well.

The low precautionary zone contains felons who have performed well and who will be released soon, or people who have committed minor crimes. Prisoners in this zone live in dormitories where they can communicate with each other in order to stay relaxed and also because such contact is good for their mental health (Z. Wu, 2003; Hill, 2006). There is only a wall between low precautionary zone and the community; therefore, the only thing that should be done in this area is to educate and help prisoners to resocialize. TV programs, magazines and the Internet are good ways to inform them about developments in the external community. Through the Internet they can understand the situation in the community in which they originally lived and any changes that have happened there. If possible, criminals could take part in video chats with their families, friends and lovers to gain love, confidence and encouragement: such contact has been proved to be a very effective method in the rehabilitative process. For example, in a pilot program at Riverside Correctional Facility in Philadelphia, female inmates are allowed to speak to their children under supervision, which enhanced prisoner morale and family cohesion (Potter, 2014). What should also be borne in mind is that not only should criminals' living faith that they can successfully live in the community be promoted but also criminals' psychological ability to bear with problems should be cultivated to reduce the possibility of recidivism.

The low precautionary zone has two parts, namely a working area and a correctional area. An employment counselling agency located in the working area is responsible for providing suggestions about employment and sending career information to offenders' dormitories. According to Zimmerman (1916), prisoners should be placed separately by age and gender, and they should not even see each other. Therefore, this zone consists of a correctional area for young people, a correctional area for adults, and a correctional area for elders. These three regions are isolated from each other by barbed wire fence that is screened by tall vegetation — which has been proved to be a good way to reduce stress (Pan, 2008) — and according to the characteristics of offenders, prison buildings of different designs and different types of correctional programs are used to rehabilitate offenders.

Ideally, young offenders' residences are buildings painted in diversified colours that emit senses of sunshine and vibrancy. As Srivastava (1979) concluded, separate and various specific living spaces are better than multi-functional areas for the reform of juveniles. Therefore, prison buildings with different functions should be built to boost the effectiveness of rehabilitation: adornment with items such as architectural sculptures, sketches and some other details of the design is also of great significance in the process of rehabilitation (Z. Wu, 2005). The design of dormitories for young criminals should be no different from those in the general community — the environment should be simple, bright and clean, fresh air must be available, and there should be relatively spacious living space and basic facilities — to meet the needs of the physical and mental development of young people. These young criminals also should have access to psychological counselling, compulsory education, and skills training. Further, female teenagers should be reformed in this area rather than in the area for women inmates, because a community containing both sexes could ensure they grow normally and healthily (Zhao, Xu, Chu, & Xue, 2010). A 'semi-free sentence' could be considered when young offenders behave well in prison. Such a sentence means they can go out of the prison to have contact with their families and go to school as their peers do, while going back to their cells on the night stipulated by the rules of their sentence.

The correctional areas for adults are separated into two parts in which males and females live. These two correctional areas are independent from each other. The

architectural style for male correctional buildings should be diversified: not only should they have an artistic atmosphere but also they should embody functions of the building themselves (Z. Wu, 2005). A warm colour tone is preferred because it can express a positive atmosphere. Since these prisoners are soon to be released, strict monitoring is not necessary. Therefore, the 'radial style' dormitory, with a monitor's room in the middle, is more preferable, for it cost less than 'final prototype' when fewer staff are needed. Offenders convicted of serious felony that have spent time in the high precautionary zone and petty criminals should be separated to avoid cross infection, and the most economical way is to use floor levels to separate them (Z. Wu, 2005). Providing prisoners with basic living subsistence and learning conditions is necessary, and it is also important to meet prisoners' physiological needs to reduce their degree of stress and their desire to attack others. For example, 'model male prisoners' would benefit from 'prison home' — to spend the weekend with their families. The female offenders' lives, attitudes and behaviours are more susceptible to the environment than their counterparts (Zhao et al., 2010). The prison architecture for female inmates could draw on Yang'ai prison and Beijing Women's Prison in China. The design of Yang'ai prison has considered the characteristics of female prisoners, integrated the concept of people-orientation, and proposed that the external environment should be similar to a park, the internal environment should be similar to a school, and the dormitories should be similar to home (Zhao et al., 2010). Beijing Women's Prison shapes people by paying attention to the architecture — dormitories are neatly furnished with artistic furniture and mirrors, walls and tables are pink, bright and warm — which is closely linked to the effectiveness of rehabilitation (Yang, 2011).

Older prisoners who have been imprisoned for the first time would feel 'particularly anxious and depressed' and stay in a psychological state of 'trauma' (Crawley, 2007, p. 228). Additionally, although they cannot do hard labour due to their physical condition, researches show they are willing to do work as long as they can, because work is part of their identity and work can kill time (Crawley, 2007). Moreover, according to the study by Fazel, Hope, O'Donnell, and Jacoby (2001), 'there are high rates of hidden severe psychiatric morbidity in elderly sentenced prisoners' and 'Thirty per cent of elderly prisoners have a clinical depression' (p. 538). Hence, the correctional area for older offenders should be quiet and comfortable, with fresh air

and wide green areas, soft and warm colours and this area should contain a hospital, library, counselling room, family reception room and other buildings. The interior design of the building should also meet the needs of older offenders. For instance, in Onomichi prison in Japan, less mobile and old prisoners have units with padded walls, customized washrooms, handrails and ramps instead of stairways. Moreover, the prison looks like a Home of the Aged and provides karaoke sessions and even invites comedians and musicians to give a performance (Moll, 2013).

The concept of the 'vertical correctional prison'

The idea of the 'vertical correctional prison' was inspired by MCC in big cities in the US. Because urban land is quite expensive and vertical design does not require very large areas to build on, vertical prisons can save cost. The location and design of the building creates convenience that can increase prison staff's enthusiasm for work and can improve their efficiency. For inmates, serving their sentence near home and community reduces the sense of trauma from the heterogeneity of experience inside and outside the prison (Wener & Olsen, Richard, 1980).

