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The urban environment, its hazards and human behaviour

1. Introduction

Let me start by establishing a simple fact that when talking about environmental psychology, i.e. about the relations between people and their environment, we talk primarily about the people and *their* interrelations. Physical environment is only a tool, a medium or a place enabling these interrelations to develop. Our needs, desires, fears and activities are shaped through it and in it. This is perhaps the most evident in case of dangers people are confronted within an environment. Everything – from disasters and minor incidents to vandalism and crime – is reflected in human behaviour. We have been facing complete dependence on other people since we were children – from satisfying our basic needs all the way to discerning the sense of reality. Other people are the most important source of our safety, however they are also the most common cause of our fears. The power of human beings lies in joint action. This is the only way to keep local environment under control and create a more or less stable world where people can feel at home. For our perhaps not so distance ancestors (and even today for some tribal societies), the „humanized" World used to be only a small patch of order and safety surrounded by a myriad of hazards. For every orientation, which is a precondition for other activities, we need a permanent starting point. It was represented by home, a home town or a village, the only place our ancestors knew and the only place where they felt relatively safe. For them, it was the centre of the world, an ordered universe within a disordered chaos. For ancient Greeks, Delphi was the „umbilicus of the world", while Mecca and the Ka'aba were its equivalents in the Muslim world. As a consequence, there is a contrast between a home place and unknown, non-definable places surrounding it. Accordingly, ancient Egyptians (Wilson, 1967) living in the Nile valley considered foreigners equal to wild beasts and settled them on the hills surrounding their valley. For individual family communities of the African tribe Lugbara it was typical to see foreigners increasingly terrifying as the distance from their area increased (Davidson, 1977). The most distant people were supposed to be humans only by their outer appearance and to walk on their heads. To our ancestors, distance was primarily perceived as socio-moral distance. Namely, the power of human interrelations in primitive communities was highly dependent on the proximity or distance due to relatively undeveloped production forces enabling cooperation and help only „at a close distance". With increasing human power, fears have been gradually disappearing, however new ones have been brought along. Modern buildings efficiently resist normal natural changes. Extraordinary events can still destroy a city, however the feeling of fear is now different than in the past. Natural forces no longer seem something hostile. This does not mean that we are not afraid of them any more and that we do not consider them dangerous. Eventually, there are still other people who can be considered a threat. There are a lot of questions and we will only consider a few in this article. We will discuss disasters of different origin and how people react to them, what is brought fourth by life in large cities, how is an environment related to violence in sports grounds, burglaries, etc. and what can be done about it.

It is not my intention to discuss the so called social conflict conditions since physical environment in them appears as a factor of minor importance, except when it is a subject of appropriation, „cleansing", etc.

2. Psychological aspect of disasters

People have been facing danger and disasters since antiquity. However, the first systematic research on psychological aspects of disasters was carried out only in the 50's. Before that, and frequently even today, prejudice spoke instead of facts. People tried to somehow make sense of events that were important to them. Namely, disasters always directly or indirectly affect people, otherwise they would not be disasters. As much as disasters can happen as a consequence of human action, it is primarily human behaviour preventing or alleviating their consequences. This means that we have to be familiar with the characteristics of human behaviour in extreme situations, i.e. where an individual or a group stops functioning normally and feels endangered. It is a relatively young area of psychology, searching for right issues and procedures to deal with them on one hand and losing its way in traditional perceptions of human behaviour, prejudice and mistakes on the other. An array of completely contradictory standpoints and opinions exists. The acceptance of one also means different work, planning and behaviour, which sometimes means a thin line between life and death, drama and tragedy. Therefore, I will try to explain the situation more clearly and connect various alternatives with conditions of their development. My work will be based on the results of empiric research which unfortunately has been quite scarce in our country. Therefore, the results have to be accepted with a certain degree of reserve where, and as far as cultural and traditional factors, as well as social, economic and environmental conditions etc., are relevant for certain circumstances. On the other hand, we do not live on a distant island. There are common characteristics of behaviour of different groups of people in similar conditions. The starting point of this article is behaviour of normal people in abnormal situations. Such behaviour is commonly described as irrational. However, this usually happens only when analyses have been carried out after an event when the situation is well known and appropriate behaviour clear. The reason for such mistakes is the fact that we frequently confuse rationality and behaviour in accordance with the requirements of a given culture and we tend to disapprove with everything different. Such behaviours are commonly, although not always justifiably, classified as the so called collective behaviour, defined by Turner and Killian (1972) as the activity of groups acting without clear instructions from their culture. Collective behaviour appears when a social system is in crisis, when its traditional institutional structures are largely destroyed or neutralized, or when they are no longer regarded by people as guidance for their activities. A social system can be disturbed in various phases and to a different extent. However, it has to be stressed that collective behaviour in its extremities, such as panic escapes, criminal behaviour, social riots, etc. is relatively rare during disasters. Such behaviour is a constituent part of social conflict conditions.

