

CHAPTER 14

Inputs in the Design of Prisons

Ferdinando Terranova

In spite of the fact that during the nineteenth century criminal law in European countries suffered many standstills and steps backwards, since the end of the Second World War the respective punitive systems have set off – with some success – along the path of alternative punishment systems from imprisonment. The objective, both in the case of prisons and alternative systems to them, is the prisoner's re-education and re-socialisation by means of psychological, pedagogical and sociological treatment carried out by prison workers. All the same, the physical nature of prisons remains, as does the issue of safety. Design should therefore combine: personalised treatment and safety. Prison regulations dictate roughly the space requirements to be destined for prison functions. It is a case of seeing what the designer's margin of freedom is in the face of the restrictive mentality of the client. This aspect is dealt with in depth under the concept of "designer's ethics", dwelling on the aesthetics of the project. It needs to respond to an idea that considers the convict a "person" possessing rights, such as dignity, based on the assumption that the prisoner is experiencing an interlude in his life-span. A human being, then, just like the designer. The prison project is conceived by men for other men. It may be strictly bound by the client due to the idea it is intended to convey to public opinion. Finally, the methodology to adopt so as to obtain as much information as possible to make the project comply with the actual human needs of prisoners as well as prison workers, is participated observation and a survey among privileged witnesses, be they prisoners or prison staff. In order to study design beyond the aspects linked with the designer's values and the client's ties, there is a purely technical step that concerns approaches in the various project phases. The preventive one, which makes use of risk theory and the

importance of single risks, and the qualitative approach, a methodological course through the building system, which deals with issues connected with the environmental and technological systems. In conclusion, it is highlighted that a notable contribution to the design of a prison may come from color-illumination and interior design, in making the spaces fully beneficial in terms of mental and physical well-being.

Introduction

We are familiar, albeit in a rather superficial manner, with the approach to punishment in the context of the criminal justice systems of northern Europe.

This approach is the benchmark objective towards which all criminal justice systems of Mediterranean Europe strive.

Our paper deals above all with methodological aspects, but without claiming to suggest alternative solutions to those already put to the test in your own country.

The task of architects is to translate concepts like humanisation, dignity and solidarity into the architectural project; to find how to transfer the principles of European constitutions into the physical structures where sentences are meant to be served.

These structures agree on the role of punishment. It must aim towards re-educating the prisoner and his rehabilitation in society.

In the past, punishment was based on solitude, isolation, hard labour, humiliation and religious indoctrination, and used Jeremy Bentham's Panopticon as a reference frame in terms of a physical structure founded on surveillance and visual checks on the prisoner.

Today prison architecture tends to reproduce a "piece of the city" and in this context to translate punitive systems into flexible systems "between sentence passed (conviction) and sentence served" by means of an alternative to punishment as detention.

Currently two circuits appear to coexist: penal institutions, and alternative solutions to imprisonment (semi-custodial arrangements; house arrest; probation).

The two circuits are closely connected. One may pass back and forth between them on the grounds of inappropriate behavior on the prisoner's part that disturbs the order and discipline in an institution: a decision exercised with great

discretion by the Prison Management and/or Penitentiary Police, and ratified by the Magistrate overseeing the prisons.

The medium and long term direction for work now appears to be to build up a special regional detention network for sentences to be carried out.

Penal regulations and European penitentiaries experienced an ideological shift during the 1970s. The prisoner is a human being and the function of prisons was consequently transformed: from a custodial, isolating institution to a place for re-socialisation of the inmate, through appropriate (personalised) treatment and continuous relations with external society.

Treatment is based on the results of scientific observation of the prisoner by social and human science professionals (sociologists, psychologists, psychiatrists, anthropologists, educators and criminologists). Particular attention is paid to mental and physical deficiencies and other causes of maladjustment.

Re-education treatment aims above all at work, education, cultural, recreational and sports activities, contacts with the outside world and family relations.

Some regulations formulated by progressive European governments have aimed at setting up communication between prisons and external society, envisaging in particular certain forms of participation in the collectivity outside the life of the institute with the purpose of “being able to usefully foster the development of contacts between the prison community and free society”.

The ideological shift immediately suffered a repercussion, arising, in the case of Italy, from “emergency” laws: against terrorism and against organised crime/the mafia. Both types of legislation have given rise to harsh forms of imprisonment and the creation of prisons with various security levels.

Along with these emergency laws, during the twenty years of right-wing government in Italy two other forms of legislation were added in the 1990s and early 21st century: for the crime of dealing in drugs that lead to addiction, and for the crime of illegal immigration involving the prosecution of non-EU immigrants.