The 'vertical correctional prison' shown in Figure H is called '499. SUMMIT' and was designed for Jersey City by Andreas Tjeldflaat and Greg Knobloch (Labarre, 2012). This vertical model is also consistent with the aim to 'gradually reform' prisoners. It is an integral and pragmatic system, making criminals live in different spaces with different environments in order to carry out rehabilitative procedures. In this prison, offenders have to go through three stages, starting on the left to climb up (initial imprisonment), and then gradually climb down from the right (transform into an upright citizen), and finally return to the streets (start a new life). The place in which a sentence is served depends on the seriousness of the crimes prisoners have committed and their performance in this prison. Generally, offenders will be initially held in the high security area, and good performance could result in their being transferred to house arrest or a low security area. When criminals meet the conditions for a return to the community, they will be transferred to a 'halfway house' in which they receive a resocialization program until they are released. However, building this vertical prison

in a big city might be still a problem in China because it might influence the value of nearby property, and stakeholders would be against this plan.

Conclusion

Prison architecture always reflects the ideology of how criminals should be treated. When revenge and punishment are the main streams, prison architecture is a symbol of deterrence, with bad facilities in which prisoners are treated like animals. However, inhumane environments cannot reduce recidivism but foster more serious crimes, because criminals become more hostile towards society (Sommer, 1974). Where human rights have become a great concern and people believe that the best way to reduce crimes is to change criminals into law-abiding citizens, the design of cells and facilities inside prisons has become more functional and humanely based (Mays & Winfree, 2008). However, many cases show that being 'overly humane' is also a serious problem when poor people deliberately commit a crime to enjoy a better standard of living in prison than they have as free citizens (Blakely, 1992; Yamaguchi, 2010). Therefore, the 'less eligibility theory' should be taken into account.

Prison architecture has a great impact on offenders and their rehabilitation. As Hancock and Jewkes (2011, p. 612) suggested, 'the built environment can influence or even prescribe patterns of behavior, thinking and individual and group identity formation.' Research suggests that both solitary confinement and over-crowding are problematic, and thus appropriate physical and social density is crucial to the effectiveness of rehabilitation (Baum & Valins, 1977; Schaeffer et al., 1988). Moreover, scientific design for supervision not only can reduce conflicts and riots, but also can prevent cross infection through communication among prisoners. Further, locating the prison near a community and equipping it with facilities such as TV could enrich the knowledge of prisoners and reduce the heterogeneity between inside and outside, which leads to the resocialization process becoming much easier.

Most prison architecture in China has problems in terms of rehabilitating criminals. The location of many prisons is less than ideal, not to mention the facilities that are

unable to satisfy the needs of criminals (Z. Wu, 2003). Hence, this paper incorporated the national condition of China when discussing what prison architecture with a rehabilitative function should be like through analysing its location, size, colour, style, structure and the layout of facilities inside the prison. It concluded that locating prisons near big cities or communities is better for resocialization procedures and that the medium-sized prison is a pragmatic choice for China. It also pointed out that long-time exposure to colour can affect the mood and performance of inmates and that colour should be chosen according to the prisoners' characteristics (Wise & Wise, 1988). The style and structure of a prison depends on the local economy, culture and other social elements. While the prison model with a long corridor failed to enable staff to undertake 'direct supervision', both staff and prisoners speak highly of new-generation jails (Nelson & O'Toole, 1983). Not only was the structure of new-generation jails appreciated, but also the facilities inside could improve the likelihood of reforming criminals. As Zupan (2002) stated:

Dayrooms complete with carpeting and upholstered furniture, for example, alleviate stress by absorbing irritating noise. Individual cells for inmates lessen the stress associated with lack of privacy and territory. The presence of mezzanines and open dayrooms diminishes the perception of crowding (even if the module is over capacity) and its related stresses. Colors such as rose, teal, gray, and peach on the walls soothe emotions rather than arouse them (p.1090).

Enlightened by the idea of 'gradual reform', drawing on the archetypes of the 'panopticon' and MCC, and taking into account all the architectural elements that are beneficial to the reform of criminals, this paper proposed horizontal and vertical correctional prisons respectively. In the end, I would like to suggest that giving the inmates opportunities to design the 'ideal prison architecture' is a good way to know their needs and is beneficial to achieving rehabilitation (see Romney, 2014). Moreover, in recent times many advanced high-technology facilities have been implemented in prisons: however, whether it is the case for prisons that the newer the better is worth analysing (Hancock & Jewkes, 2011).

Bibliography

- American Correctional Association. (1990). *Standards for adult correctional institutions*. Lanham, MD: American Correctional Association.
- An, W. (2012). Setup of Architectural Model of Prison in China. *Journal of Wenzhou University (Natural Sciences)*, 33(3), 27–32. (In Chinese)
- Apanovitch, D. P. (1998). Religion and Rehabilitation: The Requisition of God by the State. *Duke Law Journal*, 785–852.
- Arrigo, B. A., & Bullock, J. L. (2008). The Psychological Effects of Solitary Confinement on Prisoners in Supermax Units Reviewing What We Know and Recommending What Should Change. *International Journal of Offender Therapy and Comparative Criminology*, 52(6), 622–640.
- Baldwin, I. (2011, May 19). *The Architecture of Harry Weese*. DESIGN OBSERVER. Retrieved June 29, 2014, from <http://places.designobserver.com/feature/the-architecture-of-harry-weese/27018/>
- Barker, R. G. (1968). *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior*. Stanford University Press.
- Barton, B. F., & Barton, M. S. (1993). Modes of Power in Technical and Professional Visuals. *Journal of Business and Technical Communication*, 7(1), 138–162. doi:10.1177/1050651993007001007
- Bates, S. (1931). Architectural Environment in Relation to Prisoners. *Journal of Criminal Law and Criminology*, 22(4), 536–544. doi:10.2307/1135456
- Baum, A., & Valins, S. (1977). *Architecture and social behavior: psychological studies of social density*. New Jersey: L. Erlbaum Associates.

