



Photo 1 D. Wunderlich



Photo 3 D. Wunderlich



Photo 2 D. Wunderlich

DESIGN PRINCIPLES



Photo 4 D. Wunderlich

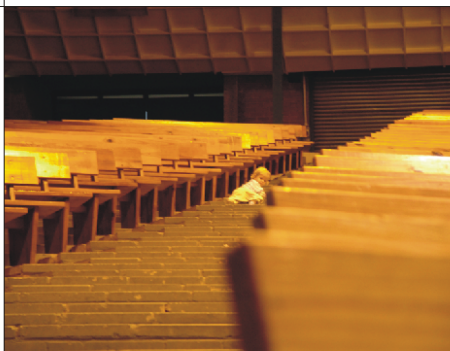


Photo 5 D. Wunderlich



Photo 6 D. Wunderlich



Introduction

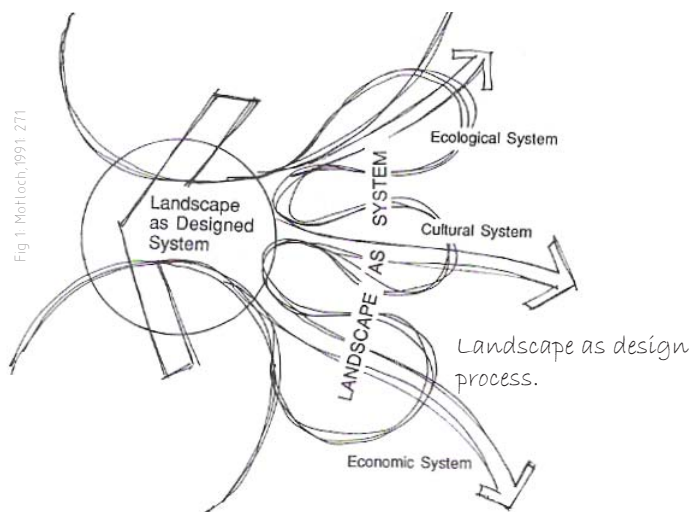
Design and nature: they are such a cardinal part of the landscape architect's profession: what is the position we as landscape architects need to take when it comes to design interventions in the natural environment? In this discourse we look at the planning of the whole site, as well as design as an expression of identity and the relationship between the built and unbuilt environment.

The site

The basic proposition employed is that any place is the sum of historical, physical and biological processes, that these are dynamic, that they constitute social values, that each area has an intrinsic suitability for certain land uses and finally, that certain areas lend themselves to multiple coexisting land uses (McHarg 1992: 104).

Nature is a process that is interactive, that responds to laws, representing values and opportunities for human use with certain limitations and even prohibitions (McHarg 1992: 7).

Understanding the possibilities and restraints inherent to the site is to understand the different layers of the intrinsic forces that shape the site, the environmental character and the social structure. Survival depends on such knowledge. These layers range from the



active shaping forces such as water, vegetation and geology, to the non-active forces such as history, culture and politics. Overlaying these forces gives a clear understanding of the site for the success of the planning and design intervention of the site.

Urbanisation and converting land from a predeveloped to developed condition includes the integration of natural, structural, and infrastructural systems. This includes integrating the differing patterns of dynamic, natural and static human systems (Motloch 2001: 275).

These layers must also include the in-between (Corner 1999: 50-51) for the reviving of the marginal and peripheral zones, thus paying special attention to the boundaries, adjacent areas, surroundings, and backgrounds. Christopher Alexander emphasises the identity of the "in-between" in his article, A City is not a Tree, in which he wrote: "Wherever two units overlap, the area of overlap is itself a recognisable entity and hence a unit also" (www.rudi.net). Thus design becomes the synergy of the different site dimensions for the sustainable future existence of the site.

Natural systems

People's Interaction with the Natural Systems

The health of the natural system is of cardinal

importance for the present and future existence of all living organisms on earth. As designers we can begin with the site we are working on to create green islands through the use of open spaces and materials in such a

way that it will create or enhance the ecological processes of the specific area. The designer seeks, not arbitrarily to impose design, but to use to the fullest the potentialities – and with them, necessarily, the restrictive conditions – that nature offers (McHarg 1992: viii).

The interaction between people and nature is necessary for the sustaining of nature as the source of life, teacher, sanctum and challenge (McHarg 1992: p19). Through interaction with nature people learn to appreciate the environment, to establish a healthy working relationship between man and his environment. It is only when an appreciation and understanding of natural systems, which is indispensable for survival, is established that people can act

as true stewards of nature.

Direct contact with the natural systems will also lead the users to perceive the destructive impact of pollution on the environment, and that it results in the lowering of the habitability for humans (McHarg 1992: vii).

Bill Mollison proposes Permaculture (permanent agriculture) as the answer to this working relationship. As he explained, Permaculture alone will not be enough; rather a change in attitude is necessary to change sustainable relationships from design styles to life styles.