Adding these two emergencies to the so-called “preventive detention” of prisoners awaiting a sentence has caused the phenomenon of overcrowded prisons, a seriously inhumane condition for which Italy is repeatedly reprimanded by the EU.

The overcrowding phenomenon has rapidly been reduced following the review of legislation on drug addiction and illegal immigration. “Preventive detention” of prisoners awaiting their sentence still continues.

This norm is one of the most brutal and wicked ever invented. It shows the incapacity of the criminal investigative police, in concert with the pre-trial sections of the prosecutor’s office that try criminal cases, to single out elements of the suspect’s guilt. To obtain a confession from individuals under investigation an instrument is resorted to – preventive detention – whose constitutionality has been seriously questioned. The only excuse for it is if the person arrested was caught “red-handed”.

The mass media are currently playing a disastrous game regarding policies to fight crime. This resembles the features of populist, demagogic politics more and more.

A new emergency campaign was started some time ago and has reached its acute phase. The struggle against corruption requires emergency legislation.

Governance and Social Strategies in the Prison System

Finally, the prison question is a priority in Parliament, especially for the Minister of Justice. The directives imposed by the EU, the initiative of many non-governmental organisations and volunteer groups, the publication of journal articles, reports and books, have contributed to a change in perspective by the Italian government on this issue.

The issues “apparently” solved are:

- a) Approval and application of the decree “*svuotacarceri*” (empty the prison), that, with a system of specific laws, has allowed a reorganisation of the inhumane conditions of overcrowding in prison.
- b) The exceptional use of pre-trial detention.
- c) Rescinding a “silent” law on drug taking and dealing.
- d) Emphasise the agreement with non-EU countries for the return of prisoners to their countries.
- e) The consolidation and extension of alternative sentences as social work.
- f) Decriminalisation of minor crimes and their conversion into fines.
- g) Etc.

Decisions on every measure are the responsibility of the Office of the supervisory judge or of other offices according to the law.

Eighteen committees called States General were established to discuss prison conditions. By 31 December 2015 the committees had to present a report on: the physical environment of the prisons; the life of prisoners; women in prison; prisoners with addictions; minors who committed especially serious offences; work and education; education of prison workers; the process of rehabilitation; etc.

Some of the report has been presented and the rest is still being drafted.

Currently the discussion of these topics has not started yet, and the issue of prisons seems no longer to be on the agenda.

The interests of the government and of legal practitioners operated on comparison and conflict between judicial and executive power, the magistracy against the government and vice versa. The result is fragmented, discontinuous and obscure legislation. The same laws have been rewritten by the judicial bodies (Supreme Cassation Court, Council of State and Court of Auditors), and even by the Constitutional Court.

The discussion is taking too long, especially because it is based on poor legislative quality.

Apparently, the idea of a Schedule of Work should contribute to good legislative production. But there are many 'buts'. As an example we refer to the pre-trial detention law. The problem in applying this law is the *flagrante delicto* that is ignored, as it was in the past. Prisoners who cannot afford a good lawyer could spend 2 or 3 years in pre-trial detention, before beginning the actual process. The only difference is the recourse of home pre-trial detention, a way to get round the problem and to not let it occur again, according to the EU directive on overcrowding in prisons.

The problem in Italian criminal justice is the high level of penalties, in relation to the gravity of the crime and years of imprisonment. Every criminal offence can be punished with a minimum and maximum; this decision is the responsibility of the Monocratic Judge or the Court of Judges. Most of the sentences carry maximum terms of imprisonment. If the term of reference is lifetime detention, all the other sentences are severe. Criminal law is a direct consequence of public opinion influenced by the press. The result is a system of excessive penalties without any reference to a good framework for the rehabilitation and reintegration of prisoners.

Nowadays the application and control of the laws has been delegated to the body of judges, who work along with a weak legislative power (Parliament) and under the control of the magistracy, which is in other words the executive power (government). The incrimination of politicians is in the news every day. All state agencies for the suppression of criminal offences are under the control of the magistrates, such as the Anti-Mafia Investigative Directorate, for organised crime and counter-terrorism, the Anti-Corruption Unit and the Crimes Against the Public Administration.

The sum of investigative organisations for fair competition and anti-monopolies, the stock market, privacy, etc., are made up mostly of magistrates. Further, the magistracy (public prosecutors) reinterprets the law in order to shift the focus from economic crime to organised crime, resulting in the application of the anti-mafia law. This means longer sentences.¹

There are different opinions regarding the debate on prisons. Constitutional and criminal law experts, and some exponents of the progressive left (Verdi, Sinistra Italiana, Partito Radicale), want to abolish the prison system because it is impossible to reform. The government majority (Partito Democratico, ex Forza Italia) is on the side of the magistrates, even if they do not agree when some of their representatives are indicted. The right wing opposition (Forza Italia), including populist and racist components (Lega Nord, Fratelli d'Italia, Movimento 5 stelle), is against any kind of reform that might mitigate violence in prison.

