

Social design and Site planning

It is known that a wide range of aspects of our world produces a range of feelings, attitudes and behaviours in individuals. Many of these aspects are largely beyond our control, such as, weather and climate although even these are to some extent being dominated. For example, we now have large indoor parts where everything is under power and control.

Again the landscape of many cities gives evidence of the failure to consider human behaviour and experience in the design process. For example, a building project in St. Lewis, USA which was erected in 1954 was demolished in 1972. This vast development of high rise accommodation became a centre for crime, fear, high levels of mental illness and eventually underused to the extent that it was considered better to remove it permanently. It is just one example of many such failures in the cities across the world which attract to the need to consider people in the planning process. This concern for people is referred to as social design to distinguish it from the more formal design process. However, social design needs to be incorporated within formal design.

Social design is a process by which any building may be designed in collaboration with those who will actually use that building so that it is more user-friendly, as opposed to being designed solely by an architect who will never use the building. Social design may be distinguished from the traditional approach of formal design. **Formal design** favours an approach that may be described as large scale, corporate, high cost, exclusive, authoritarian, tending to high-tech solutions, and concerned with style, ornament, the paying client, and a national or international focus. In contrast, social design favours an approach that may be described as small scale, human oriented, low cost, inclusive, democratic, tending to appropriate technology, and concerned with meaning and context, the occupant or paying client, and a local focus.

When architects and social designers collaborate, they begin to think of architecture as **placemaking**, that is, real people imagined in real spaces, that is, they think mainly about what people actually do in a building rather than think of the building mainly as a sculptural object without much regard for the people who will be using it.

Goals of social design:

1. **To create physical setting that matches the needs and activities of their occupants.** (*Matching*): How well the occupants' activities and needs are met by the setting is called **matching**. Henry Murray and others distinguished between two forms of **press**, which refers to properties or characteristics of environmental features that shape behaviour (Murray, 1938). **Alpha press** refers to actual reality that can be assessed through objective inquiry. **Beta press**

refers to people's interpretation of external reality. For example, a person may act toward a conversation partner in an objectively neutral fashion (alpha press) but be perceived by the partner as aggressive (beta press). Similarly, there are alpha and beta forms of matching.

Alpha matching or **congruence** refers to how well the setting fits the person from an objective point of view. For example, there is a good (objective) height for kitchen counters for persons of different heights. **Beta matching** or **habitability** is "environmental quality as perceived by occupants of buildings or facilities" (Preiser and Taylor, 1983). For example, some kitchen workers might not think that a certain counter height is good for them, even if experts claim that the existing counter height is correct.

Efforts must be made not only toward improving the fit between users and their environments but also toward reducing differences between designer and occupant definitions of good design.

2. **To satisfy building users:** Habitability (beta matching) corresponds to occupant satisfaction, the second goal of social design.
3. **To change behaviour:** such changes might include increasing worker productivity, enhancing social ties, reducing aggression, increasing communication etc.
1. **To enhance the building users' personal control:** Some of the low-control settings are high-rise buildings, crowded retail stores and traffic jams. The loss of control negatively affects feelings of security and self-esteem; and generates stress.
2. **To facilitate social support:** Designs that encourage cooperation, assistance, and support are desirable.
3. **To employ "imageability".** This refers to the ability of the building to help occupants, and visitors and newcomers, to find their way without getting lost or confused.

Contribution from Psychology

An environmental planner who has the knowledge of how buildings affect behaviour and experience can more effectively design environments which provide satisfaction. It brings to the fore the consultative role of the psychologist. However, giving Psychology away does not mean providing people with readymade solution which can be applied in all cities, rather it involves providing them with a knowledge of the sorts of things they need to look for in assessing a problem and tools or methods to find them. In terms of the psychological input to design, we need to view design as a process which begins with the assessment of the problem, leading to a choice of design,

implementation of the design and evaluation of the effectiveness of what has been achieved. There are different ways in which this process could be described all of which will incorporate similar aspects. One such process is outlined in terms of five stages, i.e., programming, design, construction, use and evaluation (Zeisel, 1981).

