BDP

ENVIRONMENT DESIGN GUIDE

MENTAL LANDSCAPES – THE FORGOTTEN ELEMENT IN SUSTAINABLE DESIGN

David Engwicht

SUMMARY OF

ACTIONS TOWARDS SUSTAINABLE OUTCOMES

Environmental Issues/Principal Impacts

- Our mental landscapes give shape to the built environment, and the built environment gives shape to our mental landscapes. Unsustainable design is a result of unsustainable mental landscapes.

- Our mental landscapes are composed of deep paradoxes (contradictions). In our culture we try to purge ourselves of these contradictions. However, these paradoxes are part of a healthy mental landscape and are the source of human creativity.

- This unhealthy attitude to internal paradoxes is incarnated into our built environments, demanding that spaces be rationalized into single uses, and that contradictory functions be separated.

- This dramatically reduces the overall efficiency of the city and reduces the creative potential of the city to adapt.

- It also results in unsustainable social structures.

Basic Strategies

In many design situations, boundaries and constraints limit the application of cutting EDGe actions. In these circumstances, designers should at least consider the following:

- In consultation processes, internalize all 'problems' by getting participants to explore their contradictory desires. Always ask, 'Is there a part of you that wants the exact opposite of what you have just stated?'

- When confronted with a design 'problem', first map the underlying connections between the built, mental and social landscapes. What are the paradoxes involved and how are they currently being resolved?

- Use 'design signals' to welcome paradoxical characters into a space, particularly 'submerged voices'.

- Build ambiguity into designs. What is left out can often be more important than what is included.

- Build multiple functions into all elements of a design. Ask, 'what else could this be used for?'

- Plan in all three domains simultaneously. Sometimes a social program may be more effective at creating a space for dialogue than trying to construct this space in the physical domain.

Cutting EDGe Strategies

- Social programs are usually much more cost effective than trying to engineer solutions within the built environment.

- Learn to look at urban environments through the eyes of an anthropologist. Map the underlying mental and social landscape. Study human psychology to see how the mind works and how this is incarnated into the built environment.

Synergies and References

- Website: www.lesstraffic.com. A host of relevant articles and free e-books including *The Third Space: addressing the crisis in community consultation* and *Intrigue and Uncertainty: towards new traffic taming tools* which explores the connection between people's mental landscape and their conduct in public places.

- David Engwicht, 1999, *Street Reclaiming: creating livable streets and vibrant communities,* Pluto Press, Sydney.

- *BDP Environment Design Guide*: DES 16.

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MENTAL LANDSCAPE – THE FORGOTTEN ELEMENT IN SUSTAINABLE DESIGN

David Engwicht

Built environments are an incarnation of our mental landscapes. In Western culture we have an unhealthy and unsustainable approach to our inner paradoxes (e.g. our need to move and to reside). We purge our contradictions. In the built environment, this dramatically reduces efficiency, creativity and sustainability. Design professionals concerned about sustainability must learn how to plan in three domains simultaneously: mental, social and built. Some practical directions are suggested.

Keywords

Mental landscapes, paradox, ambiguity, segregated spaces, multiple functions, community consultation, design signals.

1.0 INTRODUCTION

Anthropologists work on a simple assumption that has profound implications for design professionals who are creating our urban landscapes: built environments are an embodiment of our mental landscapes, our values, beliefs, mythologies and even our thinking paradigms. The sustainability debate about our cities has so far largely dealt with the surface issues such as land use, transport infrastructure, choice of materials or building methods. But if our built landscapes are a direct manifestation of our mental landscapes, then we must ask the crucial question: what is it within our mental landscape that causes us to build unsustainably in the first place? This paper contends that simply trying to build sustainable cities while ignoring the mental landscape that is producing our current urban form is to treat the symptom rather than the cause.