A few important guiding principles of Permaculture to



be used in this discourse is the care of people and care of the earth (Mollison 1990: 2). These principles stipulate that care of people is about access to natural resources and care of earth is about the provision of all life systems to continue and multiply. Christopher Alexander wrote that access to the countryside, the experience of open fields and agriculture and access to wild plants, birds and animals give people a sense of comfort (Alexander 1977: 22). He proposes that the boundaries with the countryside must be close to every point in the city and concludes that the ideal is to “stretch out the urbanised area into long sinuous fingers which extend into the farmland” (Alexander 1977: 24). The countryside or farmland must be extended into the urban fabric through the conversion of streets, from being only movement channels for traffic and pedestrians, to green corridors and public spaces for the movement of animals through the city. These corridors and islands must provide in the feeding, breeding, nesting and resting needs of the animals.

Other guiding principles are the two rules of necessitous and conservative use to determine whether an area must be developed or not. Necessitous use can only be decided where there is a paradigm shift from ‘what

City Country Fingers

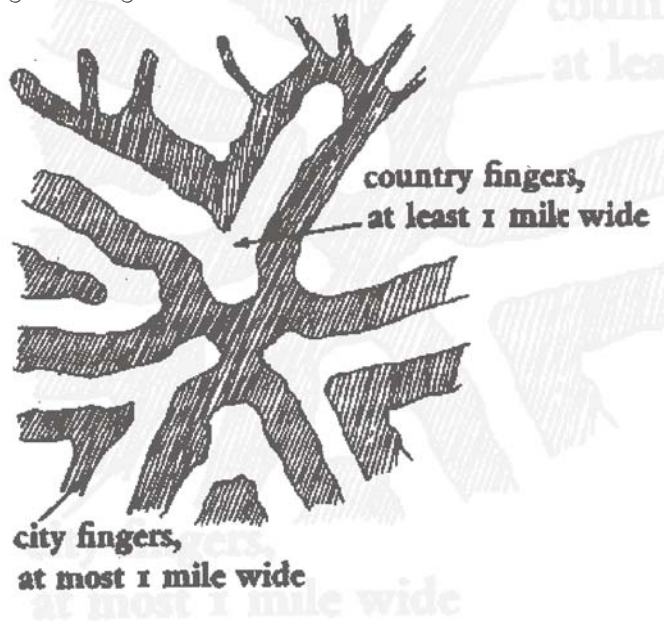


Fig 3. Alexander et al, 1977: 25

can I get’ to ‘how can I cooperate’ (Mollison 1990: 3). Necessitous and conservative use must also be defined within the boundaries of how your cooperation can be enhanced through answering in your needs, and how it is a change from competition to cooperation as a group. Again it is clear that the designer needs to have a thorough understanding of each individual for the informed decision of necessitous use and the integration of these uses.

The environmental character

The aim is to develop the character of the disturbed and destroyed environment to the point where it represents its “original” identity, for the sustainable existence of the unique ecosystem, but also for the education and enjoyment of people. To define the original identity is quite a different subject and we will only refer to the identity of the biome within which the specific natural areas of concern fall for this discourse. The quality of the environmental system can be measured according to the richness of biodiversity. Vice versa biodiversity is directly linked to the availability and quality of habitat (the natural environment). Habitat consists of feeding, breeding, nesting and resting opportunities suitably juxtaposed in time and space for all life stages according to USFWS (Pieterse 2003: 3.12).

To design for the rehabilitation, restoration and enrichment of the natural surroundings, Breedlove (in Pieterse 2003: 3.13) proposes Function-based Habitat Design (FHD): the presence, diversity and abundance of animals are the desired products of Function-based Habitat Design (3.12). Animal guild design form the basis for FHD, and the type of guilds used determine the specific FHD. A guild is a group of animals making similar use of a similar resource (Root 1967: 317), for example “canopy feeding” and “ground resting”. The kind of guilds designed must be according to the kind of biome within which the design is implemented, and the associated fauna and flora, to ensure the sustainable existence of the natural landscape. Five to eight guilds