And what is a disaster anyway? In this article, we are interested in disasters affecting a community, not an individual, in a certain moment. Can we talk about disasters in common? A prevailing opinion today is that solving questions related to any disaster is similar regardless of its cause, and that disasters can be classified as members of the same group of phenomena. While first definitions of disasters took into consideration primarily their physical aspects and consequently classified them as different phenomena, recent approaches are more socially oriented and approach disasters as a group of similar phenomena. The emphasis has gradually been shifted from a physical event to various aspects of a social situation. Vitaliano et al. (1987) define disasters as *„a relatively quick and spatially concentrated event affecting a recognizable social subsystem (i.e. a community or district) due to the occurrence of great danger and/or destruction, interrupting the capability of a system to provide its members with expected living conditions and appearing in a context in which the consent exists about an importance of a situation, relevant norms and values, as well as advantages that have to be taken into consideration".*

Quarantelli (1982) simply argues that a disaster happens when *the requirements of an event are beyond the capability of a community to keep it under control.*

When we look at the characteristics of natural and human factor disasters, many similarities can be found. Both are more or less unpredictable and are evading control, however for each of them, control has a different connotation. Natural forces are by definition beyond our control, while technological disasters reflect failure of a system which used to be under control. The lack of control when it is expected leaves different psychological consequences than in cases when we do not expect it. The loss of expected control results in responsive reaction and irritation, while in the other case responses are more characterized by inactivity and helplessness. Total loss of control also changes a level of confidence in certain technology.

2.1 Uncertainty of disasters and their perception

Many events in person's life are seen as more or less predictable and therefore uncertain. Typical examples are disasters and weather. It is important to know that the judgement regarding certainty of these events influences the behaviour of affected people. Although people today are more aware of how dangerous natural disasters can be, they often do not pay attention to them. There are at least four reasons why our perception of danger differs from our perception of everyday environment (Ittelson et al., 1974):

in most places natural disasters are relatively rare, they are not part of everyday life. A hazard which is uncommon leads to distortions in perceiving an environment. People see a threat as possible and distant, not as direct and real;
these are events that evade control or control is limited;
such events require large scale life-style adaptations which people unwillingly accept;
information about danger is usually ambiguous and offers insufficient quantity of reliable indications. Therefore, judgements are less accurate than in normal circumstances.

People cope with such issues in different ways. While some exclude danger or uncertainty from their perceptions altoget-

her, other feel helpless to do anything. Nevertheless, basic behaviour is related to the uncertainty of a disaster.

The above argumentation does not mean that people affected by a disaster will not act at all. When certainty prevails over uncertainty in people's perception of danger, or when the dimension of a disaster requires appropriate responses, people will by all means do whatever is necessary. The opposite happens when perceived frequency and low level of possibility result in negative certainty that a disaster will not happen. Between both extremes human responses are the least predictable. An individual or a group facing danger therefore have to assess certainty of an event, available behaviours and their consequences and make a decision. This process is affected by several factors:
• People are not able to realistically assess certainty and consequences of extreme events;
• They are not aware of all available possibilities;
• The ability to compare alternatives is limited by biased information processing;
• People's goals are numerous and diverse.

Decision making is frequently also inhibited by excessive certainty in one's (even wrong) judgement. It appears that psychological basis for this unjustifiable certainty is represented by their unawareness of the deficiencies of presumptions on which their judgements are based. We are too commonly unaware of our limited knowledge. Perhaps it happens because of our desire for certainty. All the above mentioned characteristics unfortunately hold also for experts.