Once completed, all reforms of the judicial bodies and their implementation, will guarantee, in terms of justice and public opinion, a country that is the cradle of law.

The abolitionists made a list of important issues to make the process feasible:

1. Decriminalisation of offences, and the introduction instead of a penalty, an administrative fine.

¹ There is nowadays a process called "Mafia Capitale". This is the corrupt relationship between companies and public administration in order to obtain favours for assigning public works. Capitalistic enterprise in many countries does not always mean corrupt relationships, but in Italy the problem is the law that regulates public contracts with a mechanism of procurement, based on cost pressure, without taking into account the economic sustainability for the companies... we could go on and on.

2. Abolition of lifetime detention, and the introduction of a maximum term of imprisonment (20 years) for the most serious offences.
3. Abolition of pre-trial detention.
4. Guarantee alternatives when the process is in progress.
5. Rights and warranties for the prisoners.
6. Introduction of torture as a crime.
7. Humanising the penitentiary system. No to maximum security prisons!
8. Decriminalisation of offences committed by children.
9. Close forensic psychiatric hospitals.
10. Properly educate the security staff, establish shifts and support systems (psychological, economic, upgrading, holidays, etc.).

Currently, despite the presence in prisons of different professionals such as social workers, psychologists, nurses, educators, teachers, volunteers and doctors, the practice of abuse and torture by prison workers still occurs. A negative role, by violating the Hippocratic oath, has been played by doctors and prison workers in regard to these problems. Concerning the behaviour of doctors, the solution can be to put the prisoners under the care of the public health system. As for the prison workers, the solution must be: educational practice, continuous professional upgrades, a process of deconditioning, professional requalification, short periods of work in prison; etc.

Prison Regulation Scenarios

In Prison Regulations we read of various types of prison institutions: those for preventive custody; those for serving a sentence; those for employing certain security measures, which also include maximum security prisons for prisoners whose crimes come under terrorism, organised crime or the mafia, but also criminal mental hospitals; those for the sick and disabled; those that detain and care for prisoners with chronic and serious diseases; those aiming at employment; and finally those earmarked for agricultural colonies.

The functional division of prisons is extremely simple. The Section constitutes the basic nucleus. It consists of rooms (rather, cells) where prisoners are confined. The main feature of Prison Regulations is vagueness. The following are some examples taken from the Regulations:

- The size of prisons should be such as to accommodate a modest number of prisoners with the purpose of fostering individualised treatment.
- Rooms are usually of two types: for carrying out individual living needs, and for carrying out collective living needs.
- Rooms need to be large enough. They may contain one or more beds, with private, decent facilities of a rational type and a sufficient number of washbasins.
- The lighting of rooms should be such as to enable reading and working; the airing of rooms should ensure a change of air; in winter rooms should be heated.

We wanted to fully show what the regulations envisage regarding some of the fundamental aspects of space design.

Areas and volumes and physical-technical factors of the building are left to the discretion of prison management and the designer's subjective intuition. No building standard is proposed.

The only restrictions on planning concern the number of beds and the economic value of the work to be built. Our project has been constructed on these data.

Some rooms are compulsory in Prison Regulations. In the Italian regulations issued in 2000 rooms are casually mentioned and commented on as follows:

- a room to be kept for haircutting and shaving;
- a canteen to serve food, accompanied by the strict measure that "prisoners must always have drinking water available";
- a room where comfort goods may be sold inside the prison;
- an open-air space/area where prisoners under disciplinary regime or groups of prisoners may get fresh air;
- a room or several rooms to be used for medical services;
- a room to implement norms concerning psychiatric and mental health assistance;
- a room for pharmaceutical services;
- a room for family visits;
- a room for religious functions;
- a room where the entrance and exiting of prisoners can be recorded (Records Office);

- a sick-bay with beds;
- an isolation ward with beds;
- a room for special services to provide health assistance for pregnant women and women who have recently given birth;
- a room to be used as a day nursery for children under 3, children of female prisoners;
- a room for the library/newspaper library;
- a schoolroom for compulsory education (run by the Ministry of Education);
- a room/laboratory for professional training (run by the local regional authorities);
- a room to carry out work activities commissioned by the prison administration and/or private individuals;
- a room for secondary education (only in some prisons);
- a room for prisoners to continue university studies;
- a room for recreational activities;
- a room for cultural activities.