- Bennett, C. P., Hague, A., & Perkins, C. (1991). The use of Baker-Miller pink in police operational and university experimental situations in Britain. *International Journal of Biosocial & Medical Research*, 13(1), 118–127.
- Bentham, J. (1962). *The Works of Jeremy Bentham*. (J. Bowring, Ed.) (Vol. 7). California: Russell & Russell.
- Bentham, J. (1995). *The Panopticon Writings*. (M. Božovič, Ed.). London: Verso.
- Blakely, E. J. (1992). Characteristics of homeless jail inmates: Implications for social work. *Journal of Social Distress and the Homeless*, 1(2), 145–155.
doi:10.1007/BF01071463
- Blondel, J.-F. (1771-77). *Cours d'architecture* (Vol. 1). Paris, 426-427
- Bloomer, C. M. (1990). *Principles of Visual Perception* (2nd edition.). NY: TAB Books Inc.
- Bo Nielsen, N., Jarvad, G., Horslund, O., Minor, J., Mamsen, J., & Jensen, M. (2012, December 27). *Punishment And Resocialization* (Thesis). Retrieved from <http://rudar.ruc.dk/handle/1800/9615>
- Brennan, T. (2012). “Multi-Axial” Classification Piloted in Michigan Prisons. *Criminal Justice Research Review*, 13(5), 83–89.
- Bulang Qi Rumsfeld, C. (2006). *penalty story*. (J. an Guo, Trans.). Law Press China.
- Chinlund, S. (2009). *Prison Transformations*. Xlibris Corporation.
- Clarke, R. V. G. (1980). Situational Crime Prevention: Theory and Practice. *British Journal of Criminology*, 20(2), 136–147.
- Cox, V. C., Paulus, P. B., McCain, G., & Karlovac, M. (1982). The relationship between crowding and health. In A. Baum & J. E. singer (Eds.), *Advances in environmental psychology* (Vol. 4, pp. 271–290).

- Coyle, A. (2008). Taking Gods' name in vain: Carter mark 3: Dndrew Coyle analyses Lord Carter's Review of Prisons and contrasts it to the Corston review on women in custody. *Criminal Justice Matters*, 71(1), 20–21. doi:10.1080/09627250801937561
- Crawley, E. (2007). Imprisonment in old age. In Y. Jewkes (Ed.), *Handbook on Prisons* (pp. 224–244). London: Willan Publishing.
- D'Atri, D. A. (1975). Psychophysiological responses to crowding. *Environment and Behavior*, 7(2), 237–252. doi:10.1177/001391657500700207
- Davis, M. (2006). *City of Quartz: Excavating the Future in Los Angeles*. London ; New York: Verso Books.
- De Viggiani, N. (2007). Unhealthy prisons: exploring structural determinants of prison health. *Sociology of Health & Illness*, 29(1), 115–135. doi:10.1111/j.1467-9566.2007.00474.x
- Drago, F., Galbiati, R., & Vertova, P. (2011). Prison Conditions and Recidivism. *American Law and Economics Review*, 13(1), 103–130. doi:10.1093/aler/ahq024
- Ettinger, J. (2012, July 3). Dare We Ask: Are Cold Foods Bad for Your Health? *Organic Authority*. Retrieved from <http://www.organicauthority.com/health/cold-foods-bad-for-your-health.html>
- Evans, R. (2011). *The Fabrication of Virtue: English Prison Architecture, 1750-1840* (Reissue edition.). Cambridge: Cambridge University Press.
- Fairweather, L., & McConville, S. (Eds.). (2000). *Prison Architecture: Policy, Design and Experience*. Oxford: Routledge.

- Fallot, R. D. (2001). Spirituality and religion in psychiatric rehabilitation and recovery from mental illness. *International Review of Psychiatry*, 13(2), 110–116. doi:10.1080/09540260120037344
- Farbstein, J., & Wener, R. E. (1982). Evaluation of Correctional Environments. *Environment and Behavior*, 14(6), 671–694.
- Fazel, S., Hope, T., O'donnell, I., & Jacoby, R. (2001). Hidden psychiatric morbidity in elderly prisoners. *The British Journal of Psychiatry*, 179(6), 535–539. doi:10.1192/bjp.179.6.535
- Fiddler, M. (2007). Projecting the prison: The depiction of the uncanny in The Shawshank Redemption. *Crime, Media, Culture*, 3(2), 192–206. doi:10.1177/1741659007078546
- Foucault, M. (1995). *Discipline & Punish: The Birth of the Prison*. (A. Sheridan, Trans.) (2nd edition.). New York: Vintage Books.
- Garland, D. (2002). *The Culture of Control: Crime and Social Order in Contemporary Society* (New Ed edition.). Oxford: OUP Oxford.
- Gilliam, J. E., & Unruh, D. (1988). The effects of Baker-Miller pink on biological, physical and cognitive behaviors. *Journal of Orthomolecular Medicine*, 3(4), 202–206.
- Gondles Jr., J. A. (2001). Correctional Architecture--Can We See the Future? *Corrections Today*, 63(2), 6.
- Grant, E. M., & Hobbs, P. (2013). West Kimberley Regional Prison. *Architecture Australia*, 102(4), 74–84.
- Griest, S. E. (2012). The Torture of Solitary. *The Wilson Quarterly*, 36(2), 22–29.
- Grimwood, G. G. (2014, February 27). *Building prisons: the bigger, the better?* UK Parliament. Retrieved February 27, 2014, from

<http://www.parliament.uk/briefing-papers/SN05646/building-prisons-the-bigger-the-better>