2.2 Human behaviour during disasters

Older assumptions that disasters as a rule have long-term and serious consequences for mental health, have been rejected by recent research. According to recent findings, people's behaviour in extreme situations remained under control and was in accordance with the requirements of certain situations. It is interesting though, that individuals adapted better than organizations. Also, the so called *secondary disasters*, caused by inappropriate help (displacement of people, living in containers, etc.) frequently caused more damage. It appears that a community behaves like a sponge which is deformed temporarily under pressure but quickly recovers to normal condition retaining its structure. We have to bear in mind that a disaster does not mean a total discontinuity with normal life – instead, a lot of things that existed before are transferred to new conditions. Let me only mention social support, i.e. *an extent to which a person thinks he/she can rely on one or more people for material , emotional help or both in a moment of need.* Such a support in hard times functions as a buffer between an individual and his/her inconveniences. The stronger the support, the faster a person will recover. Of course, every help has its limits. Many other things could of course be said about people's behaviour and experience, however let us limit ourselves to the concept of panic. It is thought that this is one of the most common and the most typical responses during disasters. There is almost no social psychology handbook that would not describe events that happened on October 30, 1938 in USA during the radio transmission of Wells' The War of the Worlds. The event is said to be a typical example of mass panic. But is it really? A research carried out immediately after the event showed that 84 % of the audience totalling 32 million knew that it was a story and that they did not even think it could

be something else. This does not mean that the remaining 16 % were caught by hysteria and panic. A large number of people left their homes because they thought it was the latest news, which at that time, immediately before the World War II, was not so unusual. Cantrill (according to Sherif and Sherif, 1969) is convinced that in more stable times a play, regardless of its persuasiveness, would not cause such an alarm. People would wait for further information. However, this was an episode of human behaviour caused by a pattern of circumstances leading to increased suggestibility. In chaotic circumstances and during a real disaster, even an ordinary event can lead to panic. However, in the above mentioned case, the number of panic behaviours was irrelevant. People did not flee in thoughtlessness. Therefore, why would panic be emphasized to such a degree? There are at least two reasons:

Commonly, we witness the so called *circular* argumentation when the description of an event is confused with the explanation. Hence, a behaviour of a larger group of people during a fire is described as panic and explained as to be caused by panic. An event is commonly explained in such a way by people who later in a calm analysis try to establish what kind of behaviour would be more appropriate. However, it is easy to be general after a battle. The question is what the people in danger knew and saw. This is well represented by an event which happened on April 12, 1973 in Munich (Sime, 1980) when about 3000 young people were leaving a full hall and two girls were killed by the crowd pressure. Referring to panic did not take into consideration functional consequences of mass evacuation of the hall, of the fact that people were not aware of other exits and that people in the back knew nothing about what was happening in front of them.

There is commonly a confusion only because many people *describe* their experience as panic, although it was maybe only anxiety or fear. In this way they want to explain that their capabilities were temporarily hindered and therefore they cannot be held responsible for their behaviour.

Sometimes describing one's own behaviour as panic only serves as an excuse, i.e. „I couldn't do anything, it was stronger than me".

With the above discussion I don't want to suggest that panic does not exist. However, it is not so common as we might think. So, what is panic anyway? It can be defined as an acute reaction of uncontrolled fear characterized by escaping. It can also be described as an attempt to leave a dangerous area at which a person does not think about social consequences of his/her actions, behaving individualistically, asocially and irrationally, but his/her behaviour cannot be described as non-functional and unadaptable. However, if panic is asocial, it is not countersocial, and if it is irrational, it is not counterrational. A panicking person would not kill other people in order to be saved, while irrationality primarily means that a person would not take into consideration all possible alternative behaviours but will instead concentrate on escaping. But instead of a rash escape, it would rather be getting away from a dangerous place.

There are also conditions under which panic will probably emerge. These are primarily:
– the existence of a before-crisis definition of a certain environment according to which panic has already emerged there;

– the absence of pre-crisis social binds among potential participants, since these binds impede the emergence of panic;
– perception of being caught;
– feeling of helplessness;
– feeling of social isolation;
– awareness of danger; and
– realization that escape routes are closing fast.

And what are the counter-measures? They, of course, are derived from conditions in which panic emerges. Above all, people have to be informed about possible hazards – it is wrong to conceal information „in order not to cause panic". People have to be informed about counter-measures, group discipline has to be defined, and good leadership has to be provided. An environment also has to be provided which will be more resistant to dangers and will facilitate a retreat if it turns out to be necessary.