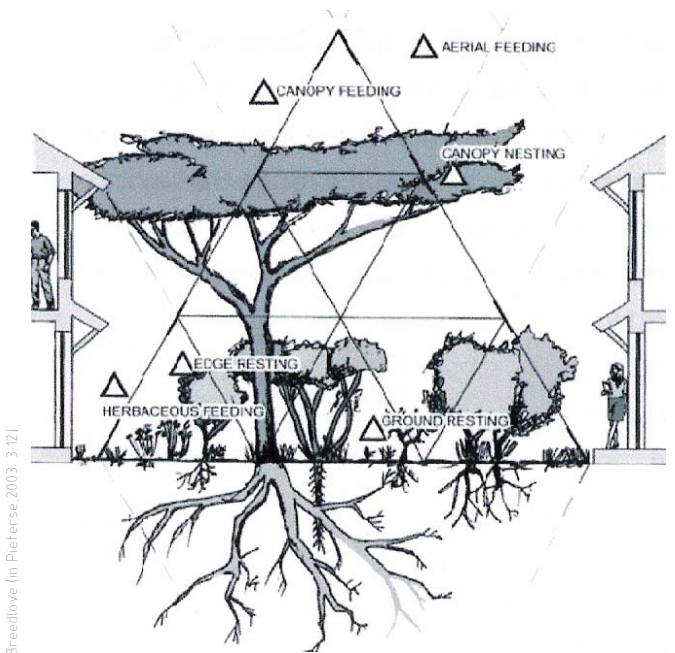


Fig 4. Breedlove (in Pieterse, 2003: 3.12)

Guild design for the richness of biodiversity.

are enough to satisfy most systems due to the robust and versatile attributes of the process— (Breedlove *et al.* as quoted in Pieterse 2003: 3.13). According to Breedlove, to design more guilds will be redundant. To use five to eight guilds ensures the addition of unplanned species, thus creating robustness, functioning on more levels than the design intended (3.13).

It is important to recognize the habitat patterns on three different scales:

1. Habitat – near regional – governmental;
 2. Project – developer – community; and
 3. Stand/erf – individual home
- (Pieterse 2003: 3.14)

The patterns of all landscape features with FHD-value are maps such as vegetation types, slopes and surface characteristics.



Movement systems

Perception of the landscape involves movement, as we experience the landscape as a time-space continuum (Motloch 1991: 119). People tend to relate their experience of city spaces in terms of the vehicular circulation pattern: they do not give the block number for the location of an activity centre, but rather by the street location (Landphair 1988: 85).

Movement is also the linkage between spaces and buildings and forms a network of connections. It becomes the binding force of functions on the site and the site to the national movement system. The aim for good site design is accessibility and ease of movement, but due to the expensiveness of roads, the optimal relationship between movement roads and access must be designed.

The street

The traditional street was the meeting place that buzzed with activities, ranging from trading, hawking, and busking to public speaking. Originally every house in Pretoria was designed to face the street; not to serve as a grand facade, but as the direction of living. Streets were filled with activities where neighbours met. In the townships of South Africa the street is the overflow area of the residential home. Three physical roles were united in the traditional street: circulation route, public space and built frontage (Marshall 2005: 3). With the modern emphasis on the car and transportation, the street was transformed to a movement channel, which resulted in the fragmentation of the relationship between movement and urban place (Marshall 2005: 4).

Today we experience a counter-revolution within urbanism: from the rhetoric of the 'motor age' to the rhetoric of sustainability and neo-traditional urbanism (Marshall 2005: 9). Again, compact, dense, mixed-use neighborhoods are emphasised where the street space becomes the core of the public space, forming a continuum of connections. Thus the street becomes essential in the spatial organization of the urban fabric. Utility services are also channelled.