- Hancock, P., & Jewkes, Y. (2011). Architectures of incarceration: The spatial pains of imprisonment. *Punishment & Society*, 13(5), 611–629.
doi:10.1177/1462474511422171
- Harries, K. (1998). *The Ethical Function of Architecture*. Cambridge, Massachusetts: The MIT Press.
- Hill, G. (2006). Chinese and Western prisons--similarities and differences. *Corrections Compendium*, 31(6), 24–26.
- Hill, G. (2007a). Chinese and western prisons--similarities and differences, Part 2. *Corrections Compendium*, 32(1), 22–24.
- Hill, G. (2007b). Chinese and Western prisons--similarities and differences, Part 3. *Corrections Compendium*, 32(2), 30–33.
- Hobbes, T. (2014). *Leviathan*. Hertfordshire: Wordsworth Editions.
- Hopper, C. B. (1969). *Sex in Prison: The Mississippi Experiment with Conjugal Visiting*. Baton Rouge: Louisiana State University Press.
- Huang, Y. (2008). Prison Buildings from the perspective of providing technical support for corrections. *Justice of China*, (7), 93–95. (In Chinese)
- Huang, Y. (2010). Regional Culture and Prison Buildings. *Justice of China*, (9), 104–105. (In Chinese)
- Ignatieff, M. (1978). *A just measure of pain: the penitentiary in the industrial revolution, 1750-1850*. London: Pantheon Books.
- Jewkes, Y. (2002). *Captive Audience: Media, Masculinity and Power in Prisons*. Cullompton, Devon ; Portland, Or: Willan.
- Jewkes, Y. (Ed.). (2007). *Handbook on Prisons*. Devon: Willan Publishing.

Johnston, N. (1973). *The human cage: A brief history of prison architecture*. New York: Published for the American Foundation, Institute of Corrections by Walker.

Johnston, N. (2007). *Forms of Constraint: A History of Prison Architecture* (New edition.). Urbana; Chicago: University of Illinois Press.

Kelling, G. L., & Wilson, J. Q. (1982, March). Broken Windows. *The Atlantic*.

Retrieved from

<http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/>

Labarre, S. (2012, April). *A Wild Prison Tower Designed To Slash Recidivism. Co. Design*. Retrieved from <http://www.fastcodesign.com/1669490/a-wild-prison-tower-designed-to-slash-recidivism>

Lefebvre, H. (1991). *The Production of Space*. Oxford: Wiley-Blackwell.

Lester, H. D. (2004a). Correctional Facility Architecture: Past, Present, and Future Part I. *American Jails*, 18(3), 26–32.

Lester, H. D. (2004b). Correctional Facility Architecture: Past, Present, and Future Part II, 18(4), 21–24.

Levy, M. (1995). *Electronic monitoring in the workplace: Power through the panopticon*. Retrieved from

http://besser.tsoa.nyu.edu/impact/s94/students/mike/mike_paper.html

Lewis, J. (2009, June 14). Behind Bars ... Sort Of. Retrieved from

<http://www.nytimes.com/2009/06/14/magazine/14prisons-t.html>

Liang, Y. (2012). Thinking about the problems of prison layout in China: commenting the effects of the layout of prison impact on the

- implementation of punishment. *Legal System and Society*, (15), 76–77. (In Chinese)
- MacCormick, A. (1950). Prison's Role in Crime Prevention. *J. Crim. L. & Criminology*, 41(1), 36–48.
- Mays, G. L., & Winfree, L. T. (2008). *Essentials of Corrections*. Boston, Massachusetts: Cengage Learning.
- McNeill, F., Farrall, S., Lightowler, C., & Maruna, S. (2012). How and why people stop offending: Discovering desistance. *Insights Evidence Summary to Support Social Services in Scotland*.
- Metzner, J. L., & Fellner, J. (2010). Solitary Confinement and Mental Illness in U.S. Prisons: A Challenge for Medical Ethics. *Journal of the American Academy of Psychiatry and the Law Online*, 38(1), 104–108.
- Moll, A. (2013). Losing track of time. London: Mental health foundation.
- Montesquieu, C. B. D. (2001). *The Spirit of Laws*. (T. Nugent, Trans.). Kitchener: Batoche Books.
- Nelson, W. R., & O'Toole, M. (1983). New generation jails. *Corrections Today*, 45(5).
- Owers, A. (2008). Towards Effective Sentencing: Fifth Report of Session 2007-08, Vol. 2: Oral and Written Evidence. The Stationery Office.
- Pan, X. (2008). The Jail Construction Personalization Research and the Quality Mold—Discussing in Plane of the Criminal Psychology Behavior Needs. *Journal of Henan Judicial Police Vocational College*, 6(2), 5–9. (In Chinese)
- Pevsner, N. (1979). *A History of Building Types* (New edition.). London: Thames & Hudson Ltd.

- Phillips, C. (2007). Ethnicity, identity and community cohesion in prison. In Wetherell, Margaret, Michelynn Lafleche, and Robert Berkeley (Ed.), *Identity, ethnic diversity and community cohesion* (Vol. 3, pp. 75–86). London: SAGE Publications Ltd.
- Potter, H. (2014, July 18). *When Families are Separated Because of Criminal Acts, This Technology Keeps Everyone Connected*. NationSwell. Retrieved August 9, 2014, from <http://nationswell.com/video-chat-keeps-parents-in-prison-connected-with-kids/>
- Pratt, J. (2002). *Punishment and Civilization: Penal Tolerance and Intolerance in Modern Society*. London: SAGE Publications Ltd.
- Prison Reform Working Group. (2009). *Locked up potential: a strategy for reforming prisons and rehabilitating prisoners : a policy report*. London: Centre for Social Justice.
- Pritikin, M. H. (2008). Is Prison Increasing Crime. *Wisconsin Law Review*, 2008(6), 1049–1108.
- Rangel, C. (1999). America the jailhouse. *Wall Street Journal*, 22, A11.
- Rohrer, F. (2007, December 11). What should prisons look like? *BBC*. Retrieved from <http://news.bbc.co.uk/1/hi/magazine/7138110.stm>
- Romney, L. (2014, August 18). What kind of prison might the inmates design? *Los Angeles Times*. Retrieved from <http://www.latimes.com/local/great-reads/la-me-c1-restorative-justice-design-20140818-story.html#page=1>
- Rusche, G., & Kirchheimer, O. (2003). *Punishment and Social Structure*. New Jersey: Transaction Publishers.