2.3 Evacuation of buildings

Quick and safe evacuation especially of larger buildings (theatres, shopping malls, entertainment centres, stations, etc.) is especially important for the prevention of grave consequences of fires or other disasters. Therefore, it is important how a building is designed, where the exits are placed, how wide are the stairs, etc. When endangered, people have to cope with all this. Therefore, characteristics of their experiencing and behaviour have to be appropriately considered when designing buildings and organizing rescue operations. Research initiated in 70's rejected an exclusively „physical" behaviour model that took account only of the capacity of corridors, doors and staircases, while people were considered non-thinking objects, moving along pre-designated routes. Such a view resulted in simply determining the minimal width of corridors and the maximal length of emergency routes. Endangered people should primarily get away from danger. Actually, this model is very similar to the definition of panic, similar in a sense that in both cases people are merely considered non-thinking objects, the first model completely excluding emotions, and the second talking about over-emotional reactions (fear). Unfortunately, neither of the two models explains how endangered people will really act. An opinion that people are merely getting away from danger is wrong and simplifies the situation. Such views neglect potential differences among individual behaviours. An evacuation is also not a normal escaping reaction since it contains too complicated emotional and cognitive activities. Numerous researches indicate that people as a rule leave a building along the same route they entered it, except when explicit, clearly visible signs remind them of the alternatives (i.e. a door with a window through which outer space can be visible). When endangered, people stick to known places and people more than in normal circumstances. If they were in a group, they would retreat as a group and not individually. Also in critical moments, people are above all social beings and not individualists. The direction of movement is not indicated only by danger, but also by the degree of familiarity with a certain place or people. We have to bear in mind that familiarity does not simply mean that we have been to a certain place before – it is also important whether a building is designed in line with certain norms and how many unusually placed rooms, corridors, etc. it contains. There is no doubt that safety begins with an architectural plan.

By all means, people can learn a lot through practising, however in environments occupied primarily by transitional populations (shops, theatres) there is no possibility to train the visitors. Therefore, it matters very much how the employees in a building are trained. We can facilitate visitors their getting familiar with a building by taking off the signs such as „Emergency only". Let us take a look of some other facts. It is evident that flow of people depends on the width of corridors or staircases. We have to be aware of the fact that people avoid physical contacts with other people or walls. Let us think about the so called personal space which defines various interpersonal interactions. Therefore, an effective width is always smaller than a measured width. It has been established that evacuation does not only depend on the time needed to cover the distance from the furthest corner to the exit – it takes at least as long for the people to realize what is going on since they want to reduce uncertainty first. It is the observation of other people's behaviour that usually gives us a key indication what to do. After all, evacuation itself is also a social event.