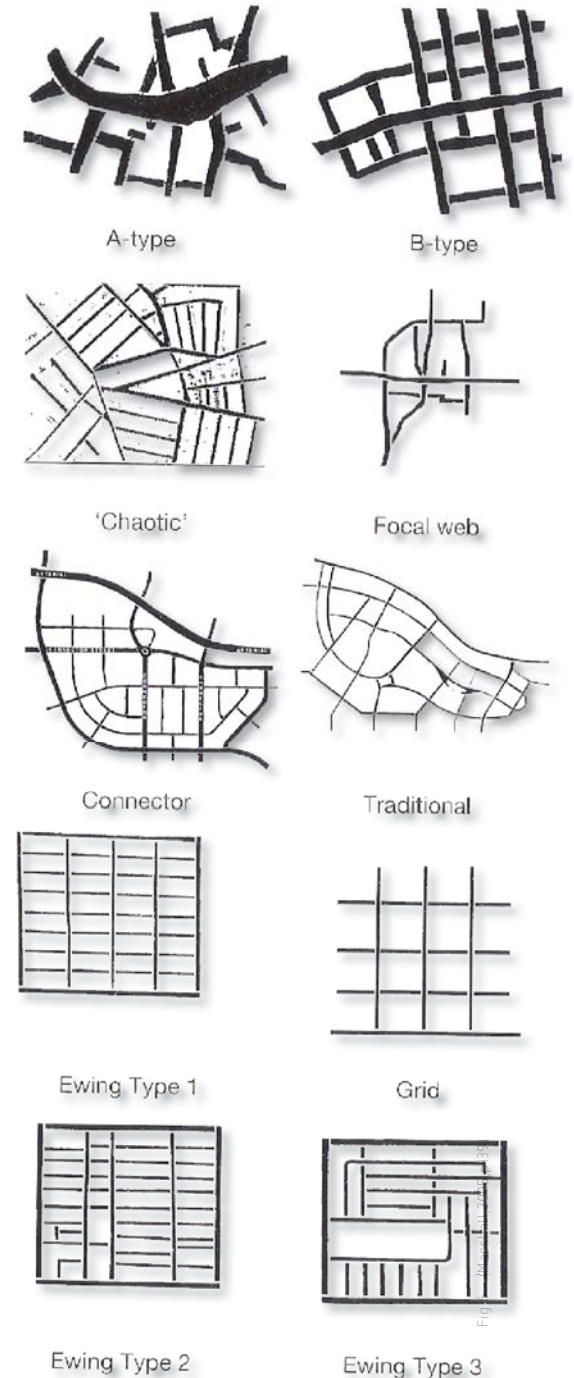


Fig 6 Marshall 2005: 139

Street design

Street classification:

Traditional street classification is based on the form, use, relation and designation of the road, which does not reflect the characteristic diversity of roads:

1. Form refers to the physical characteristics of the street and can be ascribed to any section of the street;
2. Use relates to the demand such as traffic flow and speed;
3. Relation refers to the relative position of road in relation to other network elements; and
4. Designation refers to classification themes determined purely by allocation or assignment.

(Marshall 2005: 56)

Marshall proposes in his book *Streets & Patterns* a

classification based on the arterial qualities of the street, which refers to the form of strategic contiguity whereby all 'top tier' elements join up contiguously (Marshall 2005: 62).

Arteriality can be explained by looking at the arterial pattern of a leaf where the arterials are visible, but the flows within the arterials are

unknown. The hierarchy is determined by the scale of coverage area (Marshall 2005: 64).

Pattern type:

Though there are many kinds of patterns, to describe a specific pattern as the best is not possible. The best pattern for a specific settlement must be determined "on site". Pattern characteristics are strongly influenced on the constituent parts and thus, the key constituent parts must be determined for future/continuous design. The typology depends on the purpose intended with

the aim of connecting and clarifying the composition and configuration of the network to a coherent whole (Marshall 2005: 102).

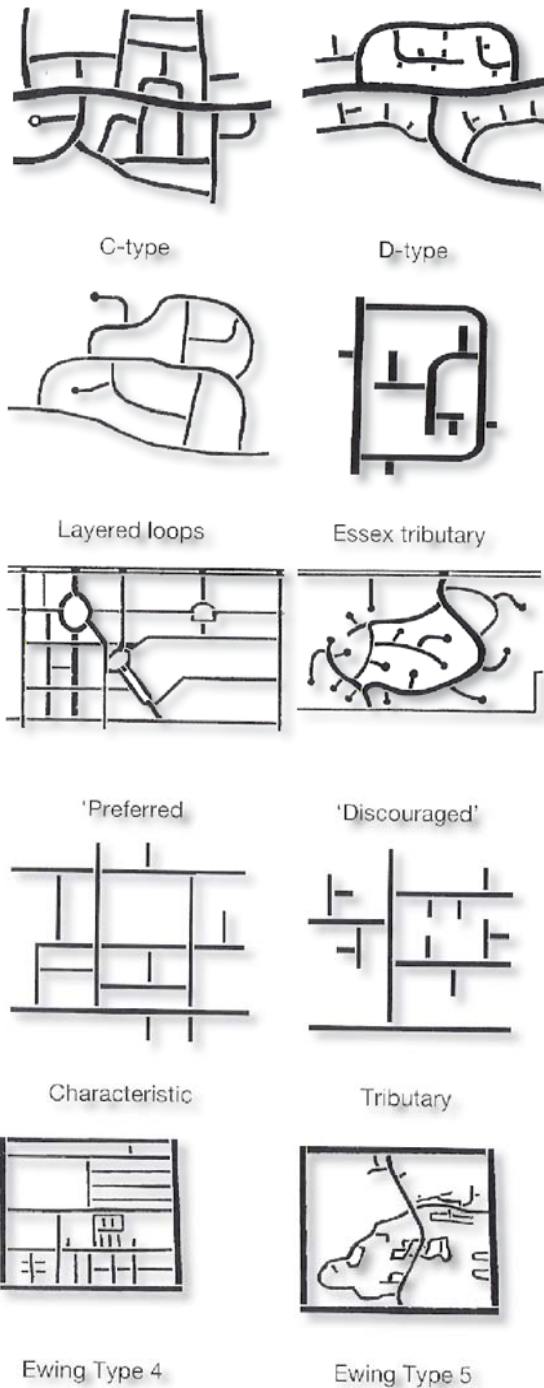
The water system

Water is the source of all life, an element that shapes the physical face of the earth and continually influences a great part of life for people, nature and earth. The drainage pattern within a watershed was formed through the surface flow of the water and formed a dynamic equilibrium (Motloch 2001: 66). Disturbing this equilibrium is unavoidable in any development. The degree to which this relationship between drainage and storm-water runoff is disturbed can be minimised through the careful management of storm-water runoff. Management begins with the thorough understanding of all the water moving on and through a site at or below the surface (Landphair 1988: 107). Due to the systemic character of water, efficient use and recycling must be promoted at all times.