- Schaeffer, M. A., Baum, A., Paulus, P. B., & Gaes, G. G. (1988). Architecturally Mediated Effects of Social Density in Prison. *Environment and Behavior*, 20(1), 3–20.
- Schauss, A. G. (1979). Tranquilizing effect of color reduces aggressive behavior and potential violence. *Journal of Orthomolecular Psychiatry*, 8(4), 218–221.
- Schill, R. A., & Marcus, D. K. (1998). Incarceration and Learned Helplessness. *International Journal of Offender Therapy and Comparative Criminology*, 42(3), 224–232. doi:10.1177/0306624X9804200304
- Schlosser, E. (1998). The prison-industrial complex. *The Atlantic Monthly*, 282(6), 51–77.
- Shang, B., & Liu, H. (2003). On Prison Layout. *Journal of Henan Judicial Police Vocational College*, 1(4), 40–42. (In Chinese)
- Siegel, L. J., & Bartollas, C. (2013). *Corrections Today* (2nd edition.). Belmont, CA: Cengage Learning.
- Sigurdson, H. R. (1985). *The Manhattan House of Detention: A Study of Podular Direct Supervision*. US Department of Justice, National Institute of Corrections.
- Sigurdson, H. R. (1987). *Pima County Detention Center: A Study of Podular Direct Supervision*. Washington, DC: National Institute of Corrections.
- Simner, J. (2012). Defining synesthesia. *British Journal of Psychology*, 103(1), 1–15. doi:10.1348/000712610X528305
- Singer, J. E., Lundberg, U., & Frankenhaeuser, M. (1974). *Stress on the train: A study of urban commuting*. Psychological Laboratories, University of Stockholm.

- Sommer, R. (1974). *Tight spaces: Hard architecture and how to humanize it*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Srivastava, R. K. (1979). Environmental needs of juvenile group homes. *Environmental Design Research Association*, 10, 377–391.
- Sullivan, L. H. (1896). *The tall office building artistically considered*. Retrieved from <http://archive.org/details/tallofficebuildi00sull>
- Sun, L. (2010). Talk about the design of prison architecture in western countries. *Legal System and Society*, (19), 282–283. (In Chinese)
- Sun, X. (Ed.). (2011). *Penology*. BeiJing: The Commercial Press. (In Chinese)
- Sun, X., & Lu, Q. (1994). The research about the culture of prison architecture. *Law Science (Journal of Northwest University of Politics and Law)*, (1), 39–42. (In Chinese)
- Sutherland, E. H. (1992). *Principles of criminology*, (D. R. Cressey & D. Luckenbill, Eds.) (11th ed.). Dix Hills N.Y. :: General Hall.
- Sykes, G. M. (2007). *The Society of Captives: A Study of a Maximum Security Prison* (New Ed edition.). Princeton, NJ: Princeton University Press.
- Walker, M. (1999). *The Power Of Color*. B. Jain Publishers (P) Limited.
- Wan, Y., & Zhou, Q. (2008). The Original Evolution and Developing Trend of China's prison layout adjustment. *Justice of China*, (10), 59–62. (In Chinese)
- Wener, R., Frazier, W., & Farbstein, J. (1985). Three Generations of Evaluation and Design of Correctional Facilities. *Environment and Behavior*, 17(1), 71–95. doi:10.1177/0013916585171005
- Wener, R., Frazier, W., & Farbstein, J. (1987). Building better jails. *Psychology Today*, 21(6), 40–49.

- Wener, R., & Olsen, Richard. (1980). Innovative Correctional Environments: A User Assessment. *Environment and Behavior*, 12(4), 478–493.
- White, A. A. (2008). Concept of Less Eligibility and the Social Function of Prison Violence in Class Societies. *Buff. L. Rev.*, 56(3), 737–820.
- Wise, B. K., & Wise, J. A. (1988). *The human factors of color in environmental design: A critical review* (Technical Report No. NASA-CR-177498, NAS 1.26:177498). Seattle, WA, United States: NASA. Retrieved from <http://ntrs.nasa.gov/search.jsp?R=19890006161>
- Woolf, H., Tumim, S., & Office, G. B. H. (1991). *Prison disturbances April 1990: report of an Inquiry*. London: H.M.S.O. Retrieved from
- Wortley, R. (2002). *Situational prison control: Crime prevention in correctional institutions*. Cambridge university press.
- Wu, D. (2009). The environmental color of prison architecture that can reform the psychology of criminals. *Journal of Kaifeng Institute of Education*, 29(2), 48–49. (In Chinese)
- Wu, Z. (2003). Western Prisons and Chinese Prisons: Focusing on Differences. *European Journal of Crime, Criminal Law & Criminal Justice*, 11(1), 93–113.
- Wu, Z. (2005). *Contemporary Western Penology*. Beijing: China Law Press. (In Chinese)
- Yamaguchi, M. (2010, December 9). Prisons trying to cope with swelling elderly population. *The Japan Times Online*. Retrieved from <http://www.japantimes.co.jp/news/2010/12/09/national/prisons-trying-to-cope-with-swelling-elderly-population/>

- Yang, C. (2011, April 15). Beijing women prison has good environment with pink.
Beijing news. Retrieved from
<http://news.sohu.com/20110415/n305883895.shtml> (In Chinese)
- Zhang, J. (2009). On Value Element of the Jail Construction. *Journal of Henan Judicial Police Vocational College*, 7(2), 5–7. (In Chinese)
- Zhang, J. (2013). Historical evolution of the status of prisoners. *Crime and Reform Research*, (2), 2–7. (In Chinese)
- Zhao, L., Xu, H., Chu, G., & Xue, Y. (2010). Analysis of the current women's prison building in China. *Justice of China*, (02), 48–51. (In Chinese)
- Zimmerman, W. C. (1916). Model Jail Architecture. *Journal of the American Institute of Criminal Law and Criminology*, 6(5), 717–723.
doi:10.2307/1133345
- Zupan, L. L. (1991). *Jails: Reform and the New Generation Philosophy*. Cincinnati, Ohio: Anderson Pub Co.
- Zupan, L. L. (2002). New Generation Jails. In D. Levinson (Ed.), *Encyclopedia of Crime and Punishment* (pp. 1089–92). Thousand Oaks. Retrieved from
<http://www.sagepub.com/hanserintro/study/materials/reference/ref5.1.pdf>