Let us also take a look at a shopping mall in northern England (Sixsmith et al., 1988). It is a complicated building with approximately 200 units. During the construction, they were very concerned about the outlook, so they designed emergency exits as mural paintings indicated with inscriptions above the doors. A question emerged how many people would recognize these paintings as exits and how would these exits affect people's behaviour during the evacuation. Recognition is important for several reasons. One of them is that the proximity of an exit does not necessarily determine its use since other socio-psychological variables are involved as well. In this context people necessarily need clear indications and information on which they can base their evacuation decisions. The novelty of doors designed as mural paintings can be questionable in this context. The more they are in contradiction with people's expectations about what an emergency exit should look like, the lesser is the possibility people will use them. Considering people's preferences in emergency situations (known objects, persons or places), such unfamiliarity can have grave consequences. Once a decision on evacuation has been made, an extent to which a door is recognizable as such affects the recognition of an emergency exit. There is, as we know, a tendency among people to leave buildings in the same direction they entered them, except when there are maybe clearly visible signs indicating alternatives. In the afore mentioned mall, inscriptions should be placed above the doors. However, is this sufficient? Theoretical framework for further consideration – if we wish to generalize cognitions – can be found in Gibson's concept of affordances. Gibson emphasized complementarity between man and his environment. An environment is not something perceived in abstract, geometrical terms – it is composed of things that can have direct meaning for an individual. Surfaces are important since they offer support, while routes enable moving from one place to another. Human actions are shaped within limitations and possibilities offered by an environment. Gibson's theory defines natural, ecological relationship between a person and a place. The research carried out in the shopping mall revealed that people in it were oriented in a general way, without details. They used exclusively the most obvious indicators, i.e. main shops. Of course, a process of orientation depends to a higher degree on the recognition of features of a certain environment than on their reconstruction. When searching the right way, recognition and an environment are dynamically interrelated. An environment offers direct signs to people acting on certain general level of abstract orientation. As far as emergency exits are concerned, the majority of people (54 %) did not know where they were, and even 83 % did not remember any of the exits between the entrance and their current position. Only 75 % of the interviewed people succeeded in finding an exit within one minute, while others needed much more time. Even for those who succeeded, searching for an exit was not optimal. Only 28 % of the people used the nearest exit. Many were disturbed by an outlook of the doors. A typical response was: „An emergency exit is here, but where is the door?" Many people searched for more recognizable doors. Some did not recognize exits which were only 2 meters away. They simply did not recognize them as exits. The general response was negative – the doors are hidden, they create confusion or they are simply part of a wall. People argued that an emergency exit has to look like one. The doors were perceived as obstacles lacking even door shape. People obviously have certain expectations regarding what emergency exits should look like. Mural paintings do not have – if I use Gibson's term – door affordance. The inscriptions alone are insufficient. The consequences are obvious. Exits should look more like doors. If the paintings have to remain there, they should have frames and door handles should be mounted which would indicate their function. Even if the doors are improved, certain percentage of people would not behave optimally. Many would use familiar doors to exit, their movement would be directed by long corridors, by behaviour of other people, etc.

3. Violence related to sports grounds and events

In the world in general, as well as in our country, increasingly more violence is related to certain sports events. Why does it happen? The question is a challenge for psychology. Although reasons for violence are rooted deeper in socio-economic and political conditions of life, mechanisms of its appearance are also a psychological issue.

Sports related disorders can be classified into five main categories according to the motives of participants (Vamplew, 1983; Mark et al., 1983):
- Frustration disorders take place when public's expectations are not met regarding the play and/or referee's decisions. Perceived injustice is a common source of frustration, especially when team's supporters are convinced that a referee took victory from their team.
- Outcast disorders take place when groups of violence-inclined spectators use a sports event for demonstration of their countersocial activities. Such violence is an activity of delinquents.
- Protest disorders take place when part of a crowd uses a sports event to express their political complaints.
- Confrontation disorders are related to conflicts between spectators who belong to rival groups (ethnic, national, etc.).
- Expressive disorders are the result of extreme emotional conditions accompanying – especially unexpected – victory or defeat.

Certain characteristics of sports and stadiums increase a possibility of aggressive behaviour. Sometimes it seems like the arena and tribunes were planned to maximally reinforce

emotional effects. A crowd of relatively anonymous people, soaked with larger or minor quantities of alcohol, watches an aggressive event, a match. It is also known that a crowd as such is neither good nor bad, but merely reinforces what has already been present in certain circumstances. While in the past it was thought that observation of aggressive events leads to a catharsis, that people watching such events unaggressively release their own accumulated aggressiveness, recent research indicate that watching aggressive events also causes aggressiveness. After seeing an aggressive event, people also become more aggressive. According to some theories (Canter et al., 1989), football hooliganism is not a matter of direct violence but a kind of non-violent ritualized expression of aggressiveness. When violence during matches was monitored from a close distance, it was found out that it is more indicated than real. Groups approach each other but they never actually meet. It seems that internal impediments exist in people determining the limits in expressing their violence. It is like somehow dealing with violence in a ritualized manner. However, if the police intervenes and interrupts the ritual, internal impediments fall and a real fight can take place. In this article we are not interested so much in violence as such but more in its relationship with a physical environment, a stadium. The research carried out by Canter et al. (1989) revealed that people who sit at the stadium are less inclined towards violence than people who stand. There was less violence at stadiums where everybody was seated. Separating of opposite groups into different parts of stadiums led to their stronger identification and to increased violence at the distance (throwing bottles etc.). Canter argues that the solution to a problem is not – or is not primarily – a police matter. First, the nature of a football match as spectators experience it has to be changed. A safe environment has to be provided to them. Clubs have to establish strong connections with supporters and the communities in which stadiums are located. Managers of clubs have to take care of spectators. They have to consider them as clients, not as potential criminals. They have to identify their needs and desires, which cannot be known or determined in advance. A visit to a football match should be similar to a visit to a theatre, a tourist attraction, an event of an equal rank, and not something for primitive, uneducated masses. Clubs should open-up to local communities, offering them a place for recreation, etc. Visitors have to come there to relax instead of hoping for a potential fight. When people arrive, a sort of a welcome should be expressed to them, they should feel like guests. Each environment is full of various messages and meanings. If an environment is unpleasant and does not offer a welcome, it will cause hostile or at least negative responses. A pleasant environment stimulates positive responses. These are only a few findings regarding a serious and broad issue.