The aim of water management is to protect the watershed, control agricultural runoff, reduce water diversions and control water quality.

1. Protecting the watershed through establishing permanent vegetation cover;
2. Agricultural runoff is controlled through shaping the earth into terraces and plowing according to the contours; and
3. Reducing water diversion is to make more water available in the area where it falls (Lyle 1994: 157).

Regenerative systems rely mostly on land form, soil, plants, and biological processes (Lyle 1994: 148).



The arterial pattern of a leaf.



Waste management

Definition of Integrated Waste Management in South Africa

As published in the Government Gazette of 17 March 2000, pollution can be defined as the introduction of any substance property (including radiation, heat, noise and light) into the environment that has or results in direct harmful effects to humanity or the environment, or that makes the environment less fit for its intended use.

Integrated pollution and waste management is a holistic and integrated system and process of management, aimed at pollution prevention and minimisation at source, managing the impact of pollution and waste on the receiving environment and remediating damaged environments.

The government gazette stipulations are formulated to reduce the holistic impact that waste has on the existence, now and for the future, on the earth, by starting in our country, on a private and commercial scale. This new approach is a great improvement from the paradigm of managing the waste at the 'end-of-the-pipe' paradigm. Management is about preventing, reducing and managing waste.

Principles of IWM Plan according to the Government Gazette (2000):

1. Transboundary movement (2000:13): The effect that pollution in one country has on another country will be taken into consideration;
2. Duty-of-care principle (2000: 13): The company/ person that produces waste is responsible for the management and treatment of the waste; and
3. Universal applicability of regulatory instruments (2000: 13): everybody will be subject to the same regulatory system.

Social responsibility

In the Constitution (Act no 108 of 1996) it is stipulated in section 24:

"Every one has the right
 (a) to an environment that is not harmful to their health or well-being; and
 (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that -
 (i) prevent pollution and ecological degradation;
 (ii) promote conservation; and
 (iii) secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development".

(Government Gazette 2000: 17)

Resources polluted

Water pollution

1. Nutrient enrichment of fresh water: changes the natural function of biota, producing a bad odour, and making outdoor recreation less pleasant;
2. Sediment and silt migration changes the natural composition of the water habitat;
3. Harmful inorganic and organic compounds are produced by industrial waste. These elements are not easily removed and can greatly influence the quality of potable water and the biota environment; and
4. Diffuse water pollution comes from sources such as: industrial seepage, agrochemicals in soil fertilizers and insecticides, run-off from farm lands, contamination from animal wastes, informal settlements, thermal pollution by power plants and leaking sewerage pipes.

(Government Gazette 2000: 21)

Air pollution

1. Domestic fuel combustion is very high due to the domestic use of coal stoves and fires in the area;
2. Dust problems due to construction, agricultural and industrial activities and untarred road can create a serious health problem;
3. Vehicle emissions have a great influence on air pollution due to the growing dependency on private/ personal vehicle ownership;
4. Air quality management shows a lack of efficiency with inadequate prosecution of offenders; and
5. Noise pollution is increasing at an alarming rate, while the current situation cannot be easily changed.

Land pollution

Some major sources of land pollution include the following:

1. environmentally detrimental agricultural practices;
2. the wood-processing industry;
3. waste treatment and disposal;
4. repair shops and scrap yards;
5. service stations;
6. medical waste;
7. the metal industry; and
8. mining-related activities.

The poor location of disposal sites and leaking of toxic materials can have a detrimental effect on the environment.

Erosion is another evidence of land pollution.

Strategy of IWM plan

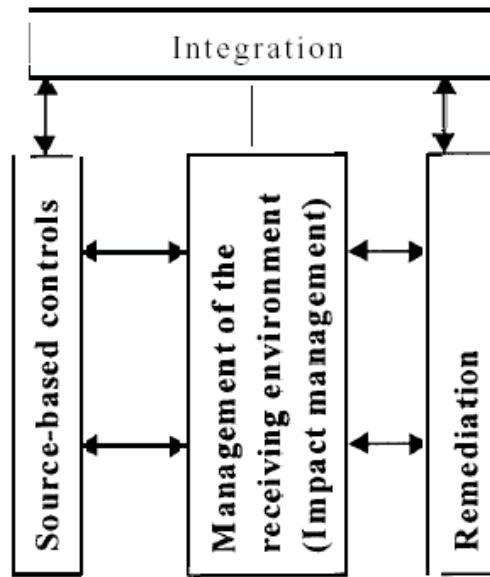


Fig 9: Government Gazette, 2000: 29

of the IWM policy. Specific mechanisms and processes, such as education and training to create an awareness and concern for pollution and waste, are established to ensure the participation of the public (Government Gazette 2000: 29).