The special custody area (restrictions: 6 months, repeatable after a 3-month break) needs to be dealt with separately, with particular Special Sections located logistically apart from the rest of the prison and managed by special Prison Police departments. The disciplinary regime is for all intents and purposes “a prison within a prison” with its own rules (high level internal and external security; transfer to other prisons; limited number of family visits; phone calls to family members banned; TV and radio banned; correspondence censored; one hour only in the open air; logistical measures on prison premises making communication with other inmates impossible; continual environmental and personal searches) and with the suspension of the rules of individual treatment. The aim of the disciplinary regime is defined in Prison Regulations as a “stimulus to a sense of responsibility and capacity for self-control. It must be suited to the physical and mental conditions of prisoners”. Disciplinary sanctions must “respect the personality of the prisoner”. Prison Police are directed to use physical force and coercive means where prisoners’ actions compromise security (attempts to escape) and order (preventing the activities of other prisoners and/or inconveniencing them).

Physical force must be used to overcome disobedient resistance in prisoners.

In both the ordinary and special detention regimes all relations with prison management take place in writing (question-answer).

Twenty-one kinds of behaviour are considered “incorrect” and liable for punitive measures and prisoner confinement by the prison management. They include the “neglect of cleanliness and tidiness of the person and their room; attitudes and behaviour that are annoying to the community; pretending to be sick; fraudulent communication with the outside or inside; obscene acts or acts contrary to public decency; offensive attitude towards prison staff; taking or damaging of goods belonging to the prison administration”, etc.

Although European constitutions stress that “punishment must not consist of treatment contrary to the sense of humanity”, between 1990 and 2008 in Italy 957 cases were recorded of prisoners taking their own lives. In 2008 there were 48 suicides. Even if torture is absolutely excluded, as are particularly harsh forms of segregation and other actions affecting the prisoner’s health, detestable episodes of physical and psychological violence by the police authorities whose task it is to manage security in prisons unfortunately continue to be recorded.

Designer Ethics

The translation into an architectural project of any physical structure where human beings spend their lives, be it their place of residence, work, school, hospital or prison, and its contextualisation in the urban fibre usually involves constrictions: the designer’s ideals and values; the dominant government ideologies; and the values expressed by the constitutional charters of the various states. The latter are not always adopted by governments pleading emergency grounds.

Let us suppose that the main contents of the constitutional charter of an EU state underpin government work. This is expressed through instruments of public administration.

The entity commissioning a work aimed at carrying out a state function, in our case imprisonment, is a branch of the Administration of Justice. Two aims are combined in the work: the limitation of individual freedom by isolating the prisoner (punishment), and giving him personalised treatment with the aim of rehabilitating him and bringing him back into society.

These aims are split into numerous objectives and sub-objectives with continuous checks on the rehabilitation process by the prison authorities.

The Administration of Justice demands that the designer respects these aims, and will make explicit – if considered necessary – objectives and sub-objectives. It will certainly place an absolute limit on the expense of creating a new prison or renovating a pre-existing prison structure. Expense is, as is well known, the primary principle for any administration bound by a budget.

The work must be created with “humanisation” of the life and work environments of prisoners as the underlying theme of the project.

It is upon this constraint that the designer applies his ideals and values. There is no doubt that justice and social equity dominate his vision; the society he hopes for will have solidarity as its final objective.

The architectural project, with its spaces and sub-divisions relating to their functions and activities, will aim at ensuring the physical conditions of places for the “optimal” implementation of rehabilitation processes and the re-socialisation of prisoners. Project strategies will handle various issues, such as (we will quote just a few):

1. How to create the physical conditions which will make personalised treatment for prisoner rehabilitation and re-socialisation feasible in the context of cramped, highly controlled spaces;
2. How to create environments and pathways in a structure tied to security, but which will enable freedom of movement of prisoners;
3. How to create technical and technological solutions for the environmental comfort of the places where inmates live and work (or study).

Where the “security” question is experienced as predominant, creativity in the project is not necessary. Suffice it to reproduce the prison where the sentence is the punishment society requires for those who deviate. Nothing is easier than the creation of environments that unite repression and regression, which affect both prison workers and prisoners equally. In other words, the prison is then a place for training criminals and an environment of planned violence.

“Humanisation” unites with “sociality” and here the designer’s “creative” capacity comes into play in the architectural solutions.

In the next paper, Prof. Giofrè's, you will see an example of creativity applied to a nodal aspect of the project: the “pathways” that cross, unite or separate prison environments. They play a decisive role in ensuring freedom of movement of prisoners.

