

03

overview of literature  
and theoretical  
arguments

# learning through play...

We are conditioned by the experiences we are exposed to during the course of our lives so is it not in the best interest of future generations that this process of transference of knowledge and skills be imparted when one is still young and impressionable? In order to accomplish this one has to understand the way in which children learn where the most pragmatic and effective method is through play. When one understands how children play and what they require only then can an effective design be proposed.

*“An educational Utopia is a place where work  
is play and play is life”  
- Whitehead*

Play is the way that children learn about themselves and the world they live in. Their intelligence and personality grow when they encounter and conquer new situations.

“We can best understand what play is if we think of it as opposite to work – the two terms to a large extent define each other. The difference between work and play is not always obvious from examination of the activity but has to do, rather, with the mode of acting, or the reason for which the activity is performed. This is not to say that work and play never overlap or coexist; the motivation behind an activity is complex, and often contains elements of work and play. For our purposes, however, it is useful to emphasise the unique qualities of each, so that we can form a clear picture of what conditions are essential or desirable for play” [Dattner 1974: 7].

“The literature written about play and by creative persons is full of references to the play element in all forms of creativity, and many parallels may be drawn between play and the act of creation” [Dattner 1974: 9].

According to Sigmund Freud, and succeeding writers, it is apparent that child rearing practices, in a variety of cultures, establishes the importance of childhood experience in the development of the adult personality and demonstrated that play is a major component of that experience. “Train up a child in the way he should go: and when he is old he will not depart from it” [proverbs 22:6]. Adult influence on play is one way in which a society transmits its values and prepares children to participate in the adult world. One needs to create an environment of play that will nurture the traits which reflect the highest aspirations of our society because it is through play and socialising that the values and norms of a culture are transmitted through generations. “... a tradition, a form of regulation and ritualized behaviour that reproduces the regulations of society in miniature...children learn the rules of the adult world they will inhabit from the rules of their play as children” [Dattner 1974: 20].

The function of play in childhood has been essentially misunderstood in the past. “Surprising numbers of people still maintain that the primary function of play is to 'let off steam' so that the child can return to the more important business of study and learning” [Dattner 1974: 23]. Yet countless studies of how intelligence develops in children show that precisely the reverse is true – that play is the way in which children develop intelligence. To put it simply, play is a child's way of learning.

It is essential to understand the way play and intelligence are related if one wishes to design a play facility that will encourage learning. Behaviourists, like psychologist Ivan Pavlov, are of the opinion that environment is the primary factor in the development of intelligence. The interrelationship of the environment and intelligence is best expressed in the works of Jean Piaget who maintains that intelligence is a form of adaptation which consists of continuous creative interactions between an organism and the environment. Life thus becomes the process of creating increasingly complex structures of behaviour where the organism acts, perceives its effect on the environment, and modifies its behaviour to a more complex form to better cope with the environment. [Dattner 1974: 24]

*“...small children need a place where they can develop self-reliance, where they can test their limbs, their senses and their brain, so that brain, limbs and senses gradually become obedient to their will”*