IWM is based on the integration of source-based controls, management of the impact on the environment and then the remediation of damage:

1. Source-based controls are used for the reduction of waste at the source with the implication of a reduction in the overall amount of waste that needs to be managed;
2. Management of the receiving environment is the management of the impact of waste on the environment. Standards for source-based controls must be in place and care must be taken to prevent/minimise the impact on the environment; and
3. Remediation entails retroactive intervention to reverse environmental damage and achieve a specific ambient quality.

(Government Gazette 2000: 29).

Public participation forms the cornerstone for the development and the implementation of the strategies

Village Design

*Although Kwasizabantu is not a city, I draw the principles for designing the village from that of city design. Kwasizabantu's needs as a village compares almost in all aspects of urban design in the type of need, but not the scale.

A city

A city expresses the actions of individuals and collectives in an environment. It reflects the needs of individuals and collectives. "It orchestrates scenarios for collective living[...]. The city exists in memory, in the desire to remember" (Bunchoten 2001: 24).

A city is a compilation of different layers. There are the physical layers, such as the buildings, the ground and the climate, and then there are the invisible layers that Bunchoten calls the Proto-urban conditions. Proto-urban conditions simultaneously influence urban change in many places and lead to new form (Bunchoten 2001: 32). These proto-urban conditions are the driving forces behind the physical manifestations of urbanity. These forces include the lack of infrastructure, global oil shortages, political unrest, etc. Proto-urban conditions have a direct impact and drive the emotion and behaviour of the city.

He describes these proto-urban conditions in the light of flotsam: only the symptoms are visible. "Flotsam is made up of fragmented bits and pieces that are apparently unrelated, but in fact belong to some larger whole, invisible but coherent, that links the parts that have emerged" (Bunchoten 2001: 24).

To design the city is also to manage the changes, orchestrate action, design programmes, suggest form, monitor qualities and stimulate self organization (Bunchoten 2001: 25).

The ability to live off the city is determined by the management of the city as a whole.

City design

A cohesive design approach for urban design is based on the methodological sequence of need, programme, idea and context (Dewar & Uytendogaardt 1991: 15).

'Need' refers to the physical requirements of the community and the individual. The physical requirements for the community include the economic, social, cultural and recreational opportunities and also access to these activities or functions. On a smaller scale the social, sensory and psychological needs of the individual must be taken into consideration. Programme evolves from the compilation of these needs. Both 'need' and 'programme' have no form, but rather implications of form. 'Programme' consists of two levels: performance expectation, and the translation of urban growth into numbers. 'Idea' translates the programme into the ideal relationships to achieve the desirable urban qualities. The translation of generic ideas into specific forms define 'context'.

Functional requirement of city

Through balance, freedom, equity, complexity and integration true efficiency in a city's performance can be reached (Dewar & Uytendogaardt 1991: 22). Balance can be established through the relationship between society and nature. Dewar describes it as the ability of people to be part of the totality of the place in which they live, through the ease of contact from any point in the city with the natural environment. A relational balance between the infrastructure of the city and the activities and events that define the urban life will ensure urban performance.

Freedom of action is the ability to choose to act or react and can stimulate complexity that contributes to richness of human experiences. The ability to choose can be enriched through the enabling and restricting of movement. Manipulating movement must be subject to ease of access for all people to the opportunities the city generate. Diversity and intensity of activities will create the necessary complexity for the unexpected to happen spontaneously.

Growth of the city

Through the ordering of relationships, and the production of structure through the creation of spatial geometry of settlements and the interpretation of these into meaningful forms, 'idea' gives the overall direction of growth of the urban fabric. Form includes the spontaneous development through the freedom of choice created by opportunity and constraint. This diversity of spontaneous and planned development is based on three generic types of actions:

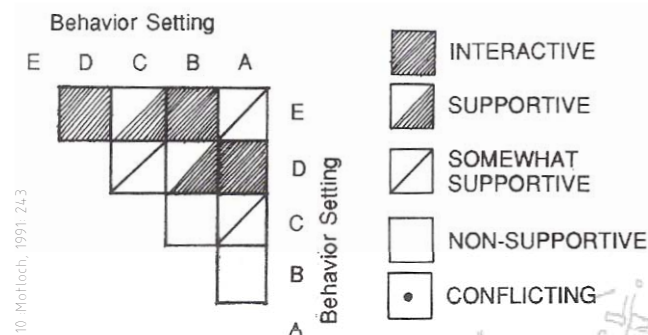


Fig 10. Molloch, 1991: 243

PROGRAM ELEMENTS

SUN ROOM (SR) - 180SF	STUDIO (ST) - 145SF
LIVING ROOM (LR) - 160SF	STUDIO BATH (B3) - 45SF
DINING ROOM (DR) - 115SF	CAR STORAGE (CAR) - 250SF
KITCHEN (K) - 90SF	
MASTER BEDROOM (MBR) - 190SF	
MASTER BATH (B1) - 60SF	Extensive Exterior Spaces to Support SR, LR, MBR and ST to Achieve Strong Sense of Entry and Feeling of Outdoor Living
GUEST BATH (B2) - 60SF	
GUEST BEDROOM (BR2) - 180SF	