At this point in the debate we need to ask more than one question:

- What are the points of convergence or compromise between designer and client? We could try to give an answer to this question as follows. The most important points of convergence, apart from the expenditure ceiling, are the quantitative ones given in the invitation to tender prepared by the client (e.g. the surface area/prisoner ratio). The points of compromise are above all related to the quality of the building and plant and the cladding/walls, finishings, such as floors, door and window closures, etc. It should be said that the compromise on building/plant quality is mostly limited, due to the “expenditure ceiling” constraint. The designer has a wide margin of maneuver in regard to the aesthetic quality of both the external (covering of the facades) and, above all, internal spaces where the life/time of individuals is important.
- Is it conceivable that the same criteria architects use for residential or hospital buildings, for example, be adopted for a physical structure conceived to function between punishment and redemption, bound by the obligations of security? The answer cannot but be a single one. The condition of being a prisoner is an interlude in his lifetime. The prisoner is a human being, just as the designer is. The prison project must be conceived by men for other men, with no “ifs” or “buts”. Whatever solution is given to the security aspect - from the traditional one of walled-up windows or holes with bars on the outside, or internal pathways with one obstacle after another and closures, to ones that are the expression of the “sixth power” (Bauman and Lyon, 2014), namely surveillance systems with filters distributed at the level of single compartments which enable, by digitisation, those who are moving around inside the prison space to be traced and systematically observed (see recent policies on electronic surveillance and probation in England and Wales, Nellis, 2014) - the results may not always be optimal both because of the fragility of electronic monitoring equipment, and especially because the route taken of security for security’s sake obstructs and creates conditions for failure of any treatment plan passing through a cognitive process to convince the prisoner to change his criminal behaviour and that it is acceptable for him to go back to the civil community. In other words: crime and the violation of the rules of civil harmony do not pay.

- The designer's responsibility not only concerns whether the physical structure thoroughly conceived responds to architectural canons ("in accordance with best practice") but also whether it is properly built and integrated into the urban plan for the zone. This is the primary aspect for a good designer and a good professional. It triggers reflection as to whether cultural and ideological components are decisive: should a prison be located within the urban fabric or marginalised outside it? The answer is linked to the idea that is intended to be conveyed to the public through the prison. If the authority developing the principles of criminal policy considers that the prison must serve as a warning to citizens, it is inevitable that it will lean towards a total institution. The urban planning solution would naturally be to have it inside the city. This is the architectural solution that finds the "prison city" most beneficial economically, with a size accommodating over 1,000 prisoners, a policy that intensifies the "crime issue". Penitential megastructures are a source of unmanageability, conflict and physical and mental violence. Any strategy towards personalised treatments would be absolutely impracticable.

If the idea that is intended to be conveyed is of punishment as redemption by means of a course of prisoner rehabilitation, the prison should contain a minimal number of inmates (no more than 100 units), with a tendency towards widespread, partially open structures on both urban and rural territory, where the "work" factor is practicable, and also because the inclusion of a prisoner in a close-knit community is one of the routes to his social rehabilitation.

- When the project phase starts up the team working on it must continually ask themselves questions: how does it relate to the collectivity (prisoners; prison staff) whose daily life is inside a physical structure where society exercises its power to administer punishment, and how in this context can it respect the human needs of the collectivity? The query highlights the social and moral responsibility of design to a real world made up of flesh and blood people. A "project on a human scale", therefore, must interface with the emergency contexts (in our case) of a "restrained" group of human beings, and in other extreme cases with those "on the edge of survival", such as the homeless, refugees, immigrants and the poor.

So the designer is a “technical intellectual” (Gramsci, 1955: “Intellectuals and the Organisation of Culture”), endowed with an “ethical responsibility” that goes well beyond professional deontology. The scenarios that ensue are of greater, unprecedented complexity.

The need for some form of designer ethics begins with the acknowledgement that “the aim of great narration and totalising visions of the past (Lyotard, 1979) and a new awareness of the complex, inconsistent nature of the phenomena of scientific, economic and cultural systems with which knowledge must interface (Morin, 2002) are at the basis of a new appeal for ethics outside the absolute models”.

The designer’s view of any building, whether residential or social (schools, cultural centres, universities and science research centres, etc.), concerning health (teaching hospitals, state of the art hospitals, local health centres, etc.), or military/paramilitary structures, etc., is to create a “social project” aiming towards objectives like the improvement of society and the quality of life of inhabitants. In other words, the designer’s role is changing.

Project action, therefore, entails ethical responsibility towards the collectivity, linking subjective idealistic choices with collective responsibility. Idealistic choices inevitably advocate a fairer world with more justice and solidarity. As can be seen, little by little the project is moving towards a utopian ideal with solutions to be followed or unforgivable abstractions.

To avoid unforgivable abstractions is possible since the project is not only the fruit of a single designer’s creativity but the fruit of the slow ripening of a collective reworking of needs.

The great era of “participatory planning” has begun, involving potential users in the decision processes of the project.