This means that design professionals who are concerned about creating sustainable cities and built environments must become acquainted with the mental landscape, and learn how to plan in this domain as well as in the physical domain. This paper concentrates on just one element of our individual and collective mental landscape – the way we deal with our contradictory desires. Certainly this is not the only element in our mental landscape that causes us to build unsustainably, but it is an important one that illustrates how our mental landscape shapes the physical environment. If our mental landscape is unsustainable, the resultant physical landscape will also be unsustainable.
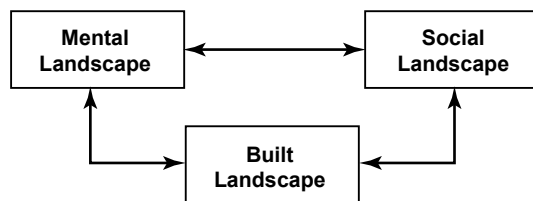
2.0 THE SYMBIOTIC RELATIONSHIP BETWEEN MENTAL LANDSCAPE AND DESIGN

Imagine you are an anthropologist examining the African tribal compound of the Ambo people (Figure 1). What can you tell about the beliefs, culture and mythologies of the Ambo people just by looking at this diagram? Try it before reading on.
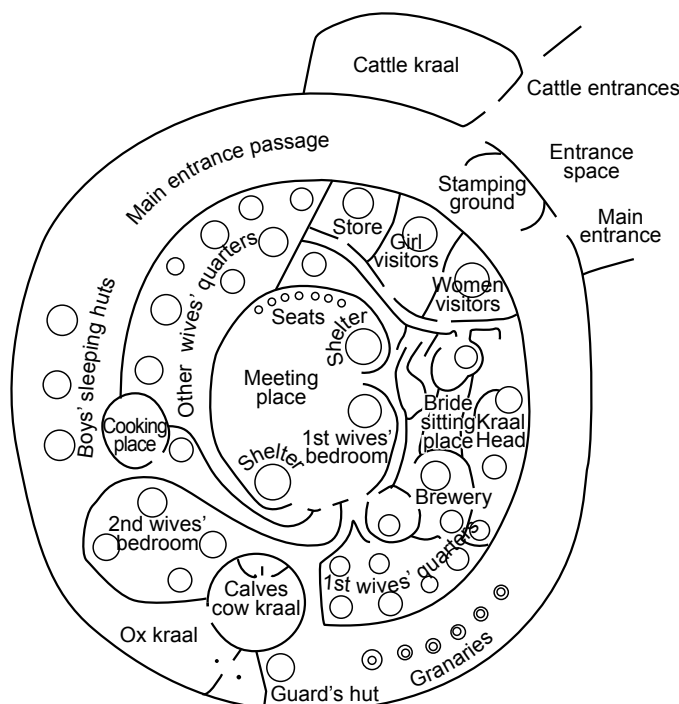
Figure 1. Chiefly kraal of the Ambo people from Hillier and Hanson (1990)

There is a lot you can tell about the Ambo people by looking at the physical layout of their kraal. They put a high value on cattle. They are polygamous. Conversation and social interaction are central to the life of the kraal. Alcohol is a highly valued commodity (the brewery is closer to the kraal heads' sleeping quarters than the first wife's sleeping quarters). Everything we build, from our individual house to large cities contains a 'body language' that tells us about our beliefs, values, and mythologies. Societies can only exist as they take on a physical and material form in the spatial realm. A built environment is not just an artefact of a society. It is the 'body' of that society which facilitates both internal and external relationships. There is therefore a symbiotic relationship between three landscapes: built, mental and social (Figure 2).

Figure 2. The symbiotic relationship between three landscapes that forms the basis of a society