*[Allen 1968: 14]*



figure 3.1

## phases and types of play of the different age groups

birth to 18-24 months	18-24 months to 4 years	4 years to 7-8 years
<p><b>Sensorimotor phase</b></p> <ul style="list-style-type: none"> <li>▪ Instinctive reflexes [e.g. sucking thumb / closing hand around objects]</li> <li>▪ Searching for objects</li> <li>▪ Following motion of hand with eyes</li> <li>▪ Awareness of depth and space</li> <li>▪ Imitation</li> </ul>	<p><b>Preconceptual phase</b></p> <ul style="list-style-type: none"> <li>▪ Ability to create symbols</li> <li>▪ Imitation of activities</li> <li>▪ Learning of language</li> <li>▪ Use of imagination</li> </ul>	<p><b>Intuitive phase</b></p> <ul style="list-style-type: none"> <li>▪ Conceptualisation</li> <li>▪ Intuition is relied upon</li> <li>▪ Organisation of experiences</li> <li>▪ Relentless questioning</li> </ul>
<p><b>Practice play</b></p> <ul style="list-style-type: none"> <li>▪ Repetition</li> <li>▪ Pleasure in being the cause of an external event [e.g. continuously dropping an object]</li> </ul>	<p><b>Symbolic play</b></p> <ul style="list-style-type: none"> <li>▪ A way to assimilate the emerging skills of representing [symbolising] objects and events</li> <li>▪ Make-belief</li> <li>▪ Identification of one thing with another [e.g. a stick becomes a plane]</li> <li>▪ Acting out of wish fulfilment</li> </ul> <p><b>Parallel play</b></p> <ul style="list-style-type: none"> <li>▪ They may play together, but without paying attention to the children around them, engrossed in their own fantasy world</li> </ul>	<p><b>Social play</b></p> <ul style="list-style-type: none"> <li>▪ Becomes aware of other children and attempts to imitate their activities</li> <li>▪ Tries to understand the rules of the world of older children</li> <li>▪ Play games with rules</li> <li>▪ Transition between fantasy and reality</li> </ul>

figure 3.2

## PHYSICAL GROWTH AND ACTIVITY DEVELOPMENT

- During the pre-school period of a child's life **make-believe play** becomes very important. There is rapid development within the realm of imaginary activities as play evolves from "...disjointed bits of pretence to integrated and internally consistent sequences of make-believe" [Bengtsson].
- From age three, walking becomes automated and children are more confident and daring. They have good **climbing** ability and can descend long stairs alone. It is imperative for cognitive development that they have opportunities to do so.
- Wanting to exercise these new abilities, children engage in a period of persistent **investigation** and **furious activity**.
- Great interest in simple self-propelling vehicles, making combined playthings and **sand and water play**.
- By age four, there is a marked rise in activity and in the desire **to explore the larger environment**. They want to go on short errands outside the classroom.
- Increase in the constructive use of materials, as imaginary **two-dimensional structures are built** in dramatic play and dressing.
- By age five, they can build complicated, three-dimensional structures in which several materials are combined and form the base for extensive dramatic play
- Children want and need to further explore the physical environment they occupy. They need excursions and can recognise landmarks and even have the ability to cross streets.

[Moolman 2001: 7]

## DESIGN CLUES

Role-play, Creative Zone and Fantasy Zone are very important

Allow for constant opportunities where climbing, sliding and exploring can take place – thus play area does not necessarily need to be separated from the building structure

Sand and Water Play Areas

The school has to be a safe but adventurous environment

## PERSONAL AND SOCIAL DEVELOPMENT

- At pre-school level children become more complex and richer individuals with a growing awareness of the social environment.
- In the formation of self-concept, there is a strong need for the differentiation and affirmation of self. Peer-reaction is of lasting influence on the child's sense of individual competence.
- Children who have a physically secure and emotionally stable setting are likely to explore further in the physical environment.
- In the third and fourth years, children engage in associative play in small groups of two or three.
- By age five, children will spend more than half of their time with peers. The importance of social play during this period cannot be overstated. "A child who, for personal or other reasons, lacks opportunities to play with age mates misses out on vital learning experience" [Pollowy: 18].

[Moolman 2001: 8]

## DESIGN CLUES

Again two major themes exist: Exploration and Social Play. It is clear that exploration is built on a sense of security and on physical opportunity. The location of the site and planning must therefore create a strong sense of security while still allowing for freedom of exploring.

Socially, the peer group becomes more and more important, and spontaneous socialisation opportunities should exist...

## INTELLECTUAL AND PERCEPTUAL DEVELOPMENT

### Intellectual Development

- The child is beginning to form mental representations of the environment [being able to familiarise routes]. During this period, the child functions on a spatial system of reference based upon fixed environmental elements.
- At this time the differentiation of spatial relations is begun with an awareness of inside-outside, top-bottom, and front-back. “The young child's penchant for getting 'into', 'out of', 'under' and 'on-top' of things, from cupboards to closets, to tables to cardboard boxes is vital to expand and solidify his growing sense of spatial relations” [Pollowy :21].