4. Some issues related to urban life

We can start with a statement that urban life is a predominant way of life of contemporary people. It is not important any more whether we like it or not, whether it is good or at least natural; a simple fact is that the majority of people today live in cities and that they, at least for the time being, have no other choice. Let us put these general issues aside, let us neglect positive things cities offer us in all areas of our lives and say a few words about physical hazards or at least inconveniences. Some are related to a series of physical and social impulses city people cope with and are unable to pro-

cess. Milgram (1970) who perhaps described mechanisms of adaptation the most clearly and showed that they function simultaneously on the cognitive level (directing attention and arranging messages) as well as on social and emotional (avoiding inter-person relations and reduction of their emotional components) levels, talks about several adaptation mechanisms and mentions three social consequences of these conditions:
- reduced awareness about social responsibility; people that are constantly overburdened with impulses will be suspicious of other people regarding their needs, interests and demands, leading to their unwillingness to help others when endangered;
- reduced politeness in inter-personal relations;
- anonymity becomes a rule; dispersonification appears resulting in the fact that everybody is alone in a crowd, which leads to more intensive transfer of all sorts of deviations.

It is not our intention to deal with reduced interest in other people in detail, which is what Latane and Darley (1976) named a *witness effect*.

People are largely aware whether and how safe they are from crime in their city or neighbourhood. This is determined by a series of factors, including personal experience with a certain place, its appearance and the characteristics of an individual. This is well represented by cognition maps. Cities are not always pleasant places to live in, so information contained in cognition maps of certain areas can reveal a lot more than merely familiarity with signs and routes. Many city districts are highly stressful, even dangerous. David Ley designed a map of such fears of local population in northern Philadelphia. There is a kind of invisible mental topography of a psychological stress in this neighbourhood in which „peaks" indicate places that are to be avoided, while „valleys" are safer. Peaks overlap primarily with gang territories, derelict buildings, etc. These information are essential for the survival of the residents. Numerous maps like these do not only reflect an environment but also many other aspects of life. A research (according to Gould and White, 1974) carried out with children in an Afro-American neighbourhood in Boston when they drew maps of their area, shows this very well. Maps of three children were presented. Lower part of each map represents an area where white people live. On Dave's map this is a completely empty part of the map. It became clear during the conversation that the boy is afraid of this area and that he never goes there. It was Terra Incognita for him, while he drew many details around his house and a school across the Parker Street. On Ernest's map, this street is also presented as a boundary. It is drawn as unproportionally wide; although unconsciously, Ernest emphasises the width as a psychological impediment. Both boys never crossed it. However Ralph, going to school across the street, drew a completely different map. The white district was reduced and dotted with schools which shows his perception of education as a way of escaping from segregated life. It is also obvious that Ralph has much wider knowledge of his environment, that he is not limited exclusively to the area around his home.

However, hazards are not distributed only spatially, but also in time. The French newspaper L'Aurore published a map of New York with information about dangerous areas, intended for French tourists. Tourists equipped with those maps were probably even more frightened. Soon·afterwards, Americans

answered with a similar map of Paris. It is not known whether the number of victims was reduced due to these maps.

Let us also take a look at a research carried out by Kirk (1988) about safety in a student campus. Areas considered more dangerous by students had more greenery, less residents and poorer lighting. Assaults were more probable in residential areas. Interviewed students argued that areas further away from their apartments were more dangerous, while according to data the majority of assaults happened in or near victims' houses. This shows that attacks were more probable in areas where students lived and not in less crowded areas of the campus. It is of course possible that in places that look more dangerous there are less attacks simply because people avoid them. The picture shows the mentioned campus, 18 areas evaluated by students regarding their safety level, and frequency of assaults according to police records. Evaluations made by students were not entirely in accordance with reality. For students, poor lighting and hiding places were the signs that indicated danger: Obviously, the appearance of certain places and rumours were the most important factors for the evaluation, while personal experience was given less attention. There are also differences between answers of males and females. Males consider the place safer. Women took safety measures more frequently, especially the passive ones (avoiding dangerous places, going around in company etc.).