In our case participation in the planning process is the collection of social input on imprisoned human beings, arising from the daily experience of prison staff with their variety of professional skills, and prisoners or ex-prisoners.

Building Process. From Conception to Creation

The life cycle of a building is closely linked to the choices made by the designer in the building process leading to the creation of the building.

The different phases now have a mandate of their own largely developed by the international community of design architects/engineers.

The phases can be summarised as follows:

1. *Concept*. Strategy for conceiving a building to carry out a social function based on the interpretation of new requirements and the potential offered by the market in terms of new materials and technology.
2. *Project*. Form of the building and its size; physical relationship with the surrounding territory; building materials to construct it and their performance.
3. *Creation*. Industrial production to construct the building. Requirements of labour, plant, technology, equipment and financial resources necessary to create the building.
4. *Use*. Intended use of the building and its management by private individuals or a public authority.
5. *Elimination*. Reconversion/demolition of the building once it is no longer needed.

The various phases involve different approaches: the “preventive” and the “qualitative”.

The first has been regulated to a greater degree; the second is linked to the development of scientific research and to an osmosis with industries producing building materials and technology.

The spaces inside a building are configured as “confined environments”.

For those living in these environments they bring psycho-physical stress. The use of new structural elements, new building materials, synthetic thermal insulation materials, various linings, new substances for treatment and cleaning, new heating/air conditioning systems and whatever else used in building construction, which will contribute to the perception by users of the quality of the environment, including that of the air - all, therefore, are potential risk factors and potential causes of physical and psychological disorders.

Three diseases arise from buildings according to Treatises on Hygiene and Environmental Psychology. Their effects on humans have been studied extensively:

1. Multiple Chemical Sensitivity (MCS);
2. Sick Building Syndrome (SBS);
3. Building Related Illness (BRI).

The first (MCS) is a syndrome characterised by allergic reactions of the body to chemical and environmental agents, present singularly or in combination, in the life or work environment.

Sick Building Syndrome (SBS) arises when at least 20% of the occupants show signs of the illness for more than two weeks without objective/instrumental perception being noted for factors of environmental decay. The symptoms are characterised by concentration disorders, eye irritation, headache, nausea and dry mouth. They disappear quickly as soon as the person leaves the building.

Finally BRI. Illnesses are objectively observed and attributed to the building due to the inadequate quality of the air inside, caused by pollution factors in a gaseous or filtered liquid form, or micro-organisms.

In every life and work environment in prisons, potential risks are present.

Some may be indicated as “collective” and affect both the architectural form and space distribution. The most important for repercussions on the project is undoubtedly the risk of fire/explosion.

Other risks resulting from overcrowding are found in the noise risk, from both a biological and psychiatric point of view.

Besides risks classified as collective there are “subjective” risks linked above all to risk factors the prisoner comes into contact with, such as, for example, dangerous substances in chemical agents, carcinogenic and mutagenic agents and exposed materials containing amianthus/asbestos.

The European directives implemented by national laws are quite precise and are part of a process of continuous updating, as science and technological research moves forward on the subject of an individual’s maximum acceptable concentration (MAC) of absorption factors of physical-technical pollutants (humidity, temperature, radiation, product chemicals, noise, ‘indoors’, quality of air and water, biological agents, dangerous refuse, etc.) and the foreseeable consequences on the individual’s health.

In spite of continuous monitoring and the important contribution of scholars and scientists, it has not been possible to introduce parameters connected with the “mental health” of the individual in “restricted” conditions or, rather, the psychiatric consequences of imprisonment on the individual.

The knowledge of this variable (mental health) and its incidence and prevalence in prisoner behaviour is a factor to be considered strategic for design.

In designer's ethics the issue of design based on preserving the prisoner's mental health takes priority.

At the same time, the designer must meet the client's requirement of security in the prison environment.

We will not even mention the scholars – from Foucault to Goffman – who have handled the issues of total institutions and the close relationship between these institutions and mental suffering and deviant behaviour of those deprived of freedom. What makes things worse is the context of the daily life of the population, dominated by *media* that convey “the demon of fear” (Bauman, 2014). Even if an imprisoned person loses visibility, for the penal system the importance of those who deviate is great.

To the space dimension is added the dimension of time. Indefinite time in a limited space. In order to survive the prisoner becomes a prisoner of himself, of his own mental labyrinth, which can only be lived through by internalising the institution's norms. Otherwise, time will create a state of deep solitude in an inevitably noisy and potentially violent environment. In this context the prisoner progressively loses the ability to attribute a constructive meaning to relations with the outside.