### Perceptual Development

- Distance perception is still under-developed during this phase and until the age of six, children match objects on the basis of colour.

[Moolman 2001: 9]

## DESIGN CLUES

This system of reference is centred on the immediate classroom experience first and then subsequently around landmarks and familiar places.

Create opportunities for varied types of play

## criteria for design...

*“Architects pick up bits  
and pieces from here  
and there, and fit the  
children into the  
playground, rather  
than the reverse”*

*[Allen 1968: 15]*

The challenges presented are that the facility is used by a number of distinct groups, each of which has requirements, which are sometimes conflicting, based on their own needs. The main users of the facility, or those most affected by it, include the children, parents, other adults [elderly and neighbouring residents] and city administration.

Faults of existing play facilities:

- Preoccupation with maintenance and durability to the point where materials, that are not child friendly, are used
- Lack of anything to inspire interest or curiosity

Aspects that need to be taken into account during design:

- Safety
- Accessibility
- The environment must provide the individual with an adequate range of experiences
- A measure of control by the individual must be allowed for
- Experiences for every sense are needed [should be like a small scale replica of the world]
- Objects and play items should be interactive and moveable
- Graduated challenges [new skills and abilities to master]
- Various choices of activities should be provided for
- Elements to encourage fantasy play
- Water and sand are always sources of amusement and entertainment
- Ground shaping and difference of levels

[Dattner 1974, Allen 1968, and Allen 1964]