4.1 Darkness and aggressiveness

Although we can establish together with Yi-Fu Tuan (1979) that darkness was chased away from cities thanks to electricity, it does not mean that there is no darkness in cities and that it is not related to certain undesirable kinds of behaviour. Page and Moss (1976) in their research dealt with possible causal effects of darkness on expressing aggressiveness. It is known that a considerable proportion of criminal acts happens in darker places, such as courtyards, parks, etc. The authors quote that even 90 % of such events happen during the night. The relationship between both phenomena is maybe only that darkness enables relatively „safe" expressing of aggressiveness. Does a reduction of crime rate by 33-70 % with improved lighting in American cities mean only easier police surveillance or is it something else? With a help of a Megrim-type experiment, researchers revealed that a different explanation is also possible. In a dark environment test-persons were more aggressive. This can be explained at least in three ways:
Darkness can *increase a feeling of anonymity*, reducing suppression. A series of research revealed that individuals in such situations can do things they otherwise would not do, the effect of normative limitations is reduced, genuine interpersonal relations are established faster (which lovers are well aware of). Darkness – or anonymity it allows – stimulates possibilities that are the strongest in a given moment, be it negative or positive ones.
Darkness can stimulate a higher level of aggressiveness as a *conditional desinhibitor*. In many dark environments (bedrooms, bars) we do things we would not do in other places. As a result of such experience, reduced suppression appears as a response to a conditional stimulus – darkness.
Darkness can „separate" an attacker from a victim. Milgram already established that with a larger distance of a test-person from a „victim", the former carries out the „punishment" much more easily. Darkness functions in a similar way because a victim is less visible, its responses are less noticeable, therefore an empathic relation towards a victim is reduced.

Perhaps we have to take into consideration all three explanations, however it would be hard to argue that darkness causes attacks. It only reduces a threshold of expressing aggressiveness. It enables it due to reduced control as well as the lack of psychological suppression. However, this is not a real cause-effect relationship. Nevertheless, all this should be considered when public lighting is being abolished for saving reasons.

4.2 Urban environment and crime

Robberies, burglaries and similar acts, fear of crime, real crime and environmental factors are closely related. In areas where crime is uncommon, people are not afraid, however a high crime rate is usually accompanied by an adequate amount of fear. The result is avoiding contacts with strangers, unwillingness to offer help, reduced interest in showing concern for other people, increased anonymity and the decline of social control which combined increases possibilities for the development of real crime.

Fear is known to be more common in certain environments:
– improperly arranged, insufficiently controlled and poorly lit areas with few people, both residents or passers-by;
– dark isolated areas, especially if they cannot be seen from residential districts, i.e. parks, sports grounds, monofunctional areas;
– underground passages, viaducts, parking lots, garage houses;
– places with many strange people, drunkards, prostitutes, etc;
– insufficiently maintained areas characterized by vandalism and decay;
– areas with bad reputation.

In such places help of the others is less certain, and there are also less possibilities for retreat.

It is not my intention to deal with Newman's concept of defendable space here since it has been mentioned too often and readers are probably familiar with it. However, let us take a look on a concrete example to what extent can the assessment of a certain environment, basing on this concept, be accurate when compared to a real crime rate. Buildings in one of the districts in Den Haag were assessed according to five parameters, showing their vulnerability to burglaries:
– visibility from apartments and public paths;
– dealing of residents with special activities considering the distance from their apartments;
– appearance of an area (public vs. private);
– possibility of control (perspective, lighting);
– routes of retreat.

The vulnerability level is determined according to these indicators and a summarized map was compared to burglary records from the past nine years. A considerable similarity of both maps is apparent. Places at the corners of the complex (easy retreat) and ground floors with more shops around the entrances (anonymity, lack of personal motivation) were especially vulnerable.