3.0 A COMPLEX WORLD OF CONTRADICTIONS

Just one element of our mental landscape is the way we deal with our contradictory needs and desires. I will mainly focus on just one of these contradictory needs: our desire to explore and discover new things, and our desire to stay at home and be nurtured by familiar surroundings. The 'explorer' persona in our heads has its roots in the hunter-gatherer phase of our evolution when survival and freedom depended on movement. However, every one of us also has a 'resident' persona in our heads. The resident has its genesis in the gardener phase of our evolution when we learnt the value of growing a garden, putting our hands in the soil and feeling rooted to one spot. Our need for 'home' and need for 'movement' are both legitimate needs which are contradictory and paradoxical. This contradiction causes tension in our mental landscape. Our mental landscapes are composed of hundreds of these kinds of contradictions: individual versus community; justice versus mercy; spontaneity versus order; intimacy versus solitude; sustainability versus immediate need. However, what is important for this discussion is not so much that our mental landscapes are composed largely of contradictory desires, but how we mentally deal with these internal contradictions. In our culture (our collective mental landscape) the majority of people believe that it is unhealthy to hold contradictory desires. Popular wisdom is, 'sort yourself out and make up your mind what you really want'. This belief forces people to adopt a single unified identity that has been purged of internal contradictions. So contradictory

needs are divorced from each other and one partner banished to the basement. However, out of sight is not out of mind. The 'submerged' need, which is totally legitimate, nags at us for attention.

In our culture we have developed two mental strategies for trying to rid ourselves of the pesky and persistent tension we would have to deal with if we acknowledged the internal contradictions in our mental landscape. The first is the 'Jekyll and Hyde' strategy where we flip-flop between our contradictory personas. For example, when we get into our car our motorist (an expression of the explorer) is allowed to dominate our mental landscape. But the moment we park the car in the garage, our resident persona takes over and our values become totally inverted. The 'Jekyll and Hyde' strategy is only successful if we ensure that each of the contradictory personas is not aware of the other. The two personas must have their own very clearly defined space and never stray into each other's space. The second strategy, often connected to the first, is the blame-game strategy where others are blamed for the tension created by our own internal contradictions. For example, it is other motorists, or the city planning department, that is at fault for traffic disrupting our quality of life when we are at home.

I have argued that this element of our mental landscape, the way we handle our internal contradictions, will be incarnated or manifested in our built environment and also in our social structures. The 'Jekyll and Hyde' and blame-game strategies for dealing with our contradictory needs require highly rationalised spaces that have a single, unified identity, stripped of all contradictory functions. Spaces which serve contradictory functions must be separated: separate spaces for travelling and residing; separate spaces for play and serious adult work; separate spaces for private activity and public activity.

4.0 WHY THE WAY WE DEAL WITH CONTRADICTORY NEEDS IS UNSUSTAINABLE

There is an intimate connection between sustainability and the way we currently deal with our contradictory needs.

The first is to do with efficiency and energy demands. Creating mono-use spaces to house each of our contradictory personas demands a greater use of space for both 'housing' and 'movement'. In a complex system, allowing paradoxes to share the same space dramatically increases efficiency. For example, in the pre-industrial revolution city, streets were built as a series of interconnected outdoor living rooms. Travellers would pass through these living rooms on their way to some other destination. The space was therefore used for movement and residing, planned exchanges and spontaneous exchanges, public life and private life. As travellers passed through the living room, the traveller was exposed to a range of opportunities for 'spontaneous' exchanges – economic,

social and cultural. This not only enriched the journey experience but also made their journey much more efficient because many of the traveller's needs were being met in a spontaneous way. This reduced their overall need to travel. (For more on the importance of the spontaneous exchange for efficiency and sustainability see my previous *BDP Environment Design Guide* note DES 16.) At the same time, the presence of the travellers in the outdoor living room enriched the experience of the residents. It provided opportunities for people-watching, conversations, exchange of news and tales from far away. There was an internal genius in co-locating these contradictory functions of movement and residing in the same space. It made the city much more efficient.

The second connection between sustainability and the way we deal with contradictory needs is to do with adaptability. Contradictory needs are a paradox and paradox is at the heart of the evolutionary drive. The most basic paradox of all is the life/death paradox. It is a basic law that all things must die and degenerate. But the laws of life say that organisms can increase their complexity and self-elevate. Life and death are a paradox bound together in a symbiotic relationship. If there was no life there could be no death. And if there was no death, there would be no reason for life to evolve, adapt and innovate. For paradox to unleash its creative potential it must share the same space and be in a constant state of dialogue. By segregating contradictory needs in both our mental and physical landscape, we may well reduce surface tension, but by doing so we reduce the drive to creativity and adaptability. For example, we will never find more sustainable approaches to transportation until we create spaces where the 'explorer' and 'resident' are forced to share the same space and enter a constant dialogue. These spaces of dialogue must be present in all three landscapes: physical, social and built.