Programming Stage

This is the stage where a need has been identified and the specifics of that need must be elaborated. It is the stage of analysis of the specific details of the users of the finished product and will incorporate some attempts to predict future needs. The buildings must fully meet the needs of users when complete and be able to sustain those needs in the future. A common problem in design is where the needs have changed or expanded beyond the capacity of the building by the time it is ready for occupants. If problems are not to occur the buildings must not only be physically large enough to house its occupants but must provide a healthy and satisfying environment which enhances their behaviour and experience. Essentially, information must be obtained on the full range of future occupants in terms of all relevant dimensions. There will be a need to know the number of people using the space, the range of things they will need to do in that space, their different needs and wants, how much time they will spend in that space and so on. However, it is important to recognize that the design process is not totally predictable and things may not go as per plan. There is always the possibility that something is overlooked in the programming or design. In addition, the translation of an idea into a physical reality is not a simple, straight forward process. It is likely that any new buildings will differ from any that have previously existed in that they have been designed to meet new needs or have been designed to overcome problems experienced in previous design.

Design Stage

This is the stage where the information gained at the programming stage is integrated in producing a design that maximizes different needs. This is a complex process. Design is often restricted by current economic concerns and it is tempting to treat the process as the provision of the minimum necessary to facilitate the task requirements. The evidence from years of research and practice in organizational change and developments shows that one must maximize task and socio emotional aspects (King and Anderson, 1995). Design must not only meet economic and practical needs but must also enhance the physical and psychological health of all who use the buildings. The evidence indicates the wide range of factors that need to be incorporated into an effective design as well as physical shape and size we will need to consider noise levels, lighting, colour, air quality,

temperature and control of access to the self in terms of enhancing privacy and personal space needs.

Construction Stage

If the programming and design stages have been thorough and efficient, the psychological input at the construction is the overall purpose of the space. This will differ depending on whether we are building a prison, a hospital, a factory, a car park or a new housing area. As well as assessing the potential users there will be a need to incorporate information on previous buildings of similar purpose and what research has shown about the effects of different aspects of the physical environment on behaviour. Most people are unaware of the specific effects of air quality, noise, colour, light etc on their health. On the other hand, people may want factors incorporated in the design which are not beneficial to them. For example, if given a choice, most people would probably choose a comfortable easy chair rather than a typist chair. Yet using an easy chair if one was a typist would have detrimental effects on health. Planners and designers must be open to information and advice from all.

Use Stage

When the project is completed people will occupy the space. There will be a period of adaptation beginning with the sense of excitement for many in response to the novelty of the environment. One may have experienced the initial excitement on moving into a new office or house which may be replaced later by disappointment once he had adapted to the place. It is important to recognize this place in the process because as a transition it is unlikely to be an accurate reflection of the effectiveness of the building. The building may seem too hot or too cold. People will need to negotiate territories and they will need to orient to the building generally in terms of finding their way around, for example, most new buildings smell differently from old ones. This will be a combination of fresh paints, new furnishings and differential air circulation. In an experimental study where 66 healthy males were exposed to odours typical of new buildings a high level of general discomfort was reported (Otto et al., 1990). Research has generally not targeted this phase but it is important to identify whether adaptation has occurred before evaluation of the effectiveness of the building is carried out.

Evaluation Stage

This is a phase that has produced a growing research literature over the past 20 years and is referred to as post-occupancy evaluation. The growing interest reflects the importance attached currently to the continued monitoring of the design process. In any area of Applied Psychology the job is not complete until the effectiveness of the intervention has been assessed. Evaluation of the intervention

will indicate the success of the intervention and allows the designer to modify the process if it is not successful. Ultimately the information gained will fit into the process of designing future interventions. In post-occupancy evaluation, the psychologist is interested in answering 3 main questions, i.e., i) Does the building effectively serve the purpose for which it was designed? ii) How does the building affect the behaviour and experience of people who occupy it? iii) What lessons can be learnt or future designs?