Rand (1984) quotes the characteristics of buildings and apartments that are more frequently visited by burglars:

- There is a larger number of traffic (speed limit and stop) signs posted on blocks where a higher number of burglaries was recorded, while the speed limit is slightly higher than along the blocks where no burglaries were recorded. Public signs and information prevail. It seems that this makes a perpetrator feel safe if other signs indicate that nobody is at home. This might be a perpetrator's stereotype view of the city, namely that an area with these signs shows reduced social interest in the community and greater expectations from public authorities.
- Homes which were broken into have much less fences and obstacles than homes that remained intact. In general, burglars avoid large numbers of obstacles. They prefer entering apartments from public areas. If they have to cross courtyards or inner areas, and then find their way in inner home zone, they have to pass at least three important boundaries and plan a possible – more complicated – retreat. If therefore a house is surrounded by real and symbolic obstacles, burglary is less likely to happen.
- Homes which were broken into show less signs of being inhabited. Burglars obviously always search for signs of absence, such as piles of newspapers, mail, milk bottles, etc. They prefer buildings that are left empty only temporarily of for a few hours if they can reliably anticipate when the residents will return, enabling them to carry out a burglary in that time. In buildings where residents are on vacation, the presence of a burglar can be more obvious and can be noticed by neighbours or passers-by which might not know the residents at all. In such cases, burglars interrupt a usual daily routine. The presence of a car is also important. Houses without garages are more vulnerable to burglaries since the presence of a car in front of a house tells burglars whether anyone is at home (this of course is especially true for the USA where almost everyone owns a car);
- Houses which were broken into are less visible from neighbouring buildings.

5. Introduction to a conclusion

The above discussed issues already include the ways of dealing with a problem. With this we also terminate our walk through hazards faced by our environment. Of course, the story is far from being finished, only its fragments were presented in this article. We started with the worst disasters, at least according to the number of people involved, and ended with less dangerous – although annoying and sometimes also dangerous for involved persons – events. Throughout the discussion, the importance of other people and our relationships with them for our lives is present as a guiding principle.

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Comments to the figures:

Figure 1: A ground plan and a presentation of what happened in Lowenbraukeller in Munich (according to Sime, 1990)
Figure 2: An emergency exit in a shopping mall in northern England (Sixsmith et al., 1988)

Figure 3: A „fear" map of northern Philadelphia (according to Downs and Stei, 1977)
Figure 4: Cognitive maps of three black children (according to Gould and White, 1974)
Figure 5: A map of dangerous areas in New York
Figure 6: A map of the campus with attack points indicated (black points) and pictures of „safe" and „dangerous" areas as evaluated by students (Kirk, 1988)
Figure 7: Anticipated and real burglaries (van der Voordt, 1988)
Figure 8: Prototypes of „safe" and „burglary prone" houses (McAndrew, 1993)

For literature and sources see page

Drago KOS

Refuse Treatment or a Contribution to a „Sociology of Garbage"

Introduction

Generally garbage, in the strict sense of the word, isn"t the worst, i.e. most difficult environmental problem. Although quantity and diversity increase (inversely to bio-diversity), the problem can technically be easily solved. This also applies to nuclear waste, that are created in nuclear technology in energy production, industry, research and development institutions, medical services etc. The estimate is however quite different if amongst garbage we include all kinds of emissions, i.e. all that modern society, civilisation „emits" into the environment. A comprehensive solution of the problem affects the very basic structural core of modernism. The problem is so central that it can be applied for easy definition of modern societies: it is the degree of human development that creates highly unmanageable quantities and varieties of garbage. Of course such definition could be brushed off as one-sided, but at is analogous to the one-sided character of numerous other definitions that only see modern society as the peak of technological, cultural, scientific … development. „Sociology of garbage" therefore has at its disposal a very wide specter of problems. It can deal with rather banal questions, such as order and hygiene or embark on in-depth analysis of purposely obscured open questions of modern development. The paradox is, that when one is deep enough, dramatic views are revealed. Garbage can be dealt with as „a symptom of disturbed relations between humanity and nature and thus a symptom of a failed life" (Hebermayer, Lotter, 1995).

Nevertheless analysis of waste treatment in concrete social environments can be very productive even if we don"t follow this completely radical route. As is the case of history of „clean and dirty" (Vigarello, 1999), which is very illustrative and narrative, because it uncovers the poorly known „history" of individual hygienistics, even research of relations to