The third connection between sustainability and how we deal with contradictory needs is to do with emotional and social costs. The splitting of contradictory needs, both in the mental landscape and the built environment, manifests itself in the social landscape. In our culture, the decision as to which side of hundreds of contradictory needs a person will embrace is made much easier if they buy a prepackaged 'lifestyle'. The legitimate needs in one lifestyle that are banished to the basement are picked up and embraced by a different lifestyle. The natural and very healthy tension that should exist inside our own heads between these contradictory needs is now externalised between social groupings. Our way of dealing with contradictory needs has given rise to adversarial politics and the creation of specialist departments in government to look after particular needs that have been divorced from their contradictory yet complementary partner. Such a social system is socially unsustainable and wastes vast amounts of emotional energy trying to manage and suppress tension, which if embraced, could be a driver to creativity.

5.0 PRACTICE IMPLICATIONS FOR DESIGN PROFESSIONALS

5.1 The 'no-problems-no-solutions' approach

In our culture, what we are referring to when we talk of a 'problem' is often the discomfort caused by a tension between contradictory needs. Alternatively, the 'problem' is that we are suppressing a legitimate need. However, this discomfort should not be seen as a 'problem to be eliminated' but as a drive to life-enhancing creativity and an opportunity to invent new ways of creatively meeting our contradictory needs without privileging one over the other. This may demand new social arrangements or new ways of arranging physical space. No matter what actions one takes, the tension between contradictory needs remains. Life is an eternal dance with paradox, a response to a rhythmic push and pull. In a world of paradox there are no 'solutions'. The word 'solution' suggests a final resolution to a 'problem'. 'Solutions' only exist in a mono-dimensional world that has been stripped of all its paradoxes, complexity and contradictions. As such, 'solutions' are simplistic answers to an oversimplified mental construct that bears little relationship to the real world. The logic of paradox is one of 'both/and', and involves dancing within the tension of contradiction. It is not about developing compromises between the seemingly contradictory elements. Nor is it about eliminating one of the needs by ignoring it and playing down its significance. Dealing with contradictory needs is not about balancing the tension. Balance is a static resolution, whereas engaging in paradox is dynamic and involves a constant weaving, an ebb and flow, a dance of the impossible.

For the design professional, this means that whenever they are presented with a 'problem' they should start by mapping the underlying contradictory needs that have given rise to the perception of a 'problem'. This should be an integrated map that maps both the mental, social and spatial domains. They must ask hard questions about how the paradoxes are currently being resolved (or ignored). More often than not, the most sustainable response to a presenting 'problem' is to create spaces of dialogue in which suppressed needs are amplified and given an equal hearing with dominant voices. For example, the best response to a traffic problem may be to legitimise the needs of the resident, in both the driver and the people impacted by the traffic, rather than concentrating on calming the traffic.

5.2 Consultation

Current consultation practices entrench even further the 'Jekyll and Hyde' and blame-game strategies used by citizens to avoid confronting their own internal contradictions. Often the process will be guided by a steering committee made up of representatives from various 'groups' of business people, environmentalists,

residents, motorists, government, the elderly, etc. The process is then conducted as if each of these groups has a single unified identity with a single unified set of needs and values. At no time in the process are people asked to explore their own contradictory mental landscape. The consultation process reinforces an adversarial form of politics in which we externalise rather than internalise the tensions between contradictory needs. The 'solutions' that come out of current consultation processes tend to be horse-trading between contradictory needs rather than a highly creative process that looks for a win-win outcome for all the contradictory needs.