Numerous investigations carried out inside Italian prisons have converged on the realisation that “mental distress constitutes the real emergency of prisons. If prison itself is not the primary cause of a disorder, it shows itself to the outside as a repository of spreading mental distress, as if it were a photograph of growing social marginalisation consisting of immigrants, prostitutes, drug addicts, the homeless, alcoholics and drifters. Prison is an introflexed system that, through segregation and neutralisation, exercises control over deviant behaviour, whether of a social or psycho-pathological type. The re-education function fades away while the institution's capacity to progressively degrade and debilitate the person builds up. Prison takes on the character of the preferred environment for shutting away psychologically disturbed people. The “rotating door” phenomenon that distinguishes psychiatric services unfolds between prison and territory in a constant, perverse exchange of users, for whom forced restraint proves the only practicable route” (C. Cerchi, School of Criminology, Bologna University: *Indagine sulle carceri dell'Emilia-Romagna, 2012–13* [Survey of prisons in Emilia-Romagna, 2012–13]).

The designer – and this may appear to be an extreme methodological position – has to live through the prison experience as a “participating observer”, interviewing the actors of the institution, in particular the staff giving treatment and the medical, psychiatric and nursing staff, to understand better which prison population the design is addressing.

The decisive step is how to acknowledge the material resulting from a psycho-socio-anthropological and penal approach and turn it into technical pathways for architectural design.

The pathway is a process that analytically breaks down the functions and activities taking place inside the prison.

The “building system” is composed of an “environmental system” and a “technological system”.

The “environmental system” breaks down into the following points:

1. Define objectives. These are identified in the achievement of high standards of environmental quality, connected in the case in point to a prison that will reduce the stress pervading it.
2. Pick out the activities carried out by prisoners in their treatment and by the surveillance apparatus. Each activity gives rise to an Environmental Unit.
3. Pick out the compatibility relationship of the elementary activities (e.g. arrival from outside; data registration and filing; allocation of sleeping quarters; medical examination and diagnostic tests); definition of macro-activities (arrival and compilation of prisoner’s file) and basic functional sub-areas (1. sub-area: welcome/orientation; 2. sub-area: technical/administrative).
4. Define spaces to be designed to accommodate compatible activity systems (e.g. Environmental Units: waiting room with toilets; acceptance/admittance; registration office (file compilation; destination/Section and sleeping quarters).
5. Quantify size of Environmental Units (minimum and maximum area obtainable from ergonomic studies).
6. Define requests for services based on spaces (these include environmental and security features, provision of plant and equipment obtainable from EU technical regulations).

The “technological system” tends towards creating classes of technical elements which fulfill the requirements of the various user/client categories. Each industrial product used in constructing the building must meet specific performance levels (resistance of material; duration).

Building organisation is sub-divided into parts. The technological system ranks them as follows:

- A. Technological Unit Classes (supporting structures; closure devices; internal partitions; external partitions).
- B. Technological Units (foundation structures; elevation structures; containment structures; vertical closures; lower and upper horizontal closures, etc.).
- C. Technical Element Classes (walls; fixtures; covering; balconies, etc.).

The last step that becomes decisive as far as setting down the “tender specifications” and cost assessment for the work is the compatibility relationship between Environmental Unit, materials and technical elements.

Using “graph theory” it is possible to follow the daily routes and movements (from – to) of some prisoners in the different physical areas of confinement (Sections). It is the base-material that will make the project the most compliant with the client’s needs and at the same time pay great attention to the needs of prisoners (humanisation of architectural and technological design solutions).

Suggestions for Prison Designers

If the psycho-physical wellbeing of those experiencing prison is considered important, and this is so, then the interior design of spaces should guarantee comfort and positively stimulate the implementation of treatment and the work both of prisoners and prison staff, and should mitigate the anxiety and stress that greatly impregnates the institution.

In discussions involving designers of extremely complex prisons where highly demanding elements or features are present, it is worth examining space treatment from a specifically aesthetic point of view, so as to be able to contribute to improving the perception of the environment.

This viewpoint involves reworking concepts like aesthetics and interior design, and an analytical reappraisal of ergonomics and theories of perception

to manage to experimentally develop some decisive parameters for defining the quality of design: colour and illumination.

We take concepts like aesthetics and interior design for granted. Ergonomics also plays a decisive role in design.

In designing a space anthropometric parameters not only contribute to size (area/volume) but also condition the placing of fittings, and minimum and maximum distances for placing equipment and light switches; they are the parameters linked to sensory capacities like visual sharpness and the capacity to discriminate sound signals.

It is colour combined with illumination that occupies a decisive position in the design of a building for the effects it produces on people. These are of various kinds:

1. “Photobiological”: vision of the shape of objects, their size and the quality of materials, and the perception of spatial relations.
2. “Communicative”: non-verbal signals, linked with the area’s structure, space layout and movement of the body.
3. “Psychological”: changes in the ways of feeling, interpreting, evaluating and acting; effects: variable combination between neurophysiological aspects connected with the energy produced by colour-light and ways of individual reworking.
4. “Therapeutic”: effects on states of imbalance of the body and/or mind (abdominal tension; neurovegetative tension). Colours that are reassuring and create conditions for subjective wellbeing.