Figures

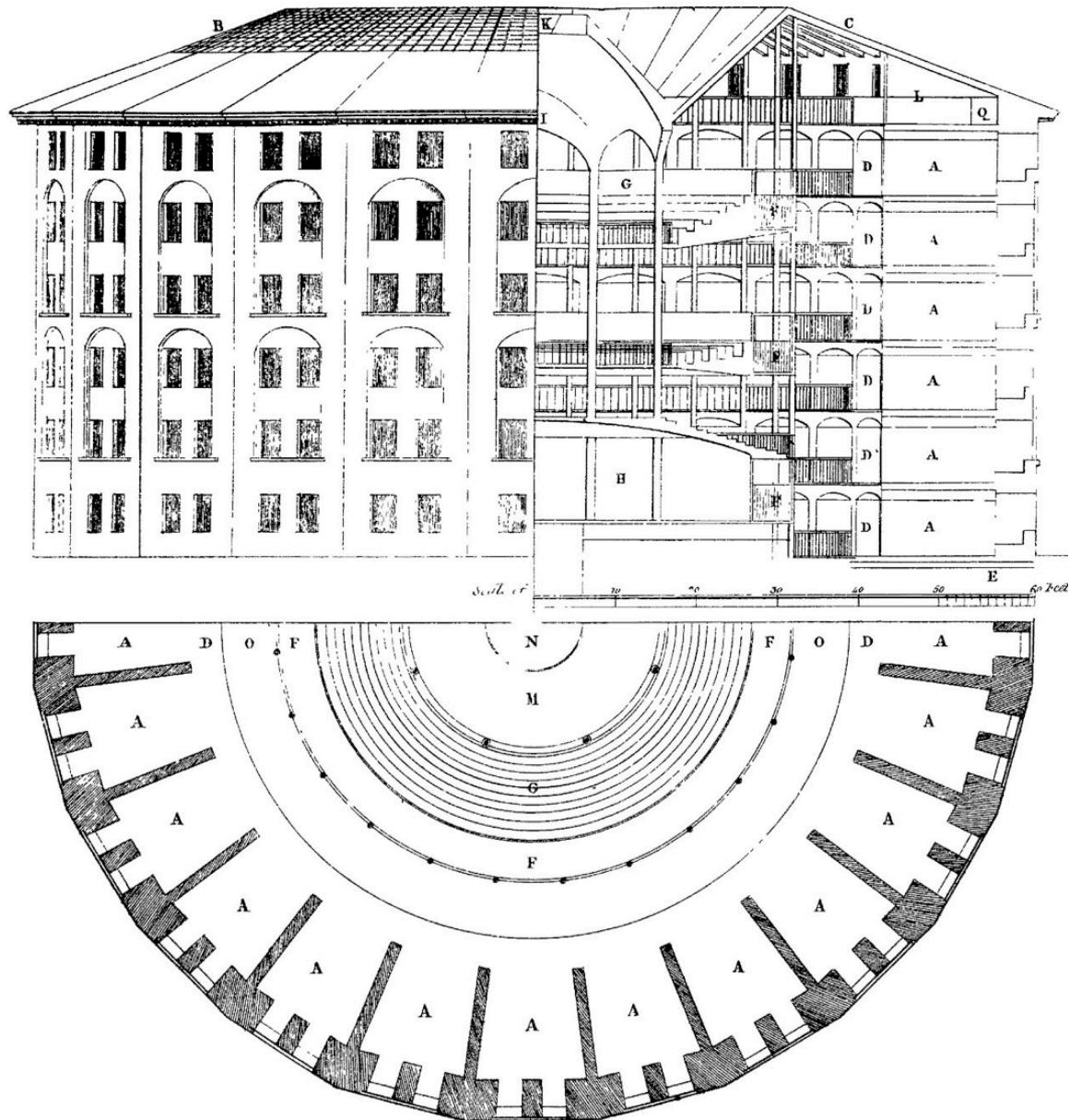


Figure A: Jeremy Bentham - The works of Jeremy Bentham vol. IV, pp. 172-3

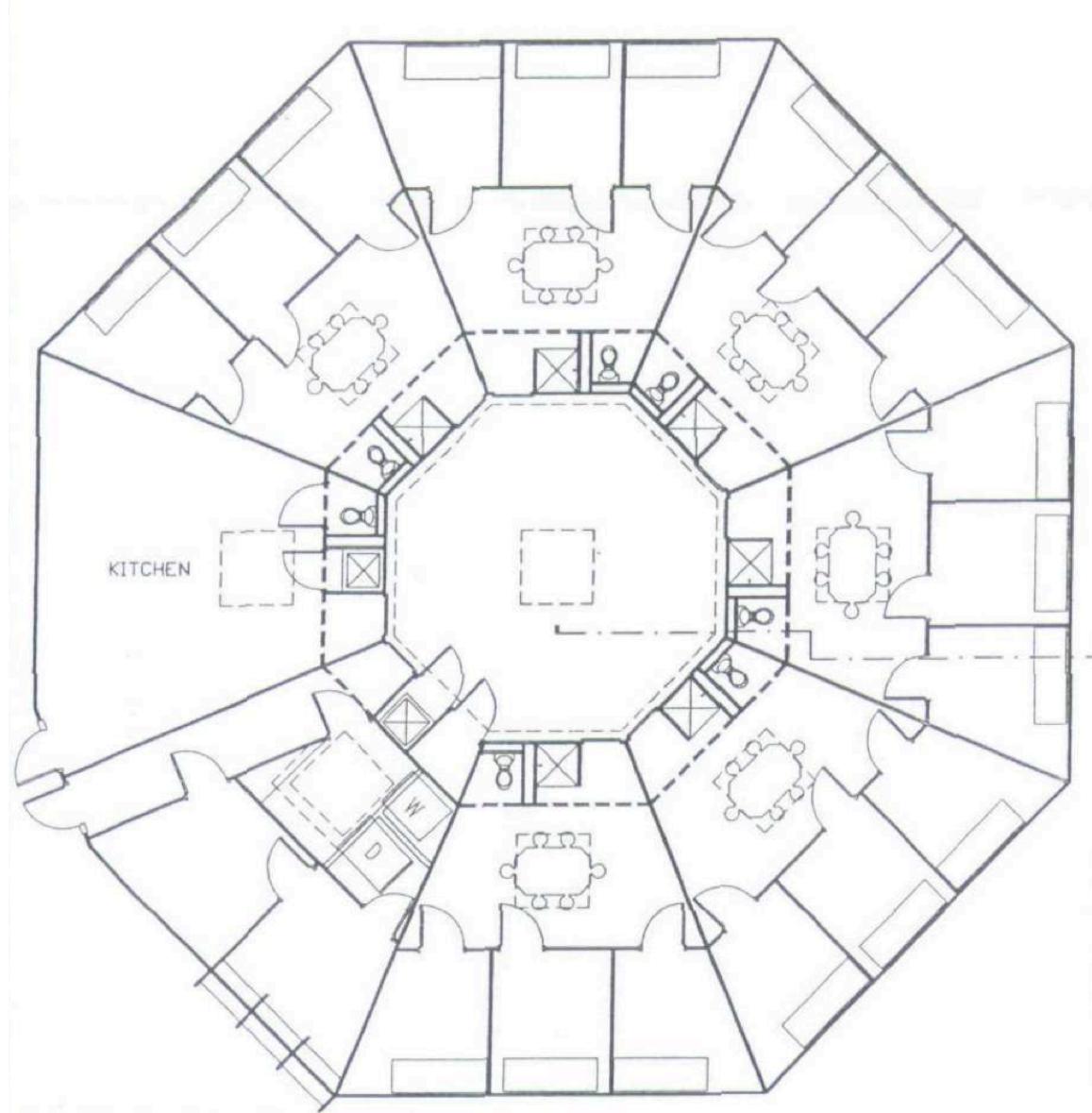


Figure B: Hugh D. Lester — Correctional Facility Architecture: past, present, and future vol. 18, p. 24



Figure C: Jiang Su Prison, China (1910)