New consultation processes that produce sustainable outcomes desperately need to be invented. These processes will help people map and explore their internal contradictions. It will ask them to identify why existing arrangements are not meeting their contradictory needs satisfactorily. They will be invited to imagine some arrangement that would satisfy all their contradictory needs. The emphasis in this process will not be on managing tension between groups, but on harnessing internal tension as a drive to be creative. (For a fuller exploration of possible ways of doing this, see the book *The Third Space* at www.lesstraffic.com/Articles/index.htm.)

5.3 Design of spaces

The connection between mental landscapes and built landscapes is a two way street. Just as mental landscapes shape the built landscape, built landscapes can shape the mental and social landscapes. Understanding the connection between mental landscapes and the design of our built environments opens up a whole new area of consideration for

designers. Sustainable design is not just about the materials and processes that are used, or the impacts on natural ecosystems. It is also about using the built environment to provide a space of dialogue for our contradictory needs, and as such a place where new ways of addressing these needs are invented.

Design signals: Design signals are fundamentally important in determining which personas feel welcomed and which feel unwelcome in a particular built environment. For example, streets that contain a myriad of traffic control devices – traffic lights, signs, white lines, concrete islands, speed humps – are clearly spaces where motorists feel at home. They do not say, 'this is a place for play'. Contrast this to the approach taken by Hans Monderman, an engineer in the Friesland area of the Netherlands. He has removed all traffic control devices and traffic signage from over 30 villages. His argument is that if you want motorists to behave as if they are in a village, you must build a village, not something that is half village, half traffic environment. He discovered that traffic speeds dropped far more dramatically when he created a village than when he concentrated on slowing vehicles with things like speed humps. The reason is that his designs signal clearly to the motorist that they are a guest in the social world. The design signals (which importantly include what is not present) welcome and evoke the resident within the driver. As I discussed earlier, the needs of the motorist and resident are the inverse of each other. Hans Monderman's designs provide a physical space in which the motorist and resident personas share the same space, but one where the resident is clearly privileged over the motorist. Drivers therefore automatically shift into a different mental space and slow down.
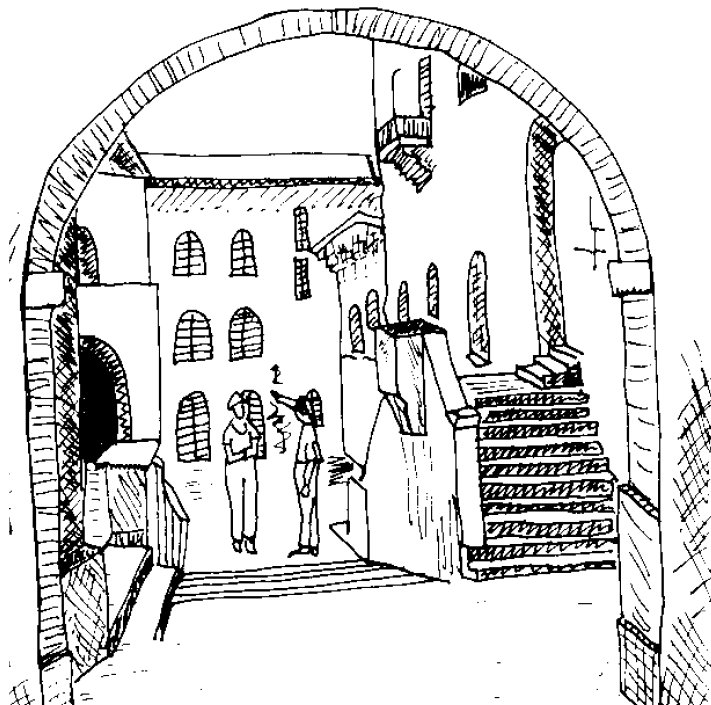
Figure 3. Streets in older European cities were a series of interconnected outdoor living rooms

Ambiguity: With design signals, what is left out can often be more important than what is included. People do not put 'Keep left' signs on their lounge room furniture, or put up signs saying, 'Do not spit on the floor'. These signs would immediately change the way they and their visitors relate to the room. The absence of these signs is what makes the room feel like someone's home and makes the visitor feel like a guest.