In one such evaluation Becker and Poe (1990) looked at the outcome of their recommended changes to a hospital building and targeted three categories of variables.

- i) Organizational climate (attitudes and feelings of staff and patients)
- ii) Ratings of changes in terms of a range of dimensions
- iii) Changes in behaviour

Items (i) and (ii) were assessed using questionnaires while item (iii) was assessed by observation. They found that organizational climate had improved for all but most noticeably for staff members. Ratings of changes were favourable again most noticeably for staff members. In terms of behaviours they found that facilities such as the solariums were used more frequently and that there was a general increase in verbal interaction among the users. The only negative feedback was the initial reaction of visitors. Becker and Poe had been involved in the design process from the beginning and the post-occupancy evaluation allowed useful feedback on the success of their work.

Environmental planning and design is a multidisciplinary process and each discipline will have its own perspective and its own needs and goals. Architects will be concerned with the aesthetics of the building. Industrialists will be concerned with the economic viability and psychologists will be concerned with the human behaviour and experience. If the end product is to be successful all the differing concerns must be recognized and maximized. In practice, economic considerations often take precedent and human concerns are often low in the list of priorities. Increasing evidence is providing convincing arguments that the two are very clearly related and that human needs should be a priority for economic reasons as well as for humanitarian concerns. From a social scientist's perspective the major focus is on the relationship between environmental design and mental health. The premise is that physical and mental health are rather more closely related than was thought in the past. As a relatively young field, environmental psychology needs increased and continuous effort in research. However, in the spirit of Lewin one should keep in mind to treat theory building and practical applications as two interdependent parts of one whole.

Individual differences and Design

In Environmental Psychology, individual differences have traditionally been investigated in terms of personality. McKechnie (1974) developed a 8 factor Environmental Personality Inventory (EPI) and this has been use to identify differences in preference for particular types of environment. It provides very broad measures of different factors, such as, one's preference for urban vs. rural settings or one's need for privacy. Again Craik (1976) suggests that measures of individual differences can be useful for three different functions – description, comparison and prediction. They help us to describe people in relation to different environments. They allow us to make comparisons between people across and within environments and they allow some prediction of future behaviour in particular environments. For example, the Inventory has shown validity in predicting which medical students will take immigration. While generalizations to the total population are not possible from research on individual differences generalizations to specific subgroups may be useful in the context of a multilevel analysis approach. Environmental stimuli need to be sufficiently intense to be detected by the senses. But equally they need not to grow above a level with which our senses can cope. Overload leads to physical damage. However, well before the level of physical damage has been reached there will be a level where discomfort begins. Stimuli will have a comfort threshold. For example, the physical effects of heat are often assumed in terms of thermal comfort. Westerberg (1994) argues for the need for architect's assessment to include the subjective element of thermal comfort among other factors in urban design. Too much heat, light, noise, colour and smell cause discomfort, are sources of stress and impair our performance. Too little has a similar effect. The question is what is too little or too much which highlights the subjective element. Traditionally designers have focussed on preventing negative consequences. However, what has been ignored is that all of these factors have the potential to enhance human experience and behaviour. We have certain evidences that particular type of lighting enhanced performance at school (Hathaway, 1995) and that the colour pink enhanced physical development and mood in children (Hamid and Newport, 1989). Design needs to consider both the negative and positive effects of the range of environmental stimuli that impinge on the senses.

The quality of the air we breathe and the chemicals that pervade our water and food are becoming a growing concern. One of the often worrying aspects of these is the great deal of confusing and contradictory information available. A question that designers may face is whether the buildings are to be smoke free zones and if not the consequences of smoking must be considered in planning in terms of the factors from fire risk to passive smoking effects in enclosed spaces. Weather is a factor that is often only considered in the context of weather proofing in environmental design. In

addition, we generally feel that the weather is beyond our control and in many ways it is. However, the effects of weather on behaviour and experience need also to be included in design. The quality of the air and pollution whether within buildings or in the external environments as well as the effects of weather need to be more fully incorporated in the planning process.