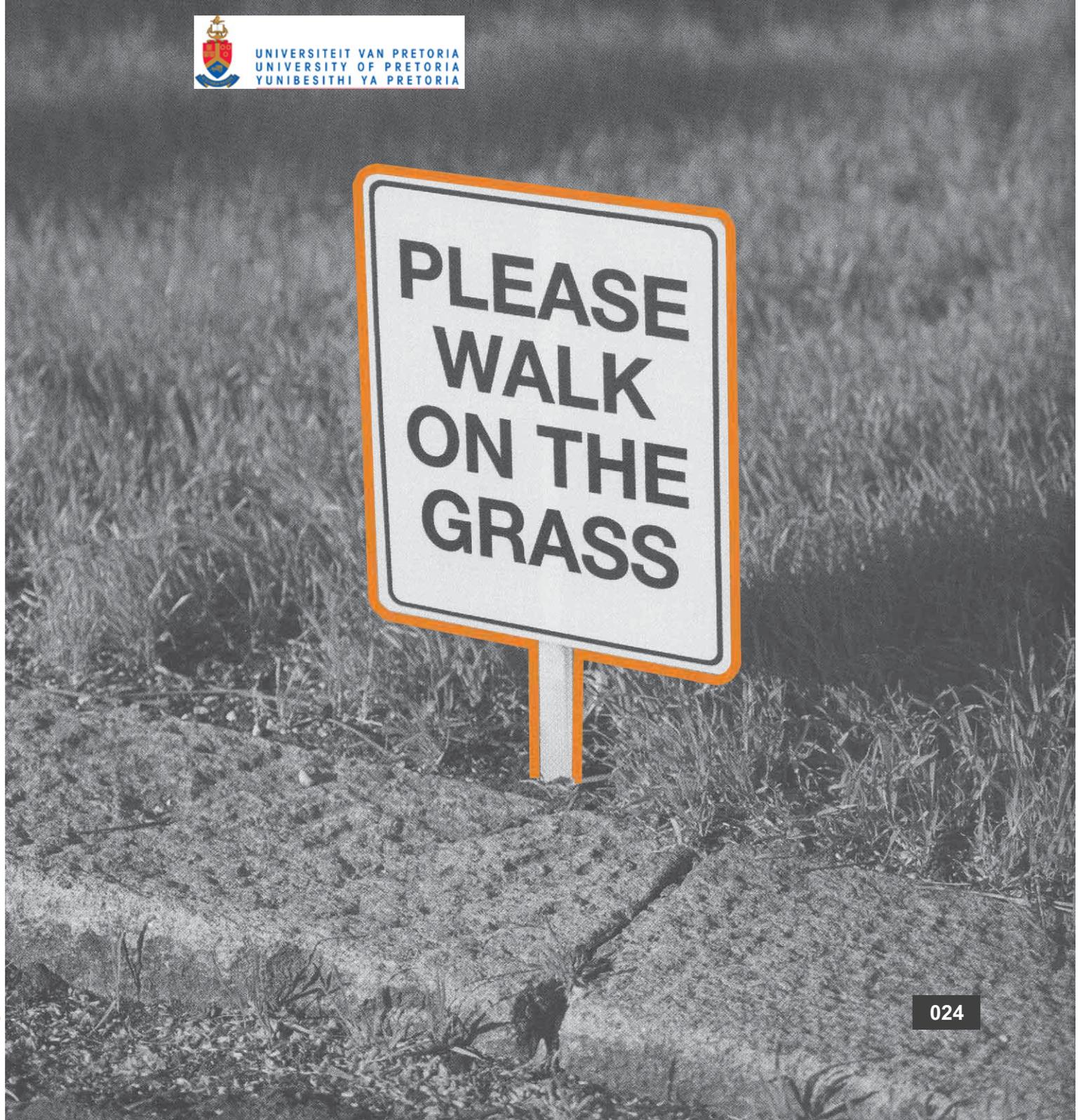


figure 3.3

## landscape and architecture: inside and outside...

In order to activate the premise of “learning through play” to cultivate children's: physical growth and activity, personal and social, intellectual and perceptual developments, the educational field has to be extended to outside of the classroom. It is this extension and transition to the world outside of the building that will prove to be vital to a successful design.

Territories between architecture and landscape architecture need to be explored in order to create an amalgamated design where the interconnections between the two are reconceptualised. The concepts of man-versus-nature, formal to informal, hardscape and soft-scape need to be reinvestigated in the following discourse as not many design projects succeed in fully incorporating the opportunities offered by the integration of the two fields. An effective transition from playground to school building is vital and methods in achieving this will be explored. According to Berrizbeitia and Pollak, our experience of living in the world between inside and outside is disconcertingly limited.

The following excerpts help in the understanding of why a rift exists between the two disciplines...

Sven-Ingvar Andersson has stated that “...architecture and landscape architecture are identical because of their mutual and identical concern with space” while other critics have suggested that “...this concern for space is completely different because of the different material and spatial qualities” [Birksted 1999: 3].

“Over the past decade, dozens of anthologies about the contemporary designed landscape have been published. Few offer a critical lens for comparing, or even understanding, design vocabulary and operations. Most are loosely edited collections of various designers' images and descriptions of their work. Publications on architecture have, admittedly, a better record of critical assessment. But their discussions about the

landscape are too frequently restricted by a rhetoric of architectural hierarchy and dominance over landscape” Elizabeth Meyer: Associate Professor, Department of Landscape Architecture, University of Virginia School of Architecture [Berrizbeitia & Pollak 1999: 9].

“Until the mid- 1990's, architects typically considered landscape architecture a discipline auxiliary to their own...even worse, landscape was thought by some architects to be a dying discipline, sentimental in its preoccupation with nature and out of touch with the urban focus of contemporary life” [Hays 2004: 6].

In 2000 Paul Bennett described landscape architecture as “a new frontier, a discipline perhaps more fertile for developing new concepts than architecture” Bennett explains the preoccupation with landscape with the term 'context trumps objects' [Hays 2004: 6]

*“For buildings to become more than objects, architects must recalibrate their field of perception spatially, temporally, and conceptually, moving beyond the limits of the building to the contexts in which their work will be situated and to which it will ultimately contribute” [Hays 2004: 8].*

Yet there are many, including the author, who are of the opinion that landscape architecture is equal in merit to architecture and recognise the potential of their merge. In essence, landscape and architecture should have an interdisciplinary relationship that brings together different modes of thought that are transferred across the disciplines and transcends into a new context focusing on how elements share an urban space, an ecosystem or a temporary framework.

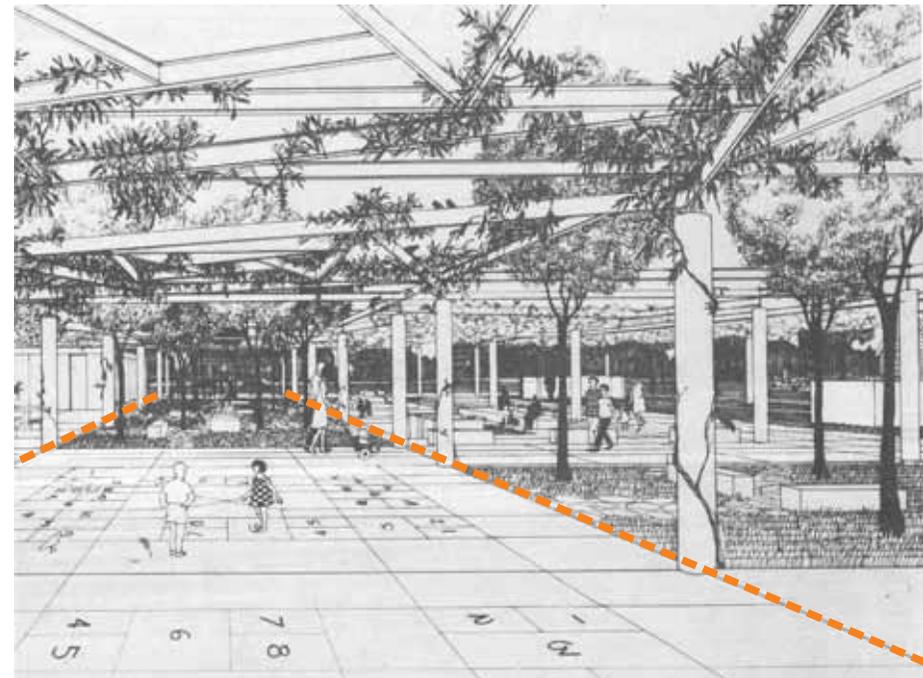
This investigation attempts to uncover relationships between architecture and landscape that are often overlooked. Architecture and landscape occupy each other's conceptual and physical space yet the various factors resulting in the conflict between the two, impacting negatively on the built environment. Consequently, projects are isolated and disjointed efforts that do not reach their full potential.

*“Landscape is [now] within architecture because architecture is [always] within landscape”*

*[Hays 2004: 7]*

“The exploration of the territory between architecture and landscape reveals how relationships that transgress disciplinary boundaries can contribute to the definition and enrichment of a discipline. This in-between territory also engages each discipline's expanded field of relationships, including other disciplines such as urban design and ecology. Thus, a building project might engage topographical concerns that would once have been assumed to be a part of landscape architecture; or landscape might affect orders of an interior, typically thought of as within the domain of architecture. Yet projects cannot

endlessly enlarge their scope of concerns and still maintain their power or integrity. A successful project constructs relationships in precise ways to produce a new set of concerns, with its own set of parameters” [Berrizbeitia & Pollak 1999: 10].



**figure 3.4** playground attached to school: New York

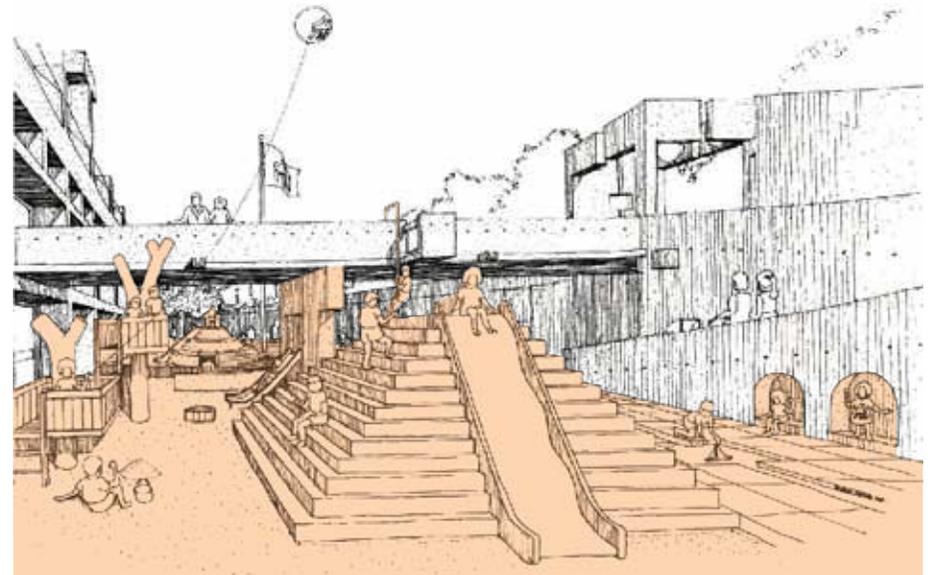
Birksted draws the conclusion that it is necessary to achieve a successful integration of the two disciplines “...architectural design as different from landscape architecture...must be replaced either by a graduated and gradual axis where one end represents architecture as landscape and the other end represents landscape as architecture with a range of continuous variations between the two...where the differences and similarities – criss-crossing and overlapping – are superimposed in complex ways so that any one binary opposition is denied” [Birksted 1999: 3].

David Leatherbarrow's contribution puts forth the notion that they are merely similar and share two factors. Firstly their common origin lies in creative making and design and secondly the common topic of topography [theme, framework and place]. [Leatherbarrow 2004: 1]

Previous studies have explained children's experience of place and their special preferences for the unbuilt and unstructured environment. However, the impact of a natural environment on children's learning and development has been a topic of low priority within child research and the importance of natural play-scapes for children has also been neglected in physical planning. The play-scapes comprise the ground for training of motor fitness in children. Through all-round playing and exploring the natural play-scape, the children's motor fitness can be improved. [Fiatorft & Sageie: 2000: 83-97]



**figure 3.5** promenade: New York



**figure 3.6** neighbourhood playground: New York

In *Inside Outside*, five integrator operations are outlined that articulate a conceptual approach to relations between the two fields where the term operation is defined as “procedure or process of a technical nature that constructs a specific mode of relation between elements” [Berrizbeitia & Pollak 1999: 10].

**Reciprocity** stands against hierarchy, an ordering principle through which architecture has historically subjugated landscape. It opposes the idea that landscape is merely the ground on which architecture sits.

**Materiality** critiques the conception of landscape and architecture in aesthetic terms by focusing on how both practices share the operation of reconfiguring matter.

**Threshold** disqualifies a fixed and static conception of boundary but rather promotes the continuity between two entities.

**Insertion** questions the figure-ground formulation of the city where 'open space' is that negative entity left over around buildings. It looks at rather setting up activities of relating between a space and its surroundings.

**Infrastructure** criticises an assumption of landscape as ordinary ground. It is said to be the visible graft that joins landscape to architecture that challenges the conception of landscape whose art is dedicated to concealment.

[Berrizbeitia & Pollak 1999: 11-13]

## design intentions...

- Utilise the five operations, as outlined in *Inside Outside*, to assist in creating a **design that integrates landscape and architecture**
- **Design the site as a whole** rather than a building on a site
- Incorporate the playscape with the building with emphasis on **interactivity**
- Experiment with the thresholds and interfaces to create a **dynamic transition** from outside to inside
- Design the building to **become a part of the outdoors's play features**
- **Reinforce the idea of “learning through play”** through the connection of the outdoors and indoors
- Reconcile disjointedness in architecture, landscape architecture and interior architecture to formulate a **holistic approach to design**
- Have not just a building but rather a **site that fosters learning**

# reclaiming lost space and involving community to create defensible space

Roger Trancik identifies lost space as “the vacant unused land in city centres, the land that is not integrated into the urban fabric, where design decisions were made in two dimensions. Lost space is land nobody cares about and no one takes ownership of. It results in disjointed pedestrian links and an unpleasant experience. However, lost space in city centres provides the ideal opportunity to create an urban centre, so that it attracts people to these areas. [Trancik 1986: 1]” [Hansen 2007: 2.02].

Interventions can be implemented to give rise to a new identity to an area and express the inherent *genus loci* which is essentially the 'spirit of place'. The reprogramming of a lost space can assist in transformation by adding a new layer to regenerate a part of the city.

Aldo van Eyck thought of the ideal city as a labyrinth of small, intimate territories. A playground on every street corner was just a first step on the journey to the "ludic city": the city of play. He laboured on his belief that: "Whatever time and space mean...place and occasion mean more." The Dutch have always regarded children's games as a preparatory stage in the growth of public life and citizenship. In one of his essays van Eyck wrote of cities: "If they are not meant for children, they are not meant for citizens either. If they are not meant for citizens – ourselves – they are not cities." [Worpole 2002]

In a project where the main users are children, not capable of protecting themselves, it is paramount that the issue of safety is addressed. The early development of the defensible space approach is attributed to one person, architect Oscar Newman. From his case studies the conclusion he arrived at was that the problem seemed more to do with the

characteristics of public spaces than of the people who lived there [Cisneros 1995: 5].

“Defensible space relies on self-help...It depends on resident involvement to reduce crime and remove the presence of criminals. It has the ability to bring people of different incomes and race together in a mutually beneficial union. For low-income people Defensible Space can provide an introduction to the benefits of mainstream life and an opportunity to see how their actions can better the world around them and lead to upward mobility” [Newman 1996: 9].

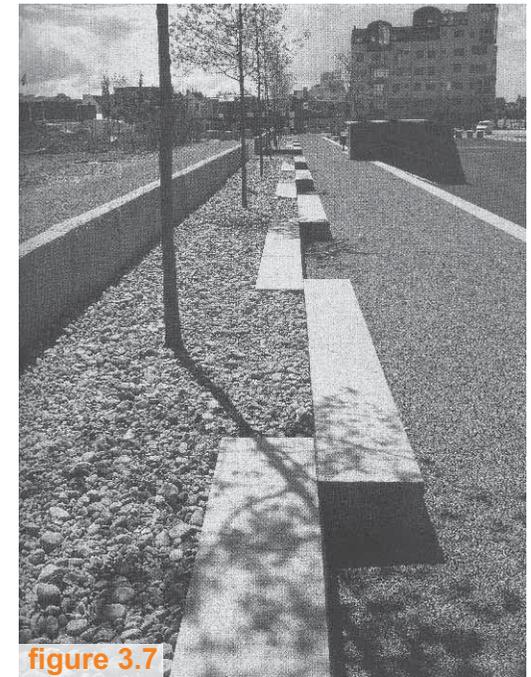


figure 3.7

## Newman's observations to be incorporated into the design process and the design of the site including surrounding context...

- Community participation is key
  - Residents need to be able to identify with the public spaces and not feel disassociated in order for users to maintain the space
  - An accord needs to develop about acceptable behaviour in these areas
  - Propriety feelings are crucial in order to distinguish resident from intruder
- 
- **Intensify surveillance by revamping pathways around the site to include benches, planting and sufficient lighting at night to increase pedestrian traffic**
  - **Incorporate vandal resistant products that are not institutional in appearance**
  - **Spaces should be zoned to accommodate children, teenagers, adults and elderly to achieve usage resulting in the prevention of unfavourable loitering**

[Newman 1996]

can be controlled by the designer