Deliberately leaving things out of a design creates ambiguity. Again using street design as an example, the spaces that work best are those with the most ambiguity. In these spaces it is hard to tell where private and public space begin and end; whether the space is for movement or residing; where the roadway and footpath begin and end: whether a café table is for drinking coffee or people-watching. Ambiguity is essential if we are to create spaces that welcome contradictory personas. Overly rationalised and defined spaces immediately welcome one persona over another. The art of building sustainable spaces is to create spaces that paradoxical characters feel at home within: the traveller and the resident; the child and the elderly; the jester and the mystic; the marginal person and the dignitary. If each of these cannot adapt the space for their use, then they do not feel welcome and the space is not sustainable.

Multiple functions: In order to welcome the widest range of contradictory personas, all elements in the design should have as many functions as possible. Building multiple functions into objects not only makes them inherently more efficient, it also creates the meeting ground for paradoxical characters in our mental landscape.

Flexibility: Someone once said that a space does not become a place until it is used for a purpose other than that intended by the designer. I once saw a woman laying on a piece of outdoor exercise equipment reading a book. In doing so she was 'making herself at home'. She was turning the space into a place. People do the same with loose seating when they rearrange it, or use it as a footstool or table. Spaces can be designed in a way that makes them more flexible and adaptable. Over-designing can destroy flexibility.

6.0 IS PHYSICAL DESIGN SOCIAL ENGINEERING?

Some designers may worry that the argument I have mounted suggests that physical design is some kind of social engineering. At one level it is, and always has been. But using the framework I have provided above, this need not be a case of manipulation or imposing new values. Design can be seen as engineering healthy mental, social and physical landscapes in which contradictory needs are given a space to enter a creative dialogue. What emerges out of this dialogue will not only be deeply creative, but also deeply democratic.

7.0 DESIGNING IN THREE DOMAINS SIMULTANEOUSLY

Because the relationship between our mental landscapes, built landscapes and social landscapes are symbiotic, it is impossible to plan in one without planning in all three. This means that design professionals who want to create sustainable built environments must learn how to design interventions

Figure 4. Loose chairs can be adapted for multiple functions, even as a table for wine and cheese.

that work in all three areas. Sometimes this may mean that the best way of tackling a design issue in the built environment is to create a social program. For example, the way drivers have been slowed down in residential streets in the past has been to change the built environment by changing the geometry of the street to slow drivers (called 'traffic calming'). In consultation with Boise, Idaho, I designed a social program called the *Neighborhood Pace Car*. Residents with traffic problems on their street were invited to sign the Pace Car pledge which said they would drive everywhere within the speed limit. We explained that this turned their car into a 'mobile speed bump'. They were given a sticker to identify their car as an official Pace Car.

This program illustrates how 'spaces of dialogue' can be created in either the mental landscape or in the physical landscape. The Pace Car Program empowers the resident persona in people by enabling them to control the speed of traffic on their street. But for this to work they have to convince the motoring persona in their head to cooperate. The resident persona and motoring persona have to decide if driving courteously is a win-win arrangement that allows them both to get their needs met without one sabotaging the other. The Pace Car Program provides a mental space in which the submerged voice of the resident is given space to dialogue with the dominant voice of the motorist. This social program would be even more effective if it were married with changes to the built environment that made streets much more like outdoor living rooms and less like corridors. This would create a complementary physical space in which the motorist and resident would be invited into dialogue. The future of sustainable physical design lies in creating spaces of dialogue within the three domains simultaneously: spatial, social and mental.

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BIOGRAPHY

David Engwicht had no background in traffic or urban planning when he headed up a community freeway fight in Brisbane in 1987. His first booklet in 1989, *Traffic Calming*, is credited with starting the Traffic Calming revolution in Australia and North America. His second book, *Towards an Eco-City*, became a text in many university courses. David is inventor of the *Walking School Bus, Neighborhood Pace Car* and *Street Reclaiming* techniques. He is a co-founder of *Creative Communities International*, an incubator for social innovations based in Brisbane. You can get more information from www.creative-communities.com or for articles and material on traffic and urban design visit www.lesstraffic.com.