Fig 11 Molloch, 1991: 245

1. Holding actions refers to residual land which falls outside the reserved land, of which use is not required in the short term;
2. Structural actions refer to positive actions that will create opportunities, for example movement routes and public spaces; and
3. Controlling actions are those actions that limit freedom of decision-making to preserve relationships or characteristics of perceived value.
(Dewar & Uytendogaardt 1991: 27)

These actions must be applied with the intention of generating complexity. Complexity can be obtained through enabling structures such as variety and multiple uses of urban fabric, movement generators, public planting and social infrastructure. Another aspect of efficient systems is the result when the multi-functional use of urban elements is consciously promoted (Dewar & Uytendogaardt 1991: 34).

The urban fabric

Urban fabric or urban pattern is the field within which the relationship between the solids and the voids are studied. The urban fabric is analysed through the use of the nollie maps of the Figure Ground Theory. These nollie maps are used to evaluate and analyse the textures and patterns of the urban fabric. The textures or patterns are formed through the relationship of solids and voids, where the voids are seen as "space-as-object". Through addition to, subtraction from or changing of the physical pattern of this urban fabric, the structure of the urban fabric is clarified with the objective to form a hierarchy in spaces through differences in sizes that are individually enclosed, but ordered directionally in relation to each other (Trancik 1986: 97). Landscapes can be seen as the "object" of this "space", the "void" as the "in-between" amongst the buildings, and the natural environment the canvas on which the different buildings and functions are bound together to a unity. The landscapes are also extensions of the inside rooms of each building and natural world of which the



Fig. 12. D.M. Wentzel

Nollie map of Soshanguve to study the relationship of solids and voids.

vegetation is the building material (Corner 1999: 35). The landscape is the gathering space of people, fauna and flora; the meeting place.

City growth must be directed according to its own dictates and logic, to prevent urban sprawl, to follow regional routes. Sprawl will lead to a coarse texture in urban fabric, while a fine-textured urban fabric has the benefits of working well on pedestrian scale. A fine-textured urban fabric also means a compacted local market that favours small entrepreneurs with a greater economic diversification and specialisation, reduces the need to travel, and lowers unit costs of social and other services.

Two main problems crop up in the planning of the city's new urban growth, namely, the question of how to accommodate it, and remedial problems, namely the inadequate performance of existing urban areas (Dewar & Uytendogaardt 1991: 35). These two problems are either solved through a romantic approach, in which order is generated organically through social and site processes, or classical point of view, in which order is generated through geometry (Dewar & Uytendogaardt 1991: 38). This discourse places more emphasis on the romantic point of view, where order is generated through the social and site processes and emphasis is placed on the relationship between the urban areas and the natural areas, as well as the relationship between the urban dwellers and the activities of the "city".

The open and natural areas are easily neglected and become dangerous areas to be avoided. Open spaces must be designed for ease of maintenance and the active movement of people through the space as much as possible.

Linking the parts

Continuity of the urban fabric promotes interdependence and blurs artificial boundaries (Dewar & Uytendogaardt 1991: 48). Interconnectedness, and the directness of these connections, will ensure the economic and social efficiency of the city. A continual and direct pattern of accessibility is where the movement flows of people and good are seen as the "glue" which integrates the city as a whole (Dewar & Uytendogaardt 1991: 53). Connector routes can be a structuring element of the city where the activities are located along the road to form an 'activity channel'. This promotes opportunities for the small businessman as well as freedom of action within the constraints of the urban system (Dewar & Uytendogaardt 1991: 50).

Fig 13 - Corner, 1999: 88



The city of Berlin in 1737, G. Dusableu. The Leipziger Platz was constructed- (the octagon west of the fortified city).

Fig 14 - Corner, 1999: 93



Russian tanks quell the worker revolt in the spring 1953, here seen at the limits of their authority, at the border of the allied city by the gates to Leipziger Platz.

Placemaking

People need an identifiable spatial unit to which to belong (Alexander 1977: 81).

Seeing is a cognitive rather than a retinal phenomenon. Seeing involves identifying, understanding properties and usages, and follows from learning (Le Corbusier, as quoted in Tzonis 2001: 12).