<http://img5.itiexue.net/1032/10322453.jpg> from lwx1007

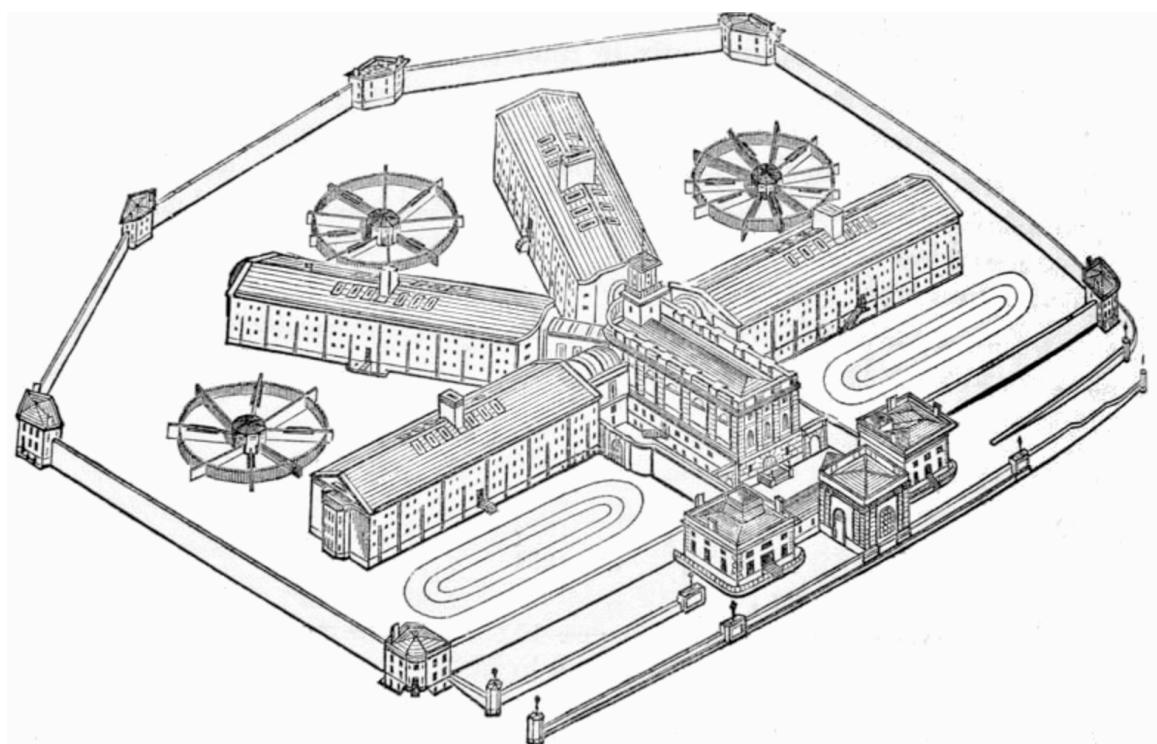
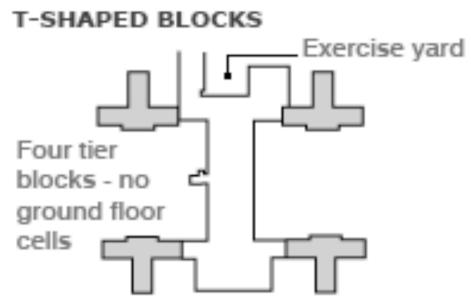


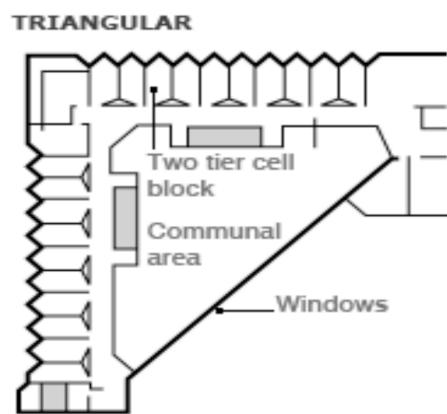
Figure D: Pentonville Prison (1842)
<http://upload.wikimedia.org/wikipedia/commons/6/6e/Pentonvilleiso19.jpg>