The studies carried out up to now on colour in spaces have suggested some conclusions, summarised below:

- Colour should be a means of expressing the building’s character, its uses and intended uses.
- Colours used to furnish the internal environment should be well-defined and their chromatic harmony determined by the function of the environments and their volume.
- Rooms should be diversified, not just so that they are more easily identified, but for the different functions they accommodate.
- In harmony with natural and artificial light, colour should be a means to complete the environment that will ensure comfortable and efficient vision for all those living and working there.

- Improvement in the visibility of routes and access points through colour and light solutions.
- Plants (vegetation) furnishing the environment should be part of the colour system (Malkin, 1992).

In interior design it has been possible to define standards relating to the relationship between technical – colour – lighting components:

- Floors should be in colours with a low brightness value, between 15–40, and high saturation, with the purpose of giving the feeling of safety and solidity. The use of shiny colours that would give the impression of a wet surface is not advisable. The creation of patterns on floors, such as a check design and/or dark and light squares, could cause difficulty in walking around for individuals already under stress.
- Walls should be in colours with an average brightness value of 40–70.
- Ceilings should be in colours with a high brightness value, from 70–95, and with low saturation.
- External fixtures should be of a light colour to increase brightness inside the room and so as not to outline the source of light.
- The colour of internal fixtures could be defined to indicate the functions of the rooms so that they are easier to recognise.
- Curtains should be considered as a filter for the lighting of the environment.
- The choice of colour should concur with the choices of natural and artificial lighting, using lamps able to provide the same chromatic effect and temperature as natural light, i.e. which simulate as closely as possible the entire spectrum of sunlight.

Some final considerations. Even where we have dwelt at length on some of the technical aspects of designing a prison, it is considered that the pervasive idea of our work as scholars and designers of total institutions is how to make them lose their “totality” feature. Not only is this an expression of civility but it also serves to give back “dignity” to those who have committed the crime for which they have been condemned to a prison sentence. Giving back dignity to an individual is a necessary step towards that person’s rehabilitation and for their return to society. It emphasises that society does not intend to be vengeful, but sympathetic. This is substantiated in:

1. The process of a balanced release from prison.
2. Prison as the last solution. Singling out other alternatives to house arrest for groups of crimes without involving confinement.
3. The inclusion among principal sentences of ones with a prescriptive or interdictory nature, too.
4. Strengthening all types of punishment involving prison with re-socialisation components, in the first place implementing work activity.
5. Involving public opinion as much as possible in the debate on the ethical values and principles that support the reform of the criminal sanctions system as well as its fundamental aspects (Severino, 2014).

References

- Bauman, Z. and Lyon, D. (2014), "Sesto potere. La sorveglianza nella modernità liquida", Editori Laterza, IT, p. 162.
- Bauman, Z. (2014), "Il demone della paura", Editori Laterza La Repubblica, IT p. 136.
- Cerchi, C., "Indagine sulle carceri dell'Emilia-Romagna", Scuola di Criminologia dell'Università di Bologna, aa. 2012–3.
- Foucault, M. (1976), "Sorvegliare e punire. Nascita della prigione", Einaudi Paperbacks 77, 1976, pp. 340.
- Goffman, E. (2003), "Asylums. Le istituzioni totali: i meccanismi dell'esclusione e della violenza", Einaudi IT, p. 415 (last print).
- Gramsci, A. (1975), "Gli intellettuali e l'organizzazione della cultura", in Quaderni dal Carcere, vol. III, q. 12, 16, 21, 23, 26, Einaudi, IT, pp. 1513–2362.
- Liotard, J.F. (2002), "La condizione post-moderna, published in 1979 and translated and published in Italian language by Feltrinelli, IT, p. 128.
- Malkin, quoted by Andrea Biagioni, Final work degree in Architecture, "Il colore come elemento di qualificazione e umanizzazione delle strutture sanitarie", mentors Proff. Paolo Casini e Ferdinando Terranova, aa. 2002–3.
- Morin, E. (2002), "L'identità umana", in Il Metodo, vol 5, Raffaele Cortina, IT pp. XXII-290.
- Nellis, Prison Camp. Prigione sperimentale di minima sicurezza con sorveglianza esclusivamente elettronica.
- Prof.ssa Paola Severino, Ministro della Giustizia della Repubblica Italiana, Dichiarazione rilasciata al quotidiano La Repubblica, 7 February 2014, p.14.