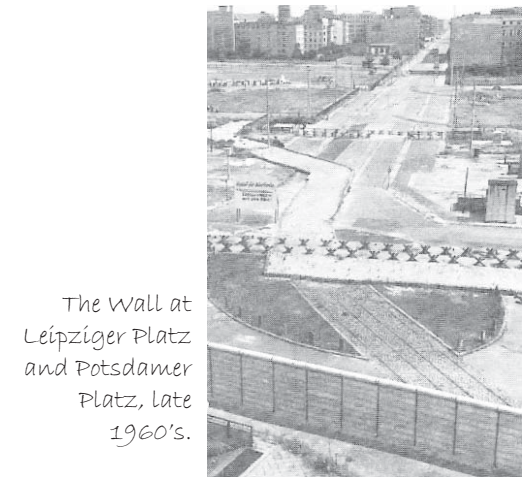
Placemaking in the city is about celebrating the collective living from within and happens in the open spaces where the public meets or moves through. It is in these spaces that human intention and even beauty are conveyed through the conscious and unconscious shaping of spaces by the urban dwellers. Time and the character of the city are manifested through cultural and individual expression in physical elements, such as sculptures, or even the form of the space. "The memory of place, historic sites and the objectives of art assist in creating special places in the built environment" (Harris 1992: 8).

Culture

Cultures are expressed through their art, as stated above, that manifests in the architecture and designed landscapes. The influence that culture has on the landscape or environment is reflective of the view that the culture has or has not on politics and social influences. Politics and social history also leave their

footprints behind. Change is part of culture, and the expression of these dynamics is the identity of the present, and the memory of the future, generations. These memories will inform the people from where they come and prepare them for the future. For the tourist it will be part of his exploration of the identity of the unknown culture.

In his essay about [Recovering Landscapes](#), Alan Balfour tells the story of the Leipzig



The wall at Leipziger Platz and Potsdamer Platz, late 1960's.

Fig 15 - Corner, 1999: 95

Platz, the park that was constructed in 1736. Leipziger Platz outlived the Napoleon wars, and took part in the Berlin wall story when the wall was first built on the periphery of the park. Later when the wall was knocked down the two mayors of the two Berlins walked from east and west to meet in the middle of this park on 12 November 1989 (Corner 1999: 96). This octagonal park was a park for the nation, "volkspark", not as such in the tangible and visual aspect of the meaning, but in the sense that it was the direct place of activities throughout the history of the "volk" of Berlin.

Mark Treib stresses that we would do well to treat the designed landscape as "poetic meditation(s) on existence" (in Corner 1999: 40).

Fig 16 - Corner, 1999: 97



The mayors of East and West Berlin meet in the middle of Leipziger Platz, 12 November 1989. Photograph by Alan Balfour.

Time: change and cycles

Landscapes require time for the growth of trees and for plants to be established and to flower (Corner 1999: 37).

Change is the direct byproduct of time. Landscapes cannot successfully be planned if the mindset of an unchanging image is held (Corner 1999; 70). Landscapes are fully bound to the effects of nature and time, the cycle of seasons and the passage of time, processes of hydrology, weathering, and succession, and the alternation of day and night, sun and moon (Sebastien Marot in Corner 1999: 51). According to Marot, the study and understanding of these processes will enable us as designers to restore and prepare the site for the unforeseeable future (Corner 1999: 51). But the mere idea of designing for change invokes an idea of incompleteness: rather than building a solution, seeds are sown, questions raised, and potential structured (Corner 1999: 51). Marot takes the element of time in the landscape further and proposes the design of phases made visible for the user. The visibility will enable the reading and interpretation of time by others who use and invest their time in such places. These cycles of change impact on the perceived idea of space. Darkness makes the space smaller, the loss of leaves reveals what was hidden and opens the enclosed space. Colour changes: the whole composition can change through the use of annual plants. Landscapes give us a sense of our relation to time: "Landscapes designed in conscience with the annual cycles resonate with their connection to the place and reflect the life within it" (Corner 1999: 39).

Georges Descombes said, designed landscapes must not only make the passing of time visible, but also make this passage effecting of further potential visible (in Corner 1999: 79).

It is not only the landscape that changes, but the way people perceive the landscape (Corner 1999: 80). And it is this inherent quality of change within the landscape that Descombes wants to reveal through making the paths, routes, traces and possibilities present.

In a project of pathways he saw the path as a way of researching the landscape, of experimenting with alternately big and little things with the often overlooked and neglected: blades of grass, flowers, stones, tree roots, small streams, and so forth (Corner 1999: 81). To reveal the landscape, rather than to be pretentious in adding materials, the walker will be able to interpret his experience within his own perceived ideas. Thus, we seek to clarify the landscape, to amplify its character through subtraction and modest – though highly calculated – intervention (Corner 1999: 82). Corner summarised this as:

1. Add nothing new to the existing confusion of the site;
2. Amplify certain potentials of the place; and
3. Respond economically to functional requirements.