Blundeston, Lowestoft
Built: 1963
Capacity: 466 (2007)

Figure E: HM Prison Blundeston
(Google Map)

<http://news.bbc.co.uk/1/hi/magazine/7138110.stm>



Woodhill, Milton Keynes
Built: 1992
Capacity: 762 (2004)

Figure F: HM Prison Woodhill
(Google Map)

<http://news.bbc.co.uk/1/hi/magazine/7138110.stm>

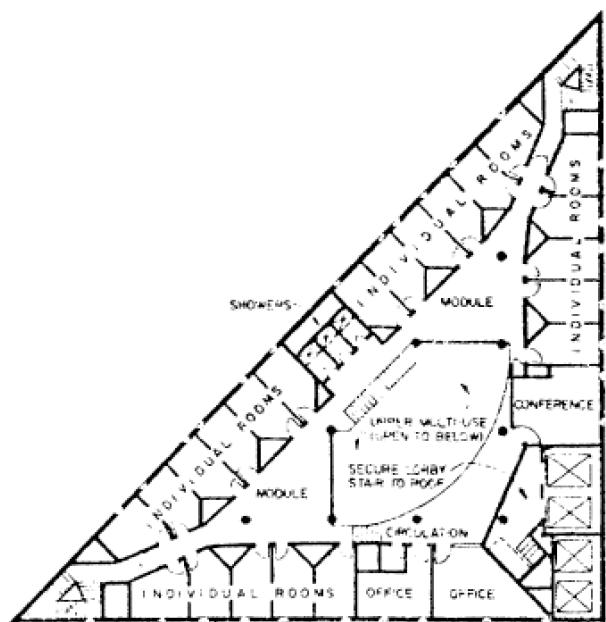
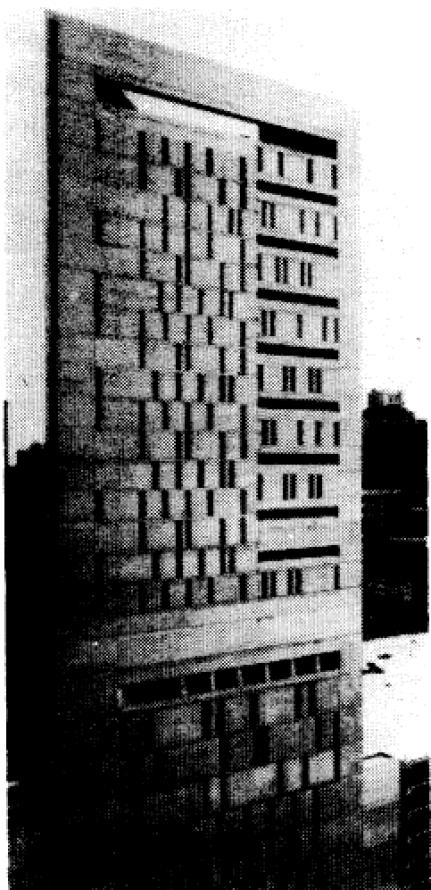


Figure 1c. FLOOR PLAN

Figure G: Metropolitan Correctional Center, Chicago.

Wener, R., & Olsen, R. (1980). Innovative Correctional Environments A User Assessment. *Environment and Behavior*, 12(4), P.482

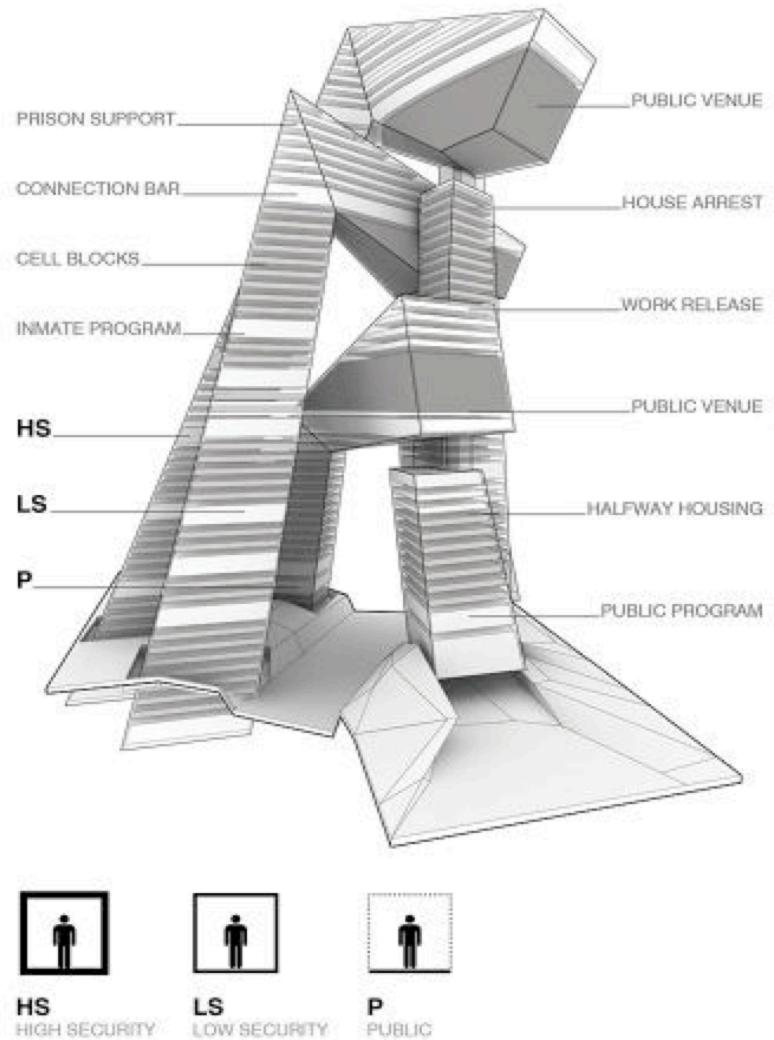


Figure H: Designed by Andreas Tjeldflaat and Greg Knobloch.

<http://www.fastcodesign.com/1669490/a-wild-prison-tower-designed-to-slash-recidivism>