Let the Child Be.

Children, Play, & Space

by
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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis including any required final revisions as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Childhood is a time of vulnerability, unknowns, and vast potential. Children's environments should be sensitive to these qualities. This thesis is an investigation of outdoor play environments for children. Its focus is the design of environments that encourage playful attitudes that enrich the process of children's development.

In the past, children played freely outdoors and explored natural environments. With the growth of urban living, playgrounds emerged in cities as places for children to play. Today's conventional playgrounds are not responsive to the child's needs to experience the unknown, imagination, and creativity. In these playgrounds, use is predetermined, and activities are imposed, hence they do not enhance children's rich sense of curiosity and playfulness.

Friedrich Froebel argued that play is the highest stage of the child's development. This thesis studies play and its role in the child's healthy development by exploring the characteristics of natural and built environments for play. The design of an outdoor play area is intended for children aged two-and-a-half to six years old, when play has a crucial role in physical, cognitive, social and emotional development.

The thesis is sited in suburban Toronto, adjacent to a preschool childcare facility. It uses topography and natural elements, and investigates strategies to integrate them with built elements. It also investigates the values of free roaming versus safety in the early childhood experience. The goal of this thesis is the design of an outdoor play environment that will enable children to regain their sense of freedom of movement and exploration through play.

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Dedication

To all the children

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Introduction

Figure 1. Philippe Aries

There is an argument in the literature on the history of childhood that attention to the childhood years is a relatively recent phenomenon. In 1982, Philippe Aries (1914-1984), French historian, suggested that 'idea of childhood' is associated to the knowledge of distinct nature of childhood.[1] It has only been since the eighteenth century that children in Western societies have been considered "special" as well as different from adults, "hence worth studying in their own right."[2] Childhood can be studied through a variety of approaches, such as scientific, applied and social constructionist approach.[3] John Dewey (1852- 1952) evaluates childhood as a capacity and potential. He suggests that immaturity enables the child to grow:

> The primary condition of growth is immaturity. This may seem to be a mere truism--saying that a being can develop only in some point in which he is undeveloped. But the prefix "im" of the word immaturity means something positive, not a mere void or lack… Now when we say that immaturity means the possibility of growth, we are not referring to absence of powers which may exist at a later time; we express a force positively present--the *ability* to develop.[4]

Dewey believed that immaturity allows children to make mistakes, experience and try out new possibilities, and learn.

When a child is born, his/her first intimate connection is with the mother. This relationship is shaped through playful communication. Two bodies move reciprocally, eyes gaze at each other, bonding happens. Research in the field of neuroscience conclude that play itself is the very beginning of the child's ability to communicate with their new environment.[5]

1. Sultana Ali Norozi and Torill Moen, "Childhood as a Social Construction," *Journal of Educational and Social Research* 6, no. 2 (2016): 77.

2. Colin Heywood, *A history of Childhood,* 2nd ed. (Cambridge, UK: Polity, 2018), 2.

3. Norozi and Moen, "Childhood as a Social Construction," 75.

4. John Dewey, *Democracy and Education: an introduction to the philosophy of education* (New York: THE FREE PRESS, 1916), 41-42.

5. Gwen Gordon, "Well Played, The Origins and Future of Playfulness," *American Journal of Play* 6, no. 2 (2014): 235-257.

The Swedish poet Ellen Key (1849-1926) predicted that the twentieth century would be the "Century of the Child."[6] Indeed, the appreciation of children, as well as efforts to educate them and maintain their health and safety, were incomparable with the any previous century. In children's process of becoming as a part of the society in which they live, they gain the right to social space. With the focus on childhood as a physically and emotionally separate realm, combined with the concerns of urban life and its effect on the welfare of children, there was a collective agreement that the needs of children would require special accommodation. Hence, after world war II, places such as schools, hospitals, child-care centers, and playgrounds started to develop and be accessible to the public.[7] However, the institutionalization of children in daycares, schools, sports, and camps has reduced their time to play freely outside. As Mark Dudek writes:

> Where my childhood escape was to what was perceived as the relatively unsupervised outdoors, which during 1960s seemed safe, it is right to ask the question: where do children escape to today if there is no garden, or if the streets surrounding the child's home are made out-of-bounds by adult behaviour and adult perceptions?[8]

An environment that surrounds the child, which incorporates physical, behavioural as well as social situations, should be sensitive to the child's playful desires and needs. This thesis is based on the belief that the quality of child's playfulness should be "cared for, protected, and nurtured."[9] Children identify play as an activity they can choose and direct by themselves.[10] Therefore, children should be accommodated with both physical and emotional spaces to explore, to develop their own arrangements, and to give their imagination free rein. Architecture and architects need to become sensitive to the design of play areas that reflect this natural spirit of childhood, playfulness.

Figure 2. John Dewey

6. Maria Montessori, *The Secret of Childhood,* trans. M. Joseph Costelloe (New Yrok: Ballantine Books, 1979), 7.

7. Heywood, *A History of Childhood.*

8. Mark Dudek, *Nurseries: A Design Guide* (New York: Routledge 2013), 26.

9. Doris Pronin Fromberg and Doris Bergen, *Play from Birth to Twelve: Contexts, Perspectives, and Meanings* (New York: Routledge, 2015), 315.

10. Fraser Brown and Michael Patte, *Rethinking Children's Play,* (New York: Bloomsburry Academic, 2013), 18.

Today, in urban environments, play spaces for children, specifically those of very young ages, tend to be confined. In the twenty-first century, modern playgrounds vary in elements such as form, size, play objects, and materials. However, most playgrounds constitute fixed colourful plastic apparatuses, mostly shaped as a house with stairs and slides, where affordances for children's exploration, imagination, and creativity are minimal.

Moreover, children spend less time than ever outdoors and therefore have less contact with nature. Natural environments are more child-friendly in the sense that they offer children a variety of play opportunities. Through roaming around freely and access all the various parts of natural environments, play scenarios can grow out of children themselves, whereas typical playground's built form that pre-suggests the way children should use the space. Accordingly, this thesis investigates questions such as: what are the implications of urban playgrounds with regards to the child's playfulness? What were the benefits of children roaming freely in natural environments in the past? How can a playground design incorporate these missing yet significant qualities?

This thesis aims to integrate the qualities of the natural environment into the design of contemporary playgrounds. The chosen site is next to an existing preschool building in suburban North Toronto. By investigating the child and play, playground designs, and outdoor play environments, this thesis proposes a new playground design for this preschool childcare facility.

Chapter 1 explores children's psychological stages of development and how play affects this process to evaluate the requirements for an outdoor play environment that enables healthy development and wellbeing. Chapter 2 investigates designs that value the child's uniqueness. It also explores the criteria and precedents of physical

environments that correspond to the playfulness of the child. Chapter 3 proposes a new playground for the existing preschool facility in North Toronto. Underpinning the proposal is a strong belief that there is a need to redefine the design of playgrounds for young children that offer fluid mobility and free rein, with opportunities to trigger imagination and curiosity, while providing moments of rest and reflection.

Chapter 1

CHILDHOOD

Figure 3. The child

It is too often required of children that they should adjust themselves to the world, practiced and alert. But it would be more to the purpose that the world should adjust itself to children in all its dealings with them.

- Alice Meynell, *The Unready*[1]

1. Alice Meynell, *Authorama,* http://www.authorama.com/essays-by-alice-meynell-48.html

The Child

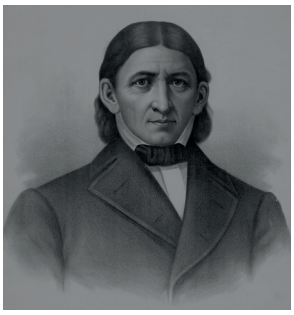


Figure 4. Friedrich Froebel

The concept of childhood is a relatively recent phenomenon that has been studied in different fields such as education, psychology, and social studies. In her book, *Childhood, Culture and Class in Britain*, Carolyn Steedman states that "childhood was re-conceptualized between the late nineteenth century and the First World War in British society. Children became the basis of various accounts of social development due to an increased understanding of the nature of childhood."[2]

In the nineteenth century, German educator Friedrich Froebel (1782-1852) advanced the notion that childhood is not only a transition into adulthood, but a separate stage of life, which has a great innate value in its own right. Thus, he strongly believed that education should correspond to the child's inner development.[3] Yet, even in the twentieth century, due to the boundaries of behavioural psychology, researchers evaluated the child as an "incomplete organism."[4] Until the 1960s, the conception of childhood was defined only in relation to adulthood. Adulthood was understood as the most important stage of life for which children should get prepared. The aim of rearing children was to turning them into mature and competent adults.[5]

Many important figures in the creation of modern conceptions of childhood, however, had a more humanized understanding of the child. Among these, John Dewey was a philosopher and educationalist who considered childhood and its immaturity to have value. In his proposal for "Progressive Education," he regards immaturity as a power to grow, suggesting that children themselves have this capacity; we do not impose growth to them.[6] His educational approach was inquiry-based, proposing the idea that growth occurs through the experiences of the child. (Figure 5) For

2. Carolyn Steedman, *Childhood, culture, and class in Britain: Margaret McMillan, 1860-1931* (New Brunswick: Rutgers University Press, 1990), 62.

3. Mark Dudek, *Nurseries: A Design Guide*, (New York: Routledge, 2013), 115-116.

4. Colin Heywood, *A History of Childhood,* 2nd ed. (Cambridge: Polity, 2018), 3.

5. Ibid.

6. John Dewey, *Democracy and Education: an introduction to the philosophy of education,* 41-43.

Figure 5. Children playing and learning in Anji Play program through firsthand experience.

Dewey, education is about preparing a richer experience settings for children that enables them to test their methods and develop their own routine for working through problems that they encounter during their experience. That education ought to encourage students to find their own way of expressing their unique contact with the world.[7]

In the twentieth century, psychologists used different approaches to study children's development throughout the childhood. For example, among cognitive developmental theorists, Lev Vygotsky (1896-1934), a Russian psychologist, had a sociocultural approach towards child development. He believed that children's social interactions are vital in the development of mental functions, and learning occurs by the assistance of capable members in a culture. On the other hand, Swiss developmental psychologist, Jean Piaget (1896–1980), emphasized more relatively on the child's independent exploration and interaction with the world, and their biological maturation in the development of mental activities.[8] However, most

7. John Quay, *Education, Experience and Existence* (New York: Routledge, 2013), 11.

8. Jeremy Sawyer, "Vygotsky's Revolutionary Theory of Psychological Development," *International Socialist Review*, January 1, 2009, https://isreview.org/issue/93/vygotskys-revolutionary-theory-psychological-development

Figure 6. Maria Montessori

theories value play as a means of enhancing children's development and suggest that play offers them opportunities to develop and learn.

Maria Montessori (1870- 1952), Italian educator, strongly believed that the child, from the very beginning of his or her life, has a primary need to be respected as the person he or she really is at any time. When children's "sensitivity encounters obstacles, [they may] find [themselves] involved in [impossible] conflicts with grown-ups who are stronger than [they are,] who master [them] while [minimally] understanding [them.]"[9]

Every child has a fragile uniqueness and strong potential – fragile in the sense that there is a part within him or her that is unknown, and that must be known. In the child, there is also an enthusiasm for the discovery and understanding of the outer world, which makes him or her courageous and strong. Through investigating this subject, I have come to believe that adults must change their perspective towards children to be able to see them as they are. To avoid unconsciously encroaching upon children's personality, the adult must learn their language and about their potential, and while observing them, provide them with possibilities to explore their surroundings and absorb the parts that fulfill their uniqueness.

9. Maria Montessori, *The Secret of Childhood,* trans. M. Joseph Costelloe (New Yrok: Ballantine Books, 1979), 7.

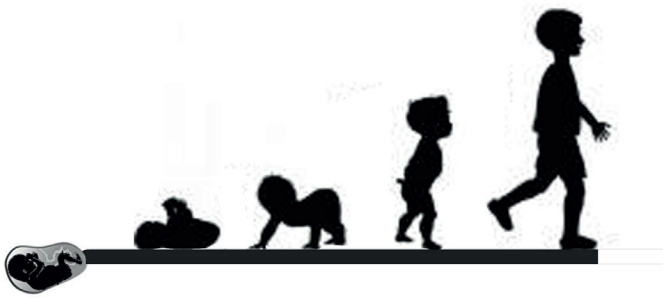


Figure 7. Child development as a journey

Theories on Child Development

Children's behaviour changes throughout their development. To understand the factors that affect these changes, developmental psychology attempts to organize and theorize physical and psychological changes throughout the lifespan. It studies variety of areas of lifelong development, such as the social, physical, intellectual, communication and language, and emotional domains. Developmental psychology can be categorized into three theoretical areas: psychoanalytical, learning, and cognitive.[10]

Erik Erikson (1902-1994), a pioneer in psychosocial theory of development, was influenced by the psychoanalytical work of Freud.[11] In his proposed developmental theory, "both internal psychological factors and external social factors"[12] were of particularly importance. Erikson believed that development of the self is based upon one's need to achieve "a sense of personal identity."[13] He suggested that there are eight stages of development from birth to adulthood. (Figure 9) These stages are set in an order and built upon each other. Each stage is focused on a particular challenge. One can accomplish their personal identity through a successful resolution of that particular life challenge. Failure to resolve these challenges in early stages may affect the child's later

10. Justine Howard and Karen McInnes, *The Essence of Play: a Practice Companion for Professionals Working with Children and Young People* (Abingdon: Routledge, 2013), 18.

11. Ibid, 20.

12. Amanda Ludlow and Roberto Gutierrez, *Developmental Psychology* (New York: Palgrave Macmillan, 2014), 17.

13. Howard and McInnes, *The Essence of Play,* 20.

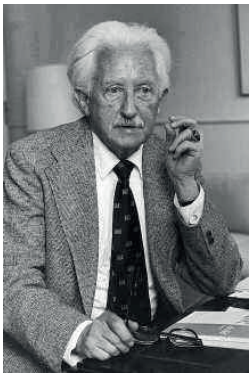


Figure 8. Erik Erikson

development. That is why early experiences are very important.[14]

Preschool years, when children are at ages between two and six years old, are called "play years."[15] This is when Initiative versus guilt, the third stage of development in Erikson's theory, occurs. Erikson

Age (months)	*Crises* (Challenge)	*Features*	*Play stage and focus*
Birth–1	Trust v mistrust	Having trust that basic needs will be met, being able to depend on caregivers in predictable ways	AUTOCOSMIC play – physical and sensory, focused on developing an understanding of the bodily self, an important precursor to self-esteem
1–3	Autonomy v shame and doubt	Developing a gradual sense of independence, learning to manage and control behaviour	MICROSPHERIC play – the beginning of object play, learning to understand the impact of the self of the environment
3–6	Initiative v guilt	Having the confidence to explore and experiment. Being able to meet new challenges	MACROSPHERIC play – increasingly social play, role play and pretend play all lead to an understanding of other people's perspectives
6–12	Industry v inferiority	To function as a competent and confident learner	
12–20	Identity v role confusion	To understand one's place in the world, and role in the family, community and wider society	
20–40	Intimacy v isolation	To share the self with another in a reciprocal relationship	
40–65	Generativity v stagnation	Being productive, the need to nurture others or to have had an impact on the world, the need to feel we are making a difference	
65+	Integrity v despair	Being at peace with the self, accepting of achievements with no regret	

Figure 9. Erikson's stages of the lifespan

14. Ibid.

15.Laura E. Berk, *Development throughout lifespan,* 5th ed. (Boston: Allyn & Bacon, 2010), 215.

regarded play as a means through which children develop "a sense of competence and positive self-esteem."[16] At this stage, children learn about themselves and practice how to direct their social play. They are eager to try out new skills with others' encouragement and without the fear of making mistakes. If adults encourage this attitude, children maintain a positive self-esteem.[17] Imaginative play develops at this stage. Children play variety of roles to learn about and practice new situations. They become more cooperative and learn how to lead as well as follow at group activities.[18]

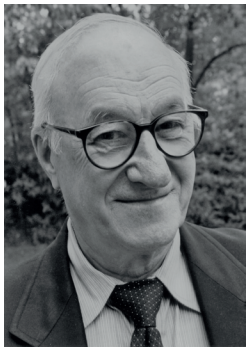


Figure 10. Albert Bandura

Albert Bandura developed social learning theory that had its roots in the theories of conditioning. He proposed that children learn from one another via observation, imitation, and modelling. In his study (1973) 'bobo doll,' he observed when a child witnessed the adult's aggressive behaviour towards a doll, the child tended to repeat the same behaviour while playing with the doll alone. He also suggested that role models have different influences over time, beginning with caregivers and family members then friends, peers and teachers. Bandura proposed a model known as "reciprocal determinism,"[19] which states that a person's behaviour both influences and is influenced by personal factors and the social environment. This model has four prerequisites for successful social learning:

1. Attention- the child must attend to the behaviour being modelled.
2. Retention- the behaviour must be remembered.
3. Reproduction- the behaviour is recalled and the child has the skills necessary to reproduce it.
4. Motivation- the child is motivated by reinforcement to reproduce the action.[20]

Jean Piaget and Lev Vygotsky were two of the biggest contributors in cognitive psychology. They both conceived an active role for

16. Howard and McInnes, *The Essence of Play,* 20.

17. Berk, *Development throughout lifespan,* 256.

18. Ludlow and Gutierrez, *Developmental Psychology*, 19.

19. Howard and McInnes, *The Essence of Play,* 22 .

20. Ibid.

Figure 11. Jean Piaget

Figure 12. Lev Vygotsky

children in the process of learning, meaning children have an intrinsic need to know and gain information about the surrounding world. However, whilst Piaget argued that learning happens through the child's self-guided exploration, Vygotsky suggested that children cultivate their skills and abilities through social interactions in a cultural context.[21]

Piaget proposed that cognitive development occurs in stages:

1. Sensorimotor (0-2 years)
2. Preoperational (2-7 years)
3. Concrete operations (7-12)
4. Formal operations (adolescence through to adulthood)[22]

In his argument, play also develops in alignment with these developmental stages. Indeed, Piaget suggests that, at the first two stages of the child's development, when logic has not been fully formed yet, play is the main representational tool for children to practice their newly learned skills. In the first two years, children are mostly engaged in sensory play. It develops into more complex types of play, such as make-believe, at the second stage of development. He also suggests that firsthand experience is crucial in the child's learning process.[23]

For Vygotsky, children were eager to learn because they had needs to communicate and experience social acceptance. In this regard, language was an important tool for the child to develop their thinking. Moreover, Vygotsky proposed the concept of the zone of proximal development, which refers to the distance between a child's actual developmental level and their level of potential development. He argued that when a child is in the zone of proximal development for a particular task, a more knowledgeable person can help the child to achieve the task by providing appropriate assistance. Vygotsky also

21. Ludlow and Gutierrez, *Developmental Psychology*, 65.

22. Ibid, 67.

23. Howard and McInnes, *The Essence of Play,* 23.

emphasized the role of make-believe play in the process of healthy development. Because language is the key element to the thought and cognition about the world, by performing drama plays and storytelling, the child can develop their understanding and learning roles in different worlds.[24] He discussed how in imaginary situations, children enjoy creating and recreating their own rules and follow them.[25] He also believed that Make-believe play, in particular, "freed children from constraints of reality, enabling them safely try on roles and try out ideas."[26]

From these theories, we can understand that early experiences influence the child's development across multiple domains. Sensory and physical experiences are the basis for much of children's development. Children learn through self-directed explorations as well as through activities where they have emotional support. They learn through imitation, observation, modelling, and their attention, enthusiasm and motivation are key elements in their learning process. Emotional health, positive self-esteem and a sense of autonomy are integral to development. Children's development occurs in a social and cultural context. Play is crucial in the process of a child's development, and it becomes more socially and cognitively complex in alignment with their stages of development.

24.Ibid.

25. Elena Bodrova and Deborah J. Leong, "Vygotskian and Post-Vygotskian Views on Children's Play" *American Journal of Play* 7, no. 3 (2015): 374

26. Howard and McInnes, *The Essence of Play,* 23.

Figure 13. Children at play

Play is the highest stage of the child's development… the purest, the most spiritual product of man at this stage, and it is at once the prefiguration and imitation of the total human life- of the inner, secret, natural life in man and in all things. It produces, therefore, joy, freedom, satisfaction, repose within and without, peace with the world.

- Friedrich Froebel, *The Education of Man*[27]

27. Friedrich Froebel, *Die Menschenerziehung* (Keilhau, Germany: Verlag der allgemeinen deutschen Erziehungsanstalt, 1826). Published in English as *The Education of Man*, trans. Josephine Jarvis (New York: A. Lovell, 1885), 30, **quoted in** Juliet Kinchin and Aidan O'Connor, *Century of The Child* (New York: The Museum of Modern Art, 2012), 30.

Play and Playfulness

Figure 14. Johan Huizinga

Play is an essential part of fostering children's healthy development as well as "their adaptation to their culture, society, and world."[28] Scholars within different fields – historians, sociologists, psychologists, and educationalists – emphasize the value of play as something that is inseparable from our existence. The Dutch theorist of play Johann Huizinga, in his book *Homo Ludens,* in the importance of play in the meaning of our existence states:

> A HAPPIER age than ours once made bold to call our species by the name of *Homo Sapiens*. In the course of time we have come to realize that we are not so reasonable after all as the Eighteenth Century, with its worship of reason and its naive optimism, thought us; hence modern fashion inclines to designate our species as *Homo Faber*: Man the Maker. But though *faber* may not be quite so dubious as *sapiens* it is, as a name specific of the human being, even less appropriate, seeing that many animals too are makers. There is a third function, however, applicable to both human and animal life, and just as important as reasoning and making namely, playing. It seems to me that next to *Homo Faber*, and perhaps on the same level as *Homo Sapiens*, Homo Ludens, Man the Player, deserves a place in our nomenclature.[29]

We can all agree playfulness is an intrinsic, natural quality that even other creatures, especially mammals, display in their contacts. However, in most societies this quality disappears gradually from childhood to adulthood; the way we engage with reality and take it in our inner world becomes, unnecessarily, too serious.

In the search for the definition of play, Huizinga suggests, "if we call the active process that makes up the essence of play instinct, we say

28. Joe L. Frost, "The dissolution of children's outdoor play: Causes and consequences,"*Common Good Conference* 31, no. 1 (2006): 5

29. Johann Huizinga, *Homo Ludens* (Abingdon: Routledge, 1949), ix.

nothing; if we call it "mind" or "will" we say too much."[30] On the other hand, "Play is one of those elusive phenomena that can never be contained within a systematic scholarly treatise," argues Mihai I. Spariosu, a professor of comparative literature and student of European philosophy. He notes that "Play transcends all disciplines, if not all discipline."[31]

Play is so important that it holds a foundation role in the development of the human from birth onwards. Indeed, the vital relationship between a human infant and its primary caregiver is inextricably tied to playful communication and exchanges. According to attachment theory in positive psychology, once a child is born, their healthy development directly depends on the quality of the bond with their caregiver. The infant is a hundred percent dependent on others. Because of this dependence, infants are "genetically programmed to seek proximity to its attachment figures."[32] Proximal connections provide early basis for the infant's initial feelings of safety (or not) along with sensory inputs through being handled and cared for. Since the very first relationship the child experiences is typically with the mother, this relationship is basically emotional. In fact, neuroscience research shows that in the first year of life, right brain activity is the centre of the child's engagement with the world. This side of the brain covers the emotions and senses – the main factors of attachment theory. Thus, the infant's relationship with the mother is mainly emotional and sensual.[33]

Moreover, the theory of attuned play provides support that this relationship is built upon play. It is called attuned play because a child's emotions are attuned with their mother in many ways: playful sounds, playful touches, and playful looks. Children who have the chance to create this playful relationship with their mother develop healthy behaviour, which continues to develop through adulthood. Another positive role of attuned play is the construction of social

30. Ibid, 1.

31. Mihai I. Spariosu, *Dionysus Reborn: Play and the Aesthetic Dimension in Modern Philosophical and Scientific Discourse* (New York: Cornell University Press, 1989), ix, **quoted in** Scott G. Eberle, "The Elements of Play: Toward a Philosophy and a Definition of Play" *American Journal of Play* 6, no. 2 (2014): 218

32. Gwen Gordon, "Well Played, The Origins and Future of Playfulness," *American Journal of Play* 6, no. 2 (2014): 239

33. Ibid.

Figure 15. Attuned play

skills during the child's first year. These skills foster feelings of safety and security during the process of personality formation, since humans are a social species and need to be around others to feel safe and happy. Therefore, play has a crucial role in the child's positive personality and healthy mentality, which contributes to their wellbeing.[34]

In the first years of life children play in a variety of ways and experience different stages of play. In her *developmental approach to social play* (1932), Mildred Parten (1902-1970), suggested six stages of play:

1. *unoccupied behaviour* – not playing, simply observing;
2. *solitary play* – child plays alone, uninterested in others;
3. *onlooker behaviour* – child watches the play of others and may talk to the children involved, but this talk does not relate to the play;
4. *parallel play* – plays alongside others, often imitating what is being played nearby but with no interaction;
5. *associative play* – the children appear to be playing together but their activities are not organized;
6. *co-operative play* – playing together through more organized activities, where they share intentions about the progress of the play.[35]

34. Ibid, 239-240.

35. Howard and McInnes, *The Essence of Play,* 23-24.

Play is an integral part of childhood. It promotes communication and social skills, decision-making skills, and provokes language, emotional and cognitive development in children. To embrace child's playfulness, it is important to learn about different ways children play, and how play influences the child's interactions with the world.

Figure 16. Solitary play

0-12 Months (Infancy)

A baby aged zero to twelve months plays in order to find out about her body and her senses, gradually, to learn about other objects. It is pleasant for a baby at this age to experiment seeing, hearing and touching various things. Baby will experience sensual connections with people by her side, such as eye contact; people singing for her and any form of connection. At this age, the development of a strong emotional bond with the main caregiver is very important so that the child feels safe, secure, and confident to explore their surroundings.[36]

36. Ibid, 26-29.

Figure 17. Exploratory play

1-2 Years (Early Toddler hood)

In the second year of life, children are mostly engaged in exploratory type of play. They may explore more frequently objects outside of themselves, and show their awareness of the objects; what they are and what they do. "This exploratory play is the basis for learning, goal pursuit, and growth."[37] Children also become more sociable and interested in repeating and imitating the action of others. The presence of the mother during this process is significant, for the child needs the feeling of safety and support while exploring the world. Research shows that children who had a secure environment to explore their surrounding tend to grow into curious adults with strong exploratory attitudes.[38]

These moments of sensation, exploration, and perception give children opportunities to 'find their own selves,' and become self-aware. The psychological term Internal Working Model (IWM) refers to "a generalization a child makes about the world that becomes the

37. Gordon, "Well Played, The Origins and Future of Playfulness," 241.

38. Ibid, 241-242.

unconscious interpretive filters through which she sees herself and others."[39] The more positive these experiences are, the healthier the child's interactions with the world. That is why exploratory play has a huge influence on health in child's life.

Figure 18. Pretend play

2 - 3 Years (late Toddler hood)

Children between the ages of two and three are often at the stage of onlooker and parallel play, in which they play nearby, but not together. Drawing and copying marks become popular. Children are also obsessed with repeated actions with natural materials such as sand and water, which stimulate their senses. Pretend play starts to evolve, in which children imagine objects to have different purposes. For example, a block might stand for a telephone receiver. They also play imaginary roles that they are familiar with, but have not experienced, such as a store Clark, a doctor or a barber. These new social situations provide them with new play opportunities. However, it is important that children keep "a positive sense of self" in these strange social situations.[40]

39. Ibid, 245.

40. Howard and McInnes, *The Essence of Play,* 32.

Figure 19. Associative play

3 - 5 Years (Early Pre-school)

At ages three and four, the beginning of preschool age, social play develops. Children start to engage in associative play, in which they appear to be playing together but their activities are not organized and may not follow the same goal. Their communicational skills develop during group activities, while they practice negotiation and turn taking. Children are interested in sensory and physical activities, role play as well as drawing, music, and art. Imagination and story details evolve during pretend play.[41]

5 - 7 Years (late Pre-school)

Between the ages of five and six, around the late preschool period, cooperative play begins to appear and increase during play activities. At this stage of social play, children develop organizational skills and reach an extended degree of social maturity. Children start to understand and follow the rules more clearly during play time. However, rules are changeable by children in accordance with their play scenarios. Constructive play emerges at this age, in which children enjoy "making things from models or from their own imagination."[42]

41. Ibid, 33.

42. Ibid, 35.

Figure 20. Cooperative play

With this short review on recent theories about play behaviour from birth to school age, it becomes clear how much play is important in the development of a healthy personality. Indeed, play is the child's refuge. It creates a world that is sometimes hard for the child to separate it from the real world. Therefor, when children play, their experiences shape their real world conceptions. The more positive these experiences are, the healthier their understanding of the world will be. Children's environment reinforces their playful traits.[43] It is adults' responsibility to provide children with safe environments to strengthen their playful attitudes, and preserve children's origin of playfulness.

43. Mark Dudek, *Nurseries: A Design Guide*.

Figure 21. Unstructured play

Unstructured Play

"Unstructured play[44] is the business of childhood." It occurs when children behave in accordance with their instincts, ideas, and interests without an expected outcome. The correlation between children's healthy development and play is so strong that it is inserted as Article 31 of the Convention on the Rights of the Child. Appropriate amount of time, space, and opportunity for quality play are requisite for children and youth well-being. There are several types of unstructured play such as "play at heights; play at speed; play with loose parts; rough-and-tumble play; and play where the children can disappear or get lost."[46]

According to the Canadian Public Health Association (CPHA), unstructured play benefits various aspects of children health and well-being:

44. "The term unstructured play does not have an academic definition, but has come to be used as a generic term to represent child-led play that takes place preferably outdoors but also indoors, and includes the concept of risky play. Its use was developed to reflect the concerns of decision-makers regarding the use of the term "risky" to describe play."[45]

45. Canadian Public Health Association (CPHA). Children's Unstructured Play Position Statement. March 2019, https://www.cpha.ca/childrens-unstructured-play

46. Ibid.

1. Unstructured play improves physical health and gross motor skills. It increases the child's energetic behaviours, and helps to maintain a healthy body weight.

2. Unstructured play benefits children's mental and emotional wellbeing, and supports their "positive self-concept and self-esteem." It promotes friendships that itself stables emotional wellbeing.

3. Unstructured play improves social health and teamwork by promoting children's "social competence, self-awareness, and empathy." It helps children to develop their communicational skills in cooperative group activities.

4. Unstructured play supports cognitive skills development, and improves children's learning at school.

5. Unstructured play encourages resiliency and risk management skills development. The experience of unknown situations during play improves children's "emotional reactions, physical capabilities and coping skills," which, ultimately, increases "their capacity to manage adversity."[47]

In overly structured Western societies and cultures, it is necessary to create spaces that enable children to practice and participate in free, spontaneous play activity. Unstructured play that enables self-determination and ownership of discovery requires more attention in the design of today's play environments for young children.

47. Ibid.

Figure 22. Outdoor rich environments allow children to experience diversity.

Outdoor Play

Play environments that invite and accommodate various forms of play in restricted urban spaces, and in which there is enough room for every child to engage in their own play, are necessary for children's healthy development. High-quality outdoor play environments, in particular, can improve children's physical and cognitive development through valuable active, sensory and imaginative play opportunities.[48]

"The outdoor environment offers unique qualities." Children are freer roaming around the area with fewer constraints compared to indoor environments. In an open space, children have more possibilities for movement. Young children love to run. With some safety considerations, outdoor spaces can incorporate room for running. Play materials come in a larger variety, which offers children a different experience than indoors. A large-scale water wheel or larger surfaces, to paint on, encourage children to move more bravely and confidently.[49]

48. Mark Dudek, *Nurseries: A Design Guide*, 108.

49. Helen Tovey, *Playing Outdoors: Spaces and Places, Risk and Challenge* (Milton Keynes: Open University Press, 2008), 13.

Moreover, "Outdoors is a dynamic environment, which is always changing—the air, temperature, light, weather conditions, seasons are in constant flux." The continuous change of the outdoor environment makes it unpredictable, which enables young minds to explore their imagination and be creative. Variable of materials and their fluidity throughout seasons offer many "sensory experiences that stimulate the whole body."[50]

Indeed, outdoor experiences are so valuable in the early years of children's development that Friedrich Froebel applied the word "Kindergarten, a garden for children," instead of the word school, to his early educational institution, as he believed the kindergarten was a place where children could not only learn subjects but also be in touch with nature.[51] Helen Tovey, in *Playing Outdoors*, reviews four important figures who advocated for children's right to outdoor play: Friedrich Froebel, Margaret McMillan, Susan Isaacs and Marjorie Allen.

In 1837, Froebel established his own kindergarten in Blankenburg, Germany, in which there were outdoor areas to develop children's creativity and imagination through active free play. Natural materials such as sand and water were provided for educational purposes. There were also seats for parents and guests. He specified some single or partnered spaces for one or two children and devoted some space for fruit and flower gardening for each space. Froebel even designed a surrounding pavement for each one of these spaces wide enough for two children to walk together so that they not only learn how to nourish plants but also learn how to work together to take care of the nature. Through gardening and outdoor play, children learned about nature and the growth of plants and animals, but they also learned to care and take responsibility for nature, and gradually to recognize their own place in the natural world.[52]

50. Ibid. 15-16.

51. Ibid, 40.

52. Ibid, 40-42.

Figure 23. Children's garden, unidentified kindergarten, Los Angeles, ca. 1900

At the end of the 19th and beginning of the 20th century, Margaret McMillan (1860–1931) - a socialist politician and British pioneer of nursery education - had already been aware of the vitality of children's healthy development and learning through Froebel's works. Therefore, she also opened an outdoor nursery school in Deptford, East London (1926), with a garden for children, as their central learning space, and an indoor space in case of inclement weather. There was a direct connection between indoor and outdoor spaces, promoting children's free play. McMillan did not believe in manufactured learning materials, and suggested that whatever was needed for children's sensual and diverse explorations was provided outside; children could sleep, have meals, tell stories, and play games.[53] [54]

The garden "offered diversity and rich sensory experience. [A] rranged on different levels, on grass and hard surfaces, [with] paths,

53. Mark Dudek, *Nurseries: A Design Guide*, 120.

54. Helen Tovey, *Playing Outdoors: Spaces and Places, Risk and Challenge,* 44-46.

steps and open spaces, logs, climbing bars, slides, banks, ropes, swings, shrubbery, sheds, and playhouses...[and a]ll plants and flowers chosen for their sensory qualities of colour, patterns, scent, texture and, where appropriate, taste" all the elements had several functions. Logs could be stairs for jumping and climbing, allowing children to move physically according to their needs. The gardens were operational, that is, children could harvest as well as play in them. This let them learn about healthy diet as well as digging and exploring.[55]

Figure 24. Margaret McMillan

Although McMillan was well known for her passionate ideas about the importance of the outdoor environment in an educational setting, her focus was more on the health and welfare of children. On the other hand, Susan Isaacs (1885–1948), a British educational psychologist and psychoanalyst, stressed on the educational aspects of the outdoor free play in kindergartens.[56] In 1924, Isaacs established the Malting House School in Cambridge, which had a very different social framework from McMillan's nursery school. It served children from highly professional families. Isaacs believed that children had an intrinsic enthusiasm for exploring the world, hence she sought two main aims in her school: first, enticing the effective curiosity of children themselves rather than educating them directly; second, taking into their exploratory activities all kinds of information to which their interests have penetrated. Children were granted tremendous independence at school as she believed that play was most beneficial when children were engaged in freely chosen play. To stimulate the interest of children, the garden of the school contained "grass, fruit trees, a climbing frame, slides, portable ladders, trees for climbing, flowers and vegetable gardens with individual plots for each child and a range of animals, including Chickens, guinea-pigs, as well as snakes and salamanders." Children were free to enquire, explore and pursue wherever their interest led. Isaacs argued that children still needed order, protection and

Figure 25. Susan Isaacs

55.Ibid, 45.

56. Mark Dudek, *Nurseries: A Design Guide*, 123.

Figure 26. 21st December 1966: Four young children playing in an adventure playground.

direction in a free environment. In agreement with Froebel, Isaacs believed that independence causes children to be responsible, and encourages them to develop the skills they need.[57]

A Landscape architect, pacifist, and an activist for the rights of children - Marjorie Allen, called Lady Allen (1897-1976) - pioneered outdoor playgrounds for young children. During the 1950s, she influenced policies and practices for children throughout Britain. By being instrumental in advocating for better care for children, though not a teacher, Lady Allen became president of the Nursery School Association. She introduced to England the concept of adventure playgrounds that emerged in the 1940s in Denmark, with the idea that waste materials provided more opportunities for play than ready equipment. Children could create their own play spaces by building them from "discarded timber" and different "tools and nails."[58] Observed by a professional play leader, children could play with sand, water, and fire. Lady Allen blamed traditional playgrounds for being rigid, boring, risk-free, and lacking concerns for young

57. Helen Tovey, *Playing Outdoors: Spaces and Places, Risk and Challenge,* 46-48.

58. Ibid, 49.

children's desire to discover, fantasize, build and pursue friendships. Via her scripts and activities, she was prominent in the expansion of adventure playgrounds in main cities in the UK, especially in London, where "bomb sites and waste ground could be transformed into spaces for children."[59] A lot of adventure playgrounds were closed by local authorities after the 1974 Health and Safety at Work Act.[60]

All these traditions believed in the creative and imaginative child, and saw free outdoor play as a powerful vehicle for learning. In all these nurseries, gardens were key elements of the outdoor environment, because of the common belief that gardening has advantages both in practicing responsibility and in valuing natural environment. Children were trusted to experiment and challenge themselves through making fire and using different tools, in order to practice problem solving, and engage in first-hand experiences. More importantly, outdoor play spaces for young children were designed in accordance to theoretical principles, corresponding to children's needs and desires during early childhood.

59. Ibid.

60. Ibid, 48-49.

Chapter 2

THE ARCHITECTURE OF CHILDHOOD

Figure 27. Children use spaces differently, a nursery by HIBINOSEKKEI, Youji no Shiro, Japan, 2014

Architecture is the making of a room; an assembly of rooms. The light is the light of that room. Thoughts exchanged by one and another are not the same in one room as in another: a street is a room by agreement. Its character from intersection to intersection changes and may be regarded as a number of rooms.

- Louis Kahn, "Architecture: Silence and Light"[1]

1. Louis Kahn, "Architecture: Silence and Light," *Louis I. Kahn: Writings, Lectures, Interviews*, ed. Alessandra Latour (New York: Rizzoli International Publications, 1991), 251, **quoted in** Robert McCarter and Juhani Pallasmaa, *Understanding Architecture* (New York: Phaidon Press Ins., 2012), 254.

Design for the Child

Architecture creates possibilities for its inhabitants to experience the outer world through the frames of their own imagination. By living this potential from a variety of standpoints, spatially and temporally, each person explores their own perspectives, and forms an understanding of the world. However, one may live these moments at the present time, but many moments live in us forever; momentarily lived spaces transform into a lifetime experience of places. When a child is born, they have a minimal ability to choose their environment. Time passes by, and each individual, to some extent, gains the opportunity to decide on where to be and who to become. This is why the value of architecture is highest in children's environments.

The architecture of children's environments has as short a history as the concept of childhood itself. Architects have shown the smallest concern for the child in the history of architecture. Although the concept of the child and childhood started to appear only in recent centuries, the lack of attention to the buildings and environments designed for children, even in democratic societies, is indisputable. The only time that "the architecture of childhood was at the centre of architectural discourse was in the postwar architectural culture of northern Europe, between 1935 and 1959, which is unique in architectural history." Architectural journals and exhibitions were devoted to playgrounds, schools, children's hospitals, and neighbourhoods where children had priority in the design process.[2] One of the few architects that focused on children's spaces during the twentieth century was the Dutch architect Aldo van Eyck (1918-1999), who worked both in architecture and urban design. At the Modern Movement's Congrès Internationaux d'Architecture Moderne (CIAM) 10 in 1956, Van Eyck presented a panel named "The Child in the City: The Problem of Lost Identity."[3] His argument

2. Roy Kozlovsky, *The Architectures of Childhood: children, modern architecture and reconstruction in postwar England* (New York: Routledge, 2013), 1.

3. Ibid, 2.

Figure 28. Playground designed in 1947 by Aldo van Eyck in Bertelmanplein, Amsterdam

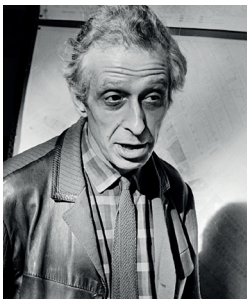


Figure 29. Aldo an Eyck

was that "cities can only be humane if they are also designed for children."[4] He was interested in the world of the child, in whom he recognized positive human capabilities such as imagination and creativity.[5] Traditionally, play areas are designed in a uniform way, including slides and swings. After World War II, Van Eyck designed hundreds of playgrounds in the city of Amsterdam. These public playgrounds "consisted of play equipment with a minimalistic aesthetic that was supposed to stimulate the creativity of children... Whereas a slide or a swing almost dictates what a child is supposed to do, van Eyck's play equipment invites the child to actively explore the numerous affordances (action possibilities) it provided."[6]

Overall, despite the fact that Ellen Key predicted that the twentieth century would be the century of the child, child-centred design did not last long. In her book, *The Secret of Childhood*, from the early 1980s, Maria Montessori criticizes the adult world that "invests in itself" instead of the child's world. She warns society to be aware of

4. Francis Strauven, *Aldo Van Eyck: The Shape of Relativity* (Amsterdam: Architectura & Natura, 1998), 408-409.

5. Ibid.

6. Rob Withagen and Simone R. Caljouw, "Aldo van Eyck's Playgrounds: Aesthetics, Affordances, and Creativity," Front. Psychol, July 4, 2017, https://doi.org/10.3389/fpsyg.2017.01130

children and their importance, as "In the mind of the child we may perhaps find the key to the progress, and who knows, the beginning of a new civilization."[7]

On the other hand, child-centred appreciation in today's society and efforts to maintain children's health and safety has led to the domination of adults over children, hence clipping children's wings. This has had a negative impact specifically on the design of play environments for children. The design of playgrounds with strict security standards that are not responsive to the child's needs to experience the unknown, imagination, and creativity is undeniable evidence to this claim. The sad truth is that this is happening despite the fact that nowadays, we have advanced science in the fields of psychology, education, and even in treatment practices testifying to the necessity of free and spontaneous play in childhood, especially at early ages.[8]

Designing for play is an art.[9] Today's playgrounds mainly consist of commercial equipment in the shape of sizable, colourful pieces of steps, decks, and slides. In this assemblage, use is defined, and activities are dictated. When playgrounds, as places for children to exist and act childishly, first emerged in cities, they used to reflect theories about how children learn. Today, playgrounds are largely static structures disconnected from recent theories on the subject. What are the implications of a rich design that embodies children's playfulness?

At the beginning of the twentieth century, new conceptions of design were applied to different areas of children's experience. Child-inclusive approaches emerged to the design of schools and community spaces and objects to stimulate the imagination and physical well-being of the child. There was more emphasis on the "enjoyment of the creative process and...intuitive investigation of

7. Maria Montessori, *The Secret of Childhood,* trans. M. Joseph Costelloe (New York: Ballantine Books, 1979).

8. Mariana Brussoni et al., "Risky Play and Children's Safety: Balancing Priorities for Optimal Child Development," *International Journal of Environmental Research and Public Health* 9, (2012): 3134-3148, https://doi.org/10.3390/ijerph9093134

9. Barbara E. Hendricks, *Designing for Play (Design and the built environment series),* 2nd ed. (Surrey: Ashgate Publishing Limited, 2011), 30.

materials" that was based on the principles and values of the early childhood education movement.[10]

Most progressive educators agreed that children are active agents in the process of their learning, and that they learn most effectively through "singing, dancing, direct observation of nature, and, above all, open-ended play with real objects."[11] Froebel, in *The Education of Man* (1826), proposed a theory that the child's development should "proceed by learning to observe, reason, and create through the sacred language of geometry."[12] Inspired by Johann Heinrich Pestalozzi (1746-1827), he emphasized on learning through firsthand experience with objects rather than the use of language by reading and writing. Accordingly, Froebel developed a series of play materials, which he called Gifts, which included geometric building blocks designed to teach children about abstract forms and their relationships in a natural harmony. (Figure 30) The Gifts included "crocheted balls in different colors, wooden building blocks, parquetry pieces for pattern making, and steel rings," as well as materials for activities that required modifications. Gifts incorporated the basis of Froebel's educational method, which focused on play activities, both directed by teachers and initiated by children themselves, as tools for exploring and learning about the natural world through stimulating children's curiosity and creativity.[13]

Maria Montessori also believed that teaching materials and learning environments influence children's quality of education. After studying children's play systematically, Montessori designed an "activity-based teaching method that used material objects to stimulate children's senses." She encouraged children to work with natural materials such as clay, "decorating it, baking it, and appreciating the finished object," to instill kindness and respect towards nature and the surrounding environment.[14]

10. Juliet Kinchin and Aidan O'Connor, *Century of The Child* (New York: The Museum of Modern Art, 2012), 29.

11. Ibid, 30.

12. Ibid.

13. Ibid, 33.

14. Ibid, 47.

Figure 30. Froebel Gifts

De Stijl, the avant-garde group of architects and artists, focused on modern design for children, and ideas of exploratory, functional play related to the early childhood educational movement in their journal, published from 1917 to 1931. Gerrit Rietveld, one of the early members of this group, incorporated the aesthetic ideas of De Stijl in his furniture design. In 1919, he redesigned a well-known childhood object, the high chair. (Figure 31) Rietveld's design process resembled the kind of "constructivist play with blocks and sticks" invented by Froebel and Montessori, and through which he experimented with ways of forming a furniture joint from "three intersecting battens" to create a "structural node."[15] Juliet Kinchin describes the chair as follows:

15. Ibid, 70.

Figure 31. Gerrit Rietveld high chair, 1924

Figure 32. Gerrit Rietveld

The clarity of the chair's elemental structure, resembling scaffolding, differed radically from conventional furniture of the day. The distinctive crisscrossing joints were strong, easy to assemble, and had great spatial and conceptual logic. Not only did the composite form of the chair have a clearly defined presence, but each component part was readily distinguished. In extending past the point of junction, the pieces of timber created a sense of dynamic extension into the surrounding space, rather like and exploded diagram.[16]

16. Ibid.

Rietveld's design of the high chair was a symbolic implication of the artists' approach of the time: the integration of aesthetic and educational reform principles.

Postwar educators and psychologists, united in intention, argued that children around the world must reserve the right to the opportunity for play. Thus, the design of toys, as important elements of children's

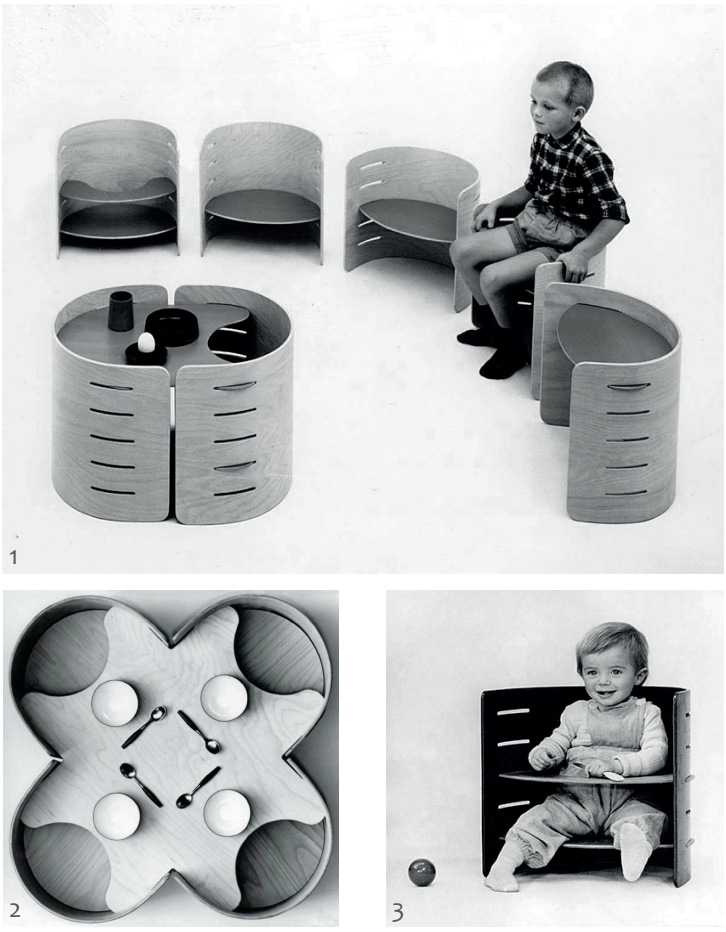


Figure 33. Kristian Vedel child's chair, 1957

play, needed a particular attention. These experts agreed that a good toy design "stimulates imagination, develops the mind, and exercises the body."[17] Sometimes, toys functioned as furniture. In 1957, Kristian Vedel designed a modifiable toy/furniture, "a steam-bent plywood toy that had removable slats; the curved shell could be transformed into a child's chair, table, tunnel, or doll's cradle."[18] Its design gave the child the opportunity to create their own furniture suited to their own desire. These objects represented the idea that the child is free to build or modify their environment. (Figure 33)

Figure 34. Marcel Breuer playroom in a house, 1949

Postwar child development specialists claimed that room for play should constitute children's everyday space. Jean Piaget emphasized the importance of children playing alone with toys, in order to promote their sense of autonomy and escalate their motor development. After World War II, architects and designers, following these theories, incorporated playrooms in their designs as

Figure 35. Marcel Breuer

17. Ibid, 171.

18. Ibid, 173.

places specifically dedicated to children's playtime. In 1949, Marcel Breuer (1902-1981), Hungarian architect, designed a one-family house for a middle income American family. This house included a playroom located at the back of the house.[19] (Figure 34) It was connected to the kitchen with a glass panel, which allowed direct supervision so that children could play undisturbed.[20] The playroom also had direct access to the garden, as a symbol of the free child. Large building blocks inside the playroom could be "rearranged as a desk or seating, a wooden train set, a carpentry set, and a loom."[21]

Postwar Bavinger House playroom design was one of the most unconventional playrooms. (Figure 36) Walls made of merely netting, It was a circle shaped platform, hung from the ceiling. Amy F. Ogata, in *Century of the Child,* describes it as follows:

> The play space, one of five stepped, carpet-covered saucers hung from metal rods, was open to the unusual living space in Bruce Goff's 1950-55 design for the Bavinger family outside Norman, Oklahoma...The logarithmic spiral-shaped plan enclosed the open living area, which had no interior walls and thus no regular rooms...Instead of ordinary bedrooms, the Bavinger children had a sleeping area near the top of the house and a play space one level down, above the built-in dining table...The experimental openness of the dwelling, which Goff's design highlights, made the entire house, with its suspended roof, saucer, and continuous skylight, seem enchanted and futuristic.[22]

Throughout the twentieth century, designers became more interested in the design for children in particular. The development of theories on learning, and findings in psychology and other sciences influenced the design conceptions. Either it was at the scale of a toy or a room, children were recognized as the main users, and the

19. Ibid, 175.

20. Peter Blake, "The House in the Museum Garden. Marcel Breuer, Architect." *The Bulletin of the Museum of Modern Art* 16, no. 1 (1949): 3-12.

21. Juliet Kinchin and Aidan O'Connor, *Century of The Child*, 175.

22. Ibid, 177.

Figure 36. Bruce's Goff's 1950-55 design of the Bavinger family outside Norman, Oklahoma.

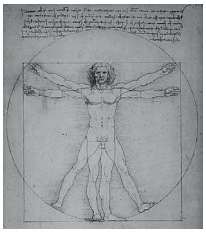
Figure 37. Left: Bruce Goff

design approaches were child-inclusive. To embrace child's freedom and autonomy, the designs for children's furniture and environments were modifiable. Children's right to play, recognized by UNICEF, encouraged architects to design a room in the house for children's play time; a playroom that represented child as a free innocent member of each society. In the twenty-first century, there is a need for the same amount of attentiveness in the subject of the child in the practice of architecture.

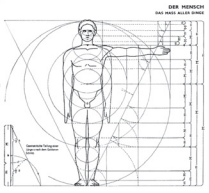
A View of the World from Ninety Centimetres

Children use spaces differently than adults. Partially, this is because of their smaller dimensions and different body proportions. Anthropometric measurements for children did not appear in the design studies until the beginning of the twentieth century. Children live closer to the ground in different ways than adults do. Their eye level is closer to the ground and they spend a lot of time sitting or kneeling on it. (Figure 40) How children engage with their immediate environment should be taken into consideration in the process of design.[23]

1490



1854



1905

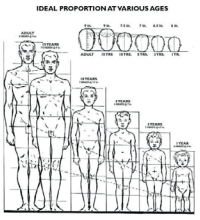


Figure 38. Time-line for the formation of Man's dimension's charts in architecture.

23. Barbara E. Hendricks, *Designing for Play (Design and the built environment series),* 125.

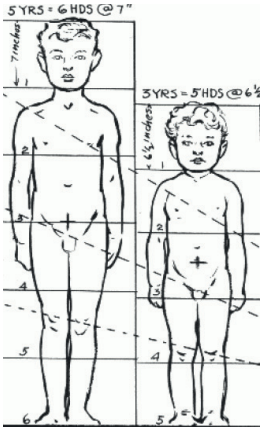


Figure 39. A view of the world from ninety centimetres by Andrew Loomis.

Figure 40. Montessori classroom.

Figure 41. Giant Stride, New York, ca. 1910-1915

The child's mode of being in the world is such that the world becomes an invitation. It is things in the beckoning world that invite the child, that awakens his curiosity, that invoke ... him to make sense of that multitude of experiences lying beyond; in short to become, through his play, both an actor and a meaning maker.

- Polakow, *The Erosion of Childhood*[24]

24. V. Polakow, *The Erosion of Childhood* (Chicago: University of Chicago Press. 1992), 39, **quoted in** Helen Tovey, *Playing Outdoors: Spaces and Places, Risk and Challenge,* 67.

Playgrounds

Today, there are a variety of outdoor play areas that children experience daily in a city. Within a walking distance, there is usually one in the daycare where they attend everyday, maybe a park near their home, and a playground in a schoolyard close to their neighbourhood. Almost at every corner of the city we find a small playground. However, this has not been always true; playgrounds have a very short history. In late-nineteenth-century cities, there were sand gardens, a concept that emerged in Germany, and which children could claim as their own space. By the beginning of the twentieth century, playgrounds became places in need of the attention of designers and industry. Cities were growing fast and, because of safety requirements, children's mobility was restricted. Hence, they needed a place of their own where they could play and roam around freely.[25]

Prior to World War I, between 1900 and 1920, there were model playgrounds with apparatuses like the Giant Stride, built with steel, wood, and iron tubes, and traditional play equipment like swings and slides. During the 1930s, development slowed and was eventually suspended due to the Great Depression and the war. After World War II, adventure or junk playgrounds, which were sites with waste materials spread around, appeared.[26] Dutch cities had many empty spaces available due to destruction caused by the war. Between 1950 and 1970, Lady Allen developed adventure playgrounds in the UK to provide play opportunities for disabled children. As opposed to the traditional playground that provoked children's movement and physical play, the adventure playground, full of junk and waste materials, provided children with opportunities to experiment, create, and recreate.[27]

25. Joe Frost, "Evolution of American Playgrounds," *Scholarpedia.* Megan Tulac, National Institute for Play, December 20, 2012, http://www.scholarpedia.org/article/Evolution_of_American_Playgrounds

26. Ibid.

27. Maisie Rowe, "The new adventures of the adventure playground," *The Spectator,* July 25, 2015, https://www.spectator.co.uk/2015/07/the-new-adventures-of-the-adventure-playground/

Figure 42. Adventure Playground in Emdrup, Copenhagen.

Lady Allen believed that:

> At every point these children need some kind of challenge which sets them going. We want them also to be as free as possible from adult supervision. Because I think, and I think other people think with me, that many of these children are needlessly overprotected by adults, and never given any freedom to explore and experiment, and find out what the world is all about.[28]

28. "Lady Allen – the godmother of play – speaks," *rethinking childhood.* June 24, 2013, https://rethinkingchildhood.com/2013/06/24/lady-allen-godmother-play/

Figure 43. Aldo van Eyck's playground at the Laagte Kadijk in Amsterdam.

On the other hand, after World War II, the Dutch architect Aldo van Eyck took another approach towards empty lots in the city of Amsterdam. Van Eyck's playgrounds prioritized children's imaginations and the importance of the mind roaming around the playground apparatus. The minimalistic, abstract forms of van Eyck's play sculptures intended to stimulate the creativity of the child. Between 1950 and 1970, he designed hundreds of playgrounds in the form of elementary, fixed play objects out of which children could make anything they could imagine, whether a small tunnel or a large dome.[29]

However, the advocates for the adventure playground criticized this notion that fixed minimalistic play equipment can stimulate children's imagination, as imagination arises from "the playing [itself], not the plaything."[30] Supporting this claim, sociologist Vere Hole explains about the difference between "imaginative design and imaginative use" as follows:

29. Rob Withagen and Simone R. Caljouw, "Aldo van Eyck's Playgrounds: Aesthetics, Affordances, and Creativity."

30. Roy Kozlovsky, *The Architectures of Childhood,* 49.

> Architectural equipment, which was intended to stimulate imaginative games, did not appear to do so; imagination was more readily sparked off by an old box, sticks, and so on which came fortuitously to hand, but which the child could manipulate in some way.[31]

In the twenty-first century, modern playgrounds vary in aspects such as form, size, play items, and materials. "Three key types of playgrounds are: 1) traditional-equipment play areas, 2) contemporary design playgrounds, and 3) natural-design playgrounds." The traditional playgrounds contain equipment such as swings, slides, and merry-go-rounds. Contemporary playgrounds, usually designed by artists and architects, consist of elementary forms varied in height and texture. Natural playgrounds are filled with natural materials such as wood and water, which can be modified.[32]

The majority of playgrounds, however, are basically manufactured equipment that provide a range of motor benefits to children, such as climbing, sliding, balancing, and swinging. These conventional playgrounds constitute fixed, colourful, plastic apparatuses, mostly shaped as a house with stairs, decks and slides, in which affordances for the child's imagination and creativity are minimal and there is little space to explore. The focus is more on the physical aspects of play activities and the development of gross motor skills that help expand children's strength, flexibility, and coordination. Yet, even with regards to physical activities, due to cultural boundaries, features of the play environment are so boring and risk-free that afford very little types of play and invitation for certain activities. Moreover, they lack open spaces, natural features, found materials, and loose parts, all of which are so essential to children's creative and spontaneous play.

31. Ibid, 50.

32. Ellen Beate and Hansen Sandseter, "Affordances for Risky Play in Preschool: The Importance of Features in the Play Environment," *Early Childhood Education* 36 (2009): 440.

Figure 44. Conventional playgrounds.

Playgrounds are important places. They are a children's place, a place for being able to act like a child, and a place for seeing what matters to children. "Life is experienced as more satisfying and interesting, and is therefore more meaningful and conducive to growth when space invites us to do what we want to do."[33] In the playground, children typically do what they want to do and freely spend their time in a place that belongs to them. What they experience in this place and how they explore the space influences their understanding of the world and their satisfaction with it. The quality of the play areas is an important subject and should be considered in the process of the playgrounds' design.

33. Sybil Kritchevsky and Elizabeth Prescott, *Planning Environments for Young Children: Physical Space* (Washington: Natl Assn for the Education, 1969), 5, **quoted in** Sharon Stine, *Landscapes for Learning: Creating Outdoor Environments for Children and Youth* (New Jersey: Wiley, 1996), 167.

Figure 45. Zaanhof playground, Amsterdam, 1948

If childhood is a journey, let us see to it that the child does not travel by night.

- Aldo Van Eyck, 1956[34]

34. Francis Strauven, *Aldo Van Eyck: The Shape of Relativity*, 169.

Aldo van Eyck

Reviewing Aldo van Eyck's playgrounds is important because he was one of the most dedicated architects of his time interested in the world of the child. Van Eyck's playgrounds shared the same function, and involved the elementary forms of play equipment. However, each playground had its own identity, varied in configuration, in accordance to the size, shape and surrounding of each specific site and its neighbourhood. He believed that a space can be transformed into a place only if it invited people and promoted togetherness.[35] By developing hundreds of playgrounds in Amsterdam, van Eyck had an opportunity to put his ideas into practice, and enliven the city with children's presence. As Francis Strauven, author of *Aldo Van Eyck: The Shape of Relativity,* states:

> It was an undertaking that affected both the child and the city[36]

35. Rob Withagen and Simone R. Caljouw, "Aldo van Eyck's Playgrounds: Aesthetics, Affordances, and Creativity."

36. Francis Strauven, *Aldo Van Eyck: The Shape of Relativity,* 151.

Zaanhof Playground
Spaarndammerbuurt, Amsterdam, 1948

Figure 46. Zaanhof playground, Amsterdam, 1948

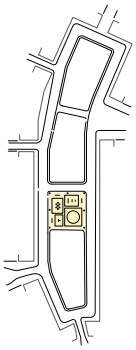


Figure 47. Zaanhof site plan, scale 1:4000

Zaanhof was one of van Eyck's first playground designs, built in 1948 on a twenty-metre-square site that was part of the inner courtyard of a perimeter block designed by Walenkamp in 1916. In this playground, he related four play areas to one another in a diagonal pattern: a circular sandpit, three climbing bars, seven jumping stones, and a roundabout. Contrasting strongly with the brown brick-paved surface of the square, these areas were distinct with four rectangular floors of white concrete paving stones. Each of these four different floor surfaces marked a center of its own, and combined together they evoked a centrifugal movement. (Figure) Although not equal in size, they were related, and related the play situations they instituted as equal elements. The non-alignment of the floor surfaces created three small areas on the borders that could accommodate benches. The playground was surrounded by eight trees that were placed in the corners and the centre of each side of the square. (Figure) Trees indicated the normal axes of the square,

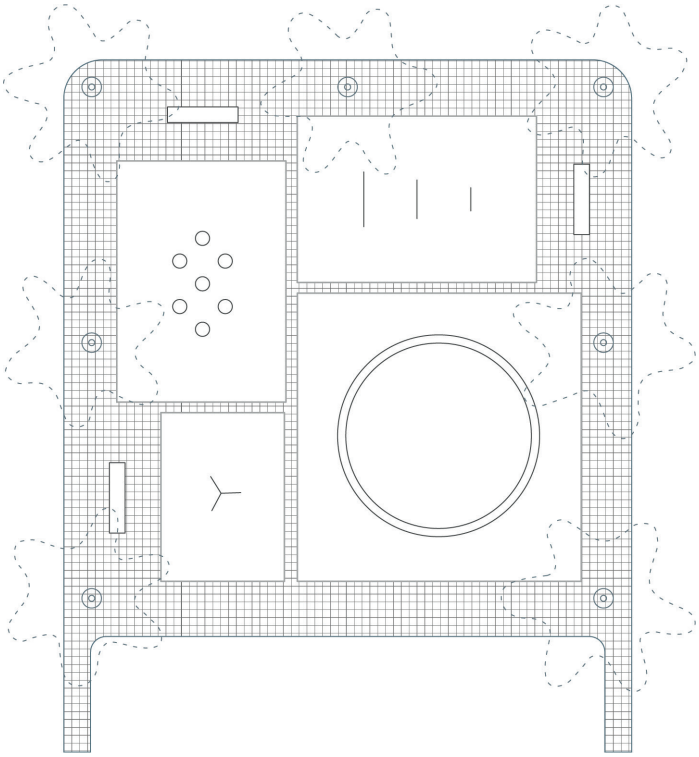


Figure 48. Zaanhof plan, scale 1:300

which noticeably were not in accordance to the lines of the design, but stressed the degree of non-alignment and off-centeredness of the design elements.[37]

37. Francis Strauven, *Aldo Van Eyck: The Shape of Relativity*, 154-155.

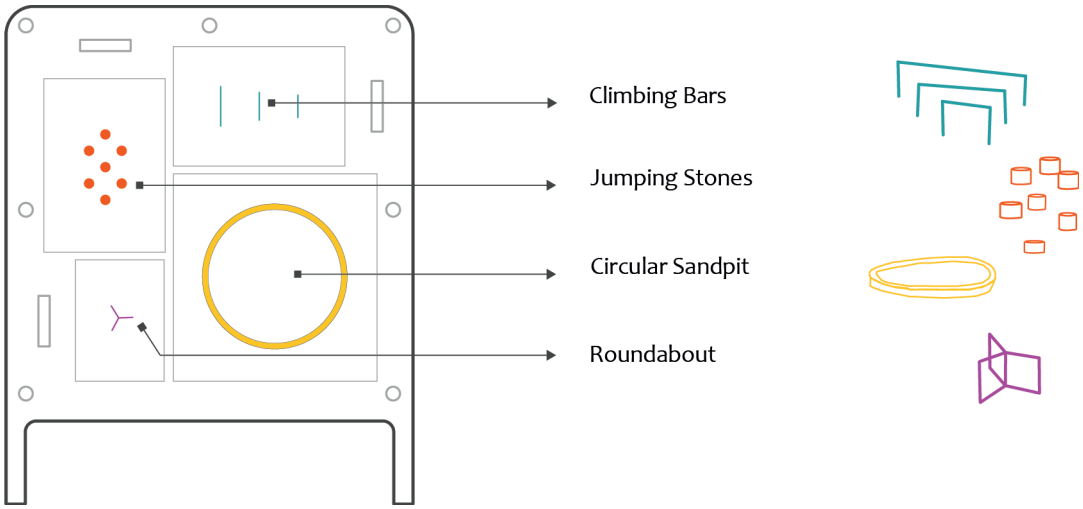


Figure 49. Zaanhof play elements

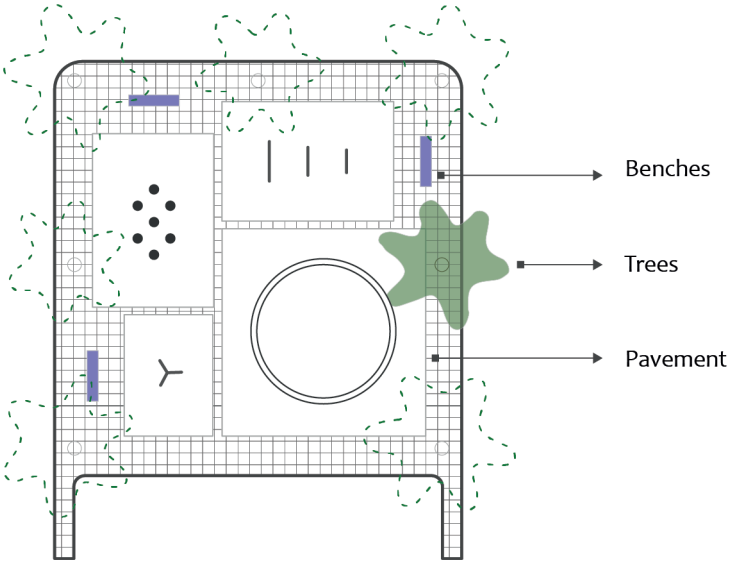


Figure 50. Zaanhof playground other elements

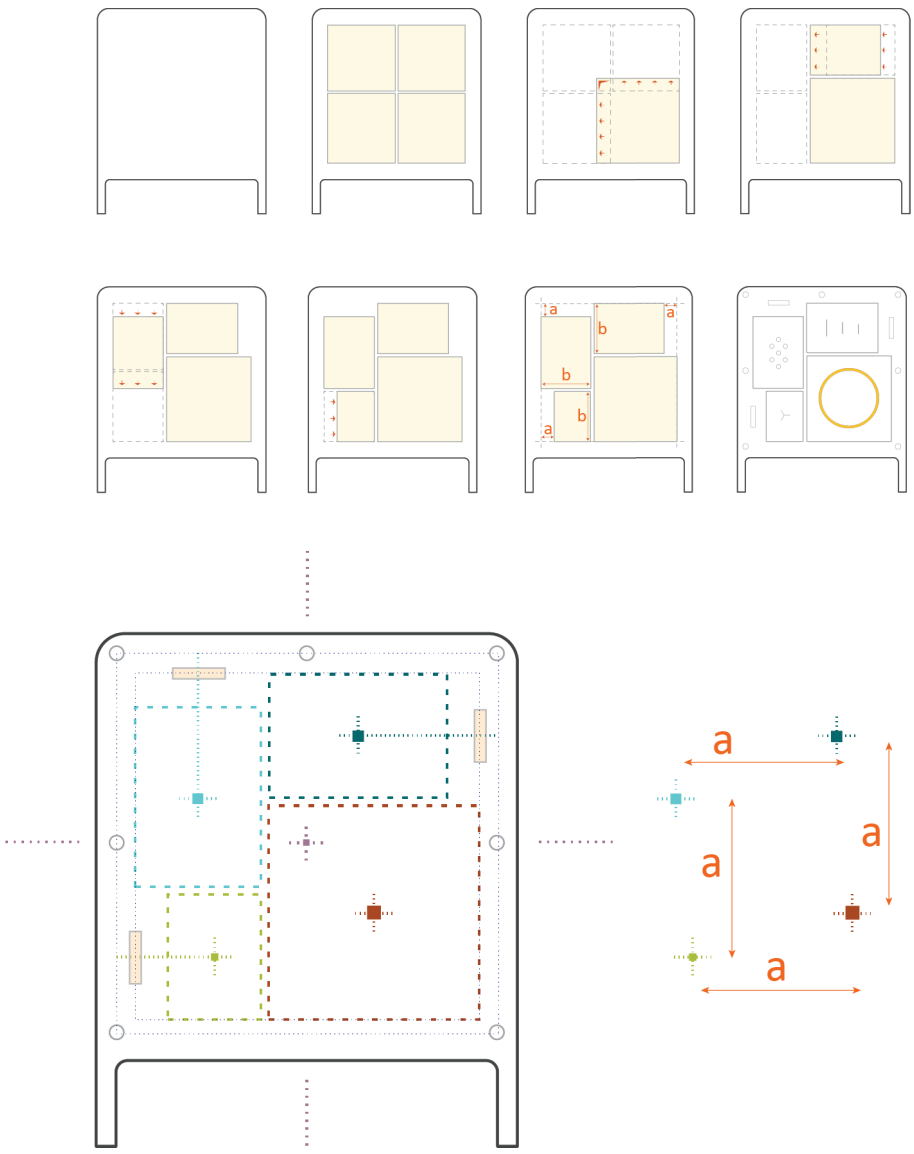


Figure 51. Zaanhof playground compositional technique

Dijkstraat Playground
Nieuwmarkt, Amsterdam, 1954

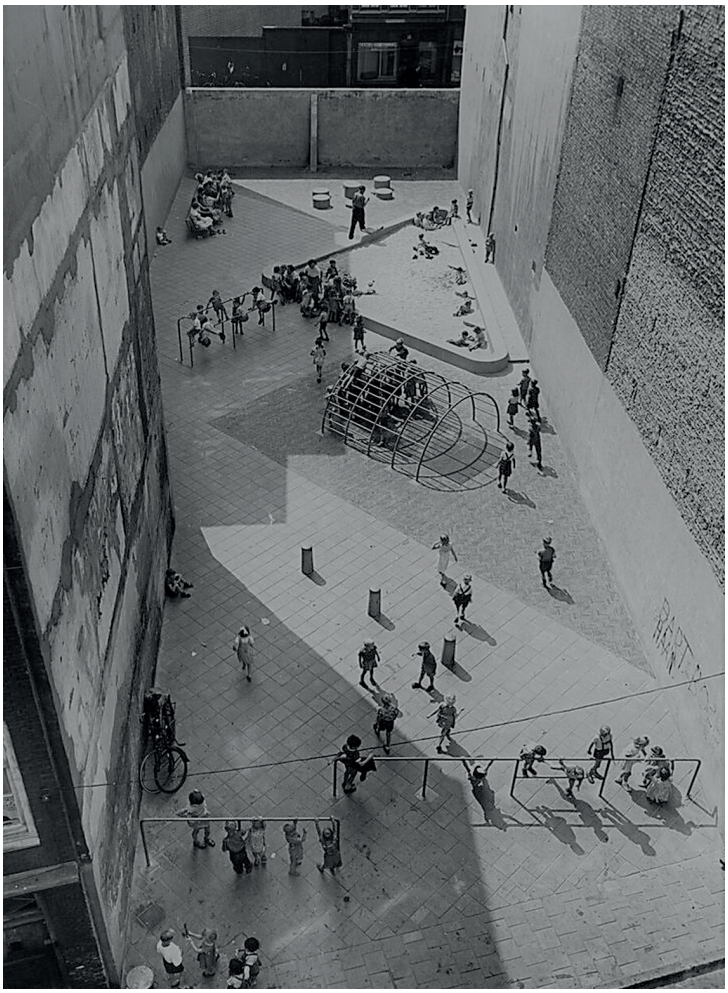


Figure 52. Dijkstraat playground, Amsterdam, 1954

Figure 53. Site plan, scale 1:4000

The Dijkstraat playground was placed in a small location. The lot was enclosed between two walls, and had a depth of twenty-five metres and a width varying from nine to eleven metres. Van Eyck

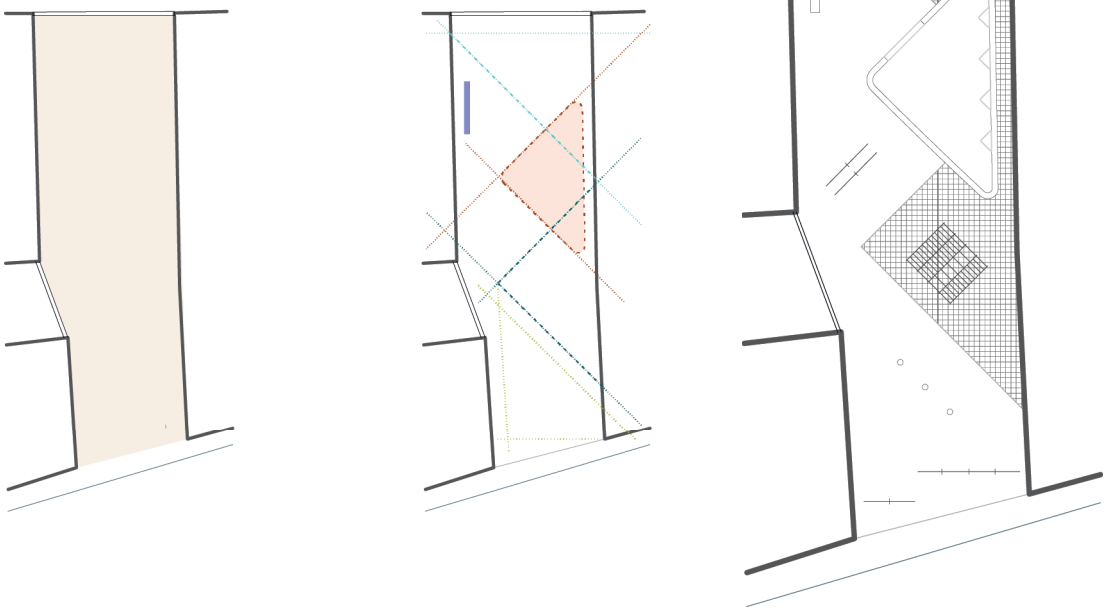


Figure 54 . Dijkstraat playground zigzagging boundary with triangular play situations

Figure 55. Dijkstraat playground plan, scale 1:400

transformed this empty house site, which had been demolished during the war, into a lively place. “Two contrasting paving materials, tiles and clinkers, laid diagonally,” again determined the play situations by separating the play areas; moreover, in this case the tiles and the play apparatus pattern weakened the elongated character of the space.[38]

38. Ibid, 161-162.

Zeedijk Playground
Zeedijk Street, Amsterdam, 1955

Figure 56. Zeedijk playground, Amsterdam, 1955

Figure 57. Zeedijk playground site plan, scale 1:4000

The Zeedijk playground was designed in 1955. A low wall, sixty centimetres high, separated the playground and the walkway. At its end, people were invited into the playground by a grey tile pavement that covered both the footpath and a fourth of the playground area. Another low wall, thirty centimetres in height, situated in an angle to the first wall but was aligned with the rear side of the site. A turnstile and three pairs of somersault frames were located at the entrance zone. The central zone was clearly marked with a white concrete tile pavement. One side of this zone was perpendicular to the front side

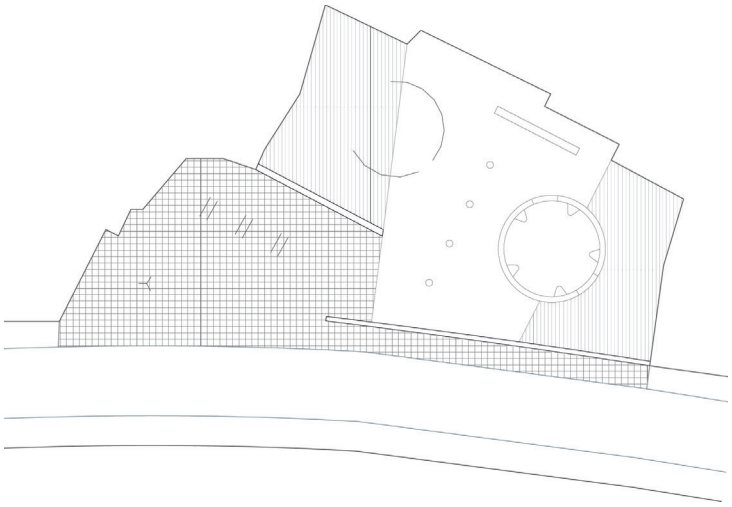


Figure 58. Zeedijk playground plan, scale 1:650

of the site and the other to the rear boundary of the site. As Francis Strauven (1942) describes it:

> The white zone formed the centre of a quasi-symmetrical pattern that brought a certain unity to the erratic site. It had an axis in the form of four jumping posts and circular elements coupled on both sides to smaller, clinker-paved zones. Despite the overall symmetry, the axis was off-centre and acted as the pivot of an asymmetrical equilibrium between two unequal counterparts: to the left, a flimsy, fragmentary circle of somersault framed flanked by the solid, low wall and, to the right, the massive five-lobed sandpit and a wooden bench.[39]

39. Ibid, 161-162.

Analysis of Aldo van Eyck's Playgrounds

1. The playground overall as a sculpture in the city having a say about life and humanity

Spread around the city, van Eyck's playgrounds conveyed an essential idea on a vast scale. He intended to "approach the city from the point of view of the child." With his emphasis on children and their play, van Eyck followed the path in discovering the 'new reality.' "The new reality calls for a return to 'innocence'." In his book, *The Child, the City and the Artist*, van Eyck refers to the new reality as 'the In-between realm,' where the "external world with the elementary faculties of each mind, primarily imagination and creativity, opens a new perspective on reality." Van Eyck believed that these "elementary faculties are born anew in every child, but without exception are weakened by conventional education."[40]

2. Relations (equal relations between different things)

In his playgrounds, van Eyck usually defined several zones with different play objects, marking them mainly with different pavement materials. These zones and the spaces between them were related to each other in a non-hierarchical way, expressing the equality of different elements of geometry, activities, and places. Strauven described van Eyck's compositional techniques that he used to create these relations as follows:

> What were the compositional techniques...? There is always a focal point that establishes a 'somewhere' and binds things together. This focus, which is generally marked by the sandpit, rarely if ever coincides with the geometric centre of the site. But, although displaced from this centre, it is never so eccentric that it draws the attention outside the

40. Francis Strauven, *Aldo Van Eyck: The Shape of Relativity*, 407-409.

area of the playground. It produces an asymmetric situation which is then brought into dynamic equilibrium by the positioning of the other elements.[41]

3. Form (elementary forms: not neutral, but biomorphic)

Why elementary forms? Aldo van Eyck believed that play equipment shaped as imaginary animals did not cultivate children's imagination. On the other hand, the primitive elementary forms stimulated creativity and imagination, because they were open to interpretation and did not impose predetermined definitions and use. Liane Lefaivre, in *Aldo Van Eyck: The Playgrounds and the City,* narrates as, "The climbing arch, was not just for climbing and other gymnastics. It could be used as a hill to sit on the lookout or to hold a meeting, and when covered with a canvas it could function as a house. Children can climb over it, hang from it, or nestle in it. Overall, these elementary forms offer children a stimulus to discover an opportunity to develop movements to which they are spontaneously inclined: jumping, climbing, and somersaulting."[42]

Before my research on playground design, I had assumed that any playground consisted of several pieces of play equipment located with standard distances for the sake of safety. Studying van Eyck's playground design approach, the spatiality of a play area, the zones of activities, and their relations inspired me to think about how a playground is not only about what children do, but how they act differently in a variety of spatial qualities and how the in-between spaces are as important as the equipment they use. Therefore, these spaces for children turn into places to build experiences.

41. Ibid, 154.

42. Liane Lefaivre, Ingeborg de Roode, and Rudolf Herman Fuchs, *Aldo van Eyck: the playgrounds and the city* (Amsterdam: Stedelijk Museum, 2002), 70.

Fuji Kindergarten

Figure 59. Fuji kindergarten, 2007

Figure 60. Building opens up to the central courtyard two-thirds of the year.

Fuji kindergarten, designed by Tezuka Architects in Japan (2007), is recognized by its oval roof, which is over 180 metres in length and has a slight inward curve. The endless circulation strategy on top of

the roof and in the classrooms beneath lets children move around freely, allows their curiosity direct their movements, and minimizes the need for observation. Tezuka himself says, "Because the building is a ring they are looking at each other...There is no sense of a middle. The children learn to be fair to everybody, they learn how to be a part of a nice group." The strong connection between indoors and outdoors and free plan design both encourage children's sense of autonomy, independence, and freedom of choice.[43]

Matter Design Studio, Five Fields Play Structure

Figure 61. Five fields play structure, 2016

This 115-square-foot play structure, designed by Matter Design Studio, is also open to interpretation, and encourages child's imagination. It is located on the sloping landscape of a public site in Lexington, where neighbourhood children share the space. While challenging, this play structure is both safe and thrilling for the children. It has no "singularly functional elements," rather encouraging an unstructured play in which children are the main leaders in creating play scenarios. The play structure was designed in

43. India Block, "Tokyo kindergarten by Tezuka Architects lets children run free on the roof," *Dezeen*, https://www.dezeen.com/2017/10/02/fuji-kindergarten-tokyo-tezuka-architects-oval-roof-deck-playground/

2016 with dimensions ideal for children. The "spaces are accessible to adults, but have been shrunk [down] in order to slow [them down,] liberating the kids to fly through the spaces." Children can access any space in variety of ways, such as climbing walls, using ropes, or simply taking stairs. This strategy provides accessibility to all ages, allowing children to make decisions and challenge themselves.[44]

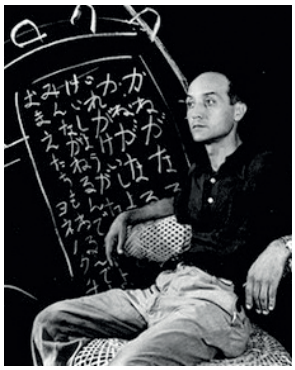


Figure 63 . Isamu Noguchi

Isamu Noguchi, Play Mountain

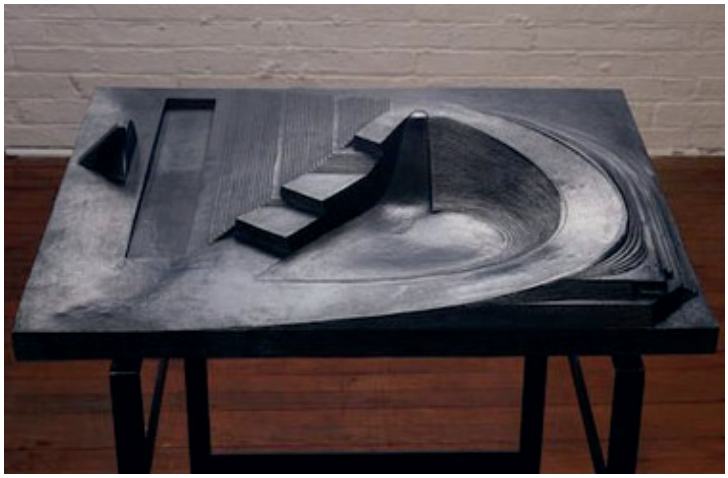


Figure 62 . Play mountain model, 1933

Isamu Noguchi (1904-1988), American-Japanese sculptor, had a playful attitude towards his work and life. He was interested in exploring possible integrations of sculpture, public space, and play. In 1933, Noguchi started to experiment his ideas through his proposals for children's playgrounds in New York city. His first work was Play Mountain. This "equipment-less playground [was] constructed entirely out of shaped earth." It contained a pyramid with carved slopes, leading to a swimming pool, and a concave area with "ridged side," and "curved edge."[45] Play Mountain represented the idea that children did not need instructions to play. An abstract,

44. Matter Design Studio, "Five Fields Play Structure," *Matter Design,* http://www.matterdesignstudio.com/five-fields-play-structure

45. Isamu Noguchi, María García, et al., *Isamu Noguchi: Playscapes,* Bilingual ed. (Mexico City: Museo Tamayo, 2016), 59.

surreal landscape provokes children's imagination by allowing them to interpret it however they want. They can create their own rules and invent variety of ways to play on this large play structure.

Through investigating the elements of quality play spaces, this thesis mainly attempts to propose a design approach that makes the child's voice heard by manifesting it in a playful environment. An environment that creates a sense of belonging and values what matters to the child, aiming to lead the child through the path of self-awareness and interdependency.

Natural Environment as a Playground

Figure 64. Child in nature

In 1995, Nelson Mandela said, "There can be no keener revelation of a society's soul than the way in which it treats its children."[46] Today, there is concern over the minimal attention paid to the outdoor play environments young children are exposed to in North America. Around thirty years ago, children had considerably more access to quality outdoor environment that allowed them to engage in free spontaneous play.[47] One of the reasons for the decline in outdoor play is that there is a lack of adequate and safe play space for young children in cities, while the play areas that exist are very structured and boring. They provide children with a few static pieces of play equipment, and no natural materials to explore and investigate. These areas afford minimal opportunities for children's creativity or possibility to lead their own play scenarios. Another reason is the increase in home technology products. Many children today prefer spending hours in front of television sets and computer games instead of playing outdoors. As a result, virtual games may impact children's perceptual development because sensory stimulation is minimal. Moreover, computer games offer little opportunity for "decision making or embracing responsibility, and they tend to stifle creativity and self-expression."[48]

46. Nelson Mondela, 1995 **quoted in** Juliet Kinchin and Aidan O'Connor, *Century of The Child,* 215.

47. Joe Frost, "What's Wrong with America's Playgrounds and How to Fix Them," Interview by *American Journal of Play,* (Fall 2008): 139.

48. Rhonda Clements, "An Investigation of the Status of Outdoor Play." *Contemporary Issues in Early Childhood* 5, no. 1 (March 2004): 68–80.

Joe L. Frost is Parker Centennial Professor Emeritus at the University of Texas, Austin, and one of America's leading experts on play and playgrounds. In critique of today's outdoor environments within reach of young children, he explains his own play experiences during his childhood years:

> I played outdoors, a lot, and it was great. I grew up during the last years of the Great Depression and the early years of World War II on a small farm...we played in the fields and woods and streams...this was a truly enviable playground because it afforded great versatility. We improvised games of war, chase, fort and dam building, shinny, dog pile, hot pants, and catapult...We made up and changed rules as we went... Whenever we had a big rain,...[we] would dam up the stream behind the school and then let loose a torrent to wash out another group's dam downstream. This is some of the most intense play I remember. Perhaps it's what today's writers have in mind when they talk about deep play, flow, or fully functioning and transcendental play. It seemed that the more creative play was, the greater the interest, and the more fascinating and useful the results.[49]

These natural environments provide children with opportunities to explore their surroundings and engage in free, spontaneous play. When playing freely outdoors children practice some skills that prepare them for adulthood, "including social competence, problem solving, creative thinking, and safety skills... [they] grow emotionally ...by developing an appreciation for the environment, participating in imaginative play, developing initiative, and acquiring an understanding of basic academic concepts such as investigating the property of objects and of how to use simple tools to accomplish a task."[50]

49. Joe Frost, "What's Wrong with America's Playgrounds and How to Fix Them," 141-142.

50. Rhonda, Clements, "An Investigation of the Status of Outdoor Play," 68.

One of the most valuable features that natural environments incorporate is quality outdoor space. In her book *Playing Outdoors*, Helen Tovey suggests that quality outdoor space for children constitutes these spaces: Spaces for exploration and investigation; spaces of mystery and enchantment; spaces for the imagination; spaces for movement and stillness; and social and intimate spaces.[51] In nature, children have access to all these spaces that they explore in a fluid manner, corresponding to their "changing landscapes of play." Natural environments "allow children...to become authors of their own spaces and creators of meaningful places for play."[52]

51. Helen Tovey, *Playing Outdoors: Spaces and Places, Risk and Challenge* (Milton Keynes: Open University Press, 2008), 64-80.

52. Ibid, 80.

Chapter 3

DESIGN PROPOSAL: CHILDGROUND

Site

Figure 65. Site South border

The proposed design is an outdoor 600-square-metres play area. It is adjacent to a childcare facility that is located in a quiet residential neighbourhood in North of Toronto. South of the lot of this private facility borders the Newton Brook Greek Park off which several trails run in the depth of a large forest. The forest trees create a delightful view and mystical atmosphere with their shadows on the ground.

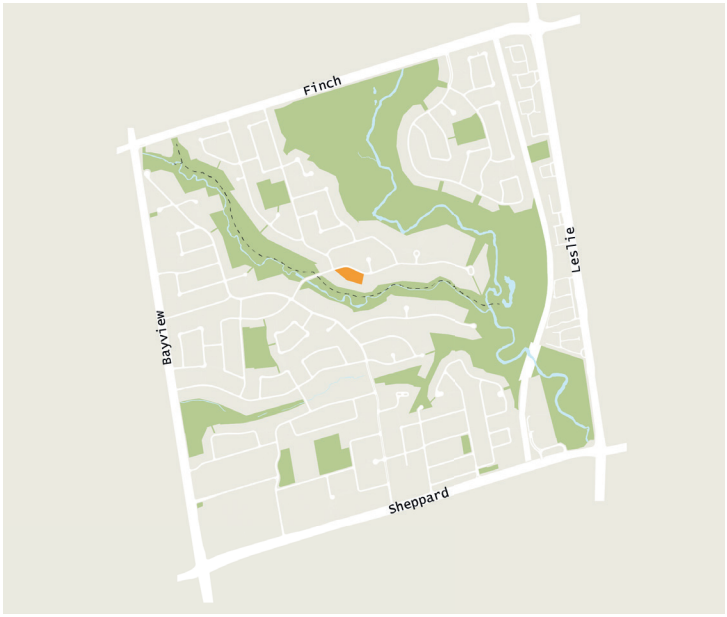


Figure 66. Site location

Figure 67. Site neighbourhood

Figure 68. Current playground at the childcare facility, East view

The childcare facility accommodates pre-school children aged two-and-a-half to six years old. The reason to design a playground specifically for this age group is based on the research conclusions, proposing that play is an integral element of children's everyday life in their early childhood, and it has a significant role in their healthy development and growth.

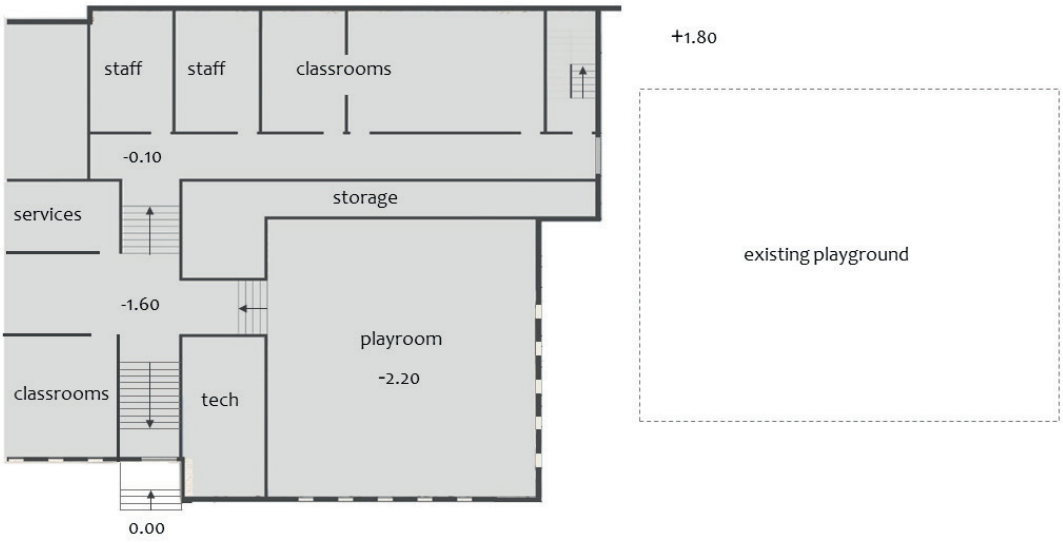


Figure 69. Existing pre-school building diagrammatic plan

This pre-school, which shares its building with a church, has four classrooms. Two of the classrooms are located on the upper level (-0.10), facing north facade, and the other two on the lower level (-1.60), facing south facade. There is an indoor playroom, about 120-sq-metres large, located in the southeast corner of the building.

In the current situation, the pre-school facility does not have a direct connection with the existing playground. There are two accesses from the building to it (Figure 72): one from the playroom through eleven outdoor stairs; and the other through an Exit staircase that connects level -0.10 of the facility to the level +1.80 of the site. Through the second access, children have to use outdoor stairs to reach the playground. The play area is enclosed with a 1.20 metres height chain-link fence.

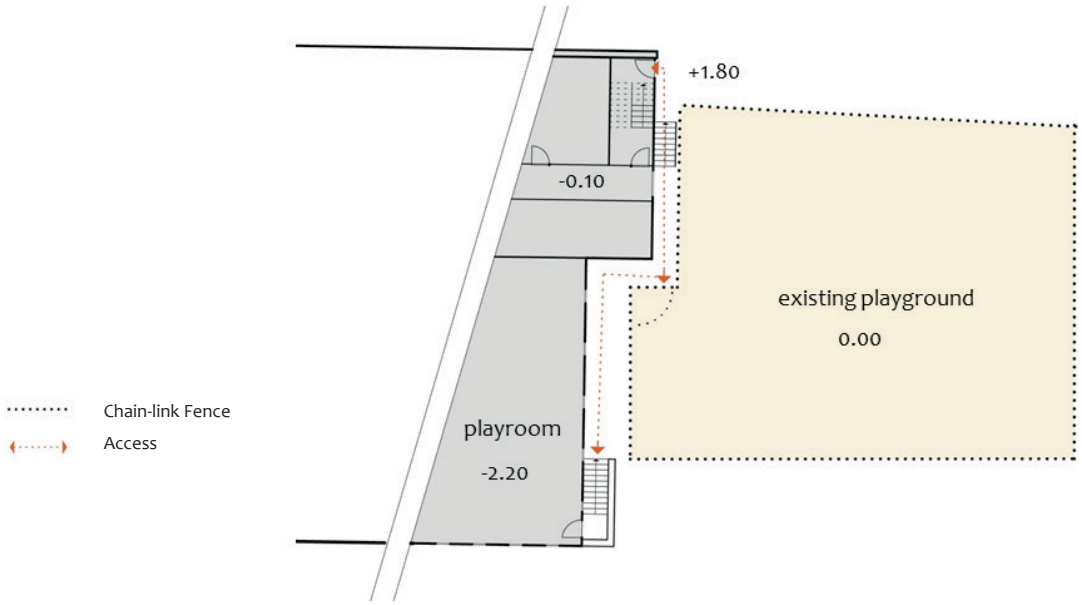


Figure 70. Pre-school and current playground connection

Design Narrative

The proposed design is a place meant for children to engage in a free spontaneous play, where each child may elaborate their own story. It proposes diverse environments with spaces for group, intimate, and individual presence that promote sense of safety and belonging.

In order to enable these qualities the design takes various strategies:

1. It allows freedom of movement and ease of access.

2. It creates spaces for children to hide out and to experience the sense of control over their presence.

3. It proposes spaces that accommodate children's psychological and physical developmental needs.

4. And, it attempts to combine natural elements (trees, vegetation, and topography) and conventional play equipment (slide, swing, stepping-stones) to create fluid spaces that stimulate children's imagination and creativity, and encourage the development of free spontaneous play.

Sense of Freedom and Exploration

According to the literature on the child developmental theory, children in the pre-school age practice their control over the world. Children instinctively have the urge to understand their surrounding world, and are active agents in the learning process. Hence, a play environment should support the children's desire to explore and try things on their own. As Mark Dudek suggests, "The more control you give to the child over their space, the better."[1] One of the design goals is enabling the child to gain a sense of free rein and choice of action. In order to do so, children should be provided with a safe and accessible environment to roam around freely with minimum supervision.

1. Mark Dudek, *Nurseries: A Design Guide*, (New York: Routledge, 2013), 93.

Figure 71. South East bird view

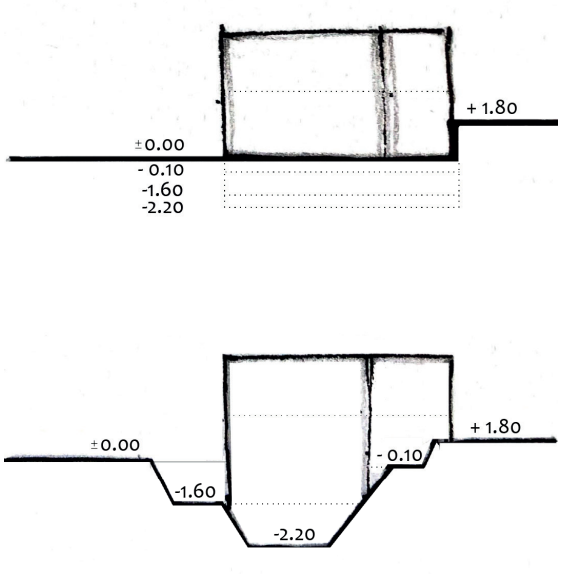


Figure 72. Diagrammatic process of the enabling free rein

In the proposed design the connection between inside and outside is achieved through three strategies; the first is aligning the levels of the play area with the pre-school building levels of activities, the second is providing access - physical and visual- within the building facade, and the third is making a loop shaped circulation between indoors and outdoor play area. A strong connection between indoors and outdoors, that enables children to move freely around the area and experience the sense of independence, is one of the design proposals that can be applied in other childcare facilities accordingly.

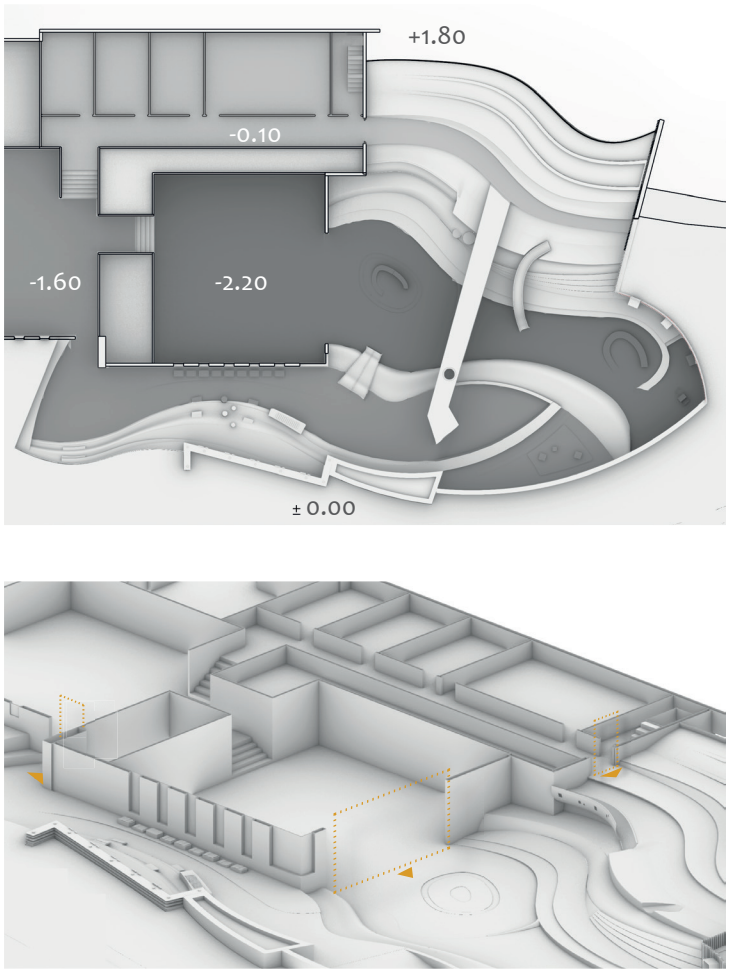


Figure 73. Opening facade and levelling ground in accordance to the preschool levels of activity

Invisible yet Visible

In his book, *Nurseries*, Mark Dudek explains about the importance of the presence of opportunities to explore the physical environments that children spend much of their time within.[2] He describes his own childhood, living in a mid-sized town in UK, where he had the freedom to explore alone or with friends from very early age:

> Initially as a four-year-old, the street and rear gardens of friends would define my public life beyond home. Later on, from age six or seven, the local fields would take me 1-2 miles distance from home.[3]

Today children lack the space and opportunities to experience the level of freedom to get away from home and follow their curiosity. They are restricted from choosing their environment to experience that sense of autonomy and independence. Children do not necessarily need to go miles away from their homes to feel the excitement and joy of their free roaming spirit. Creating spaces that children could hide behind allows them to experience that joy. The proposed design aims to enable this generation of children to gain back that sense of free exploration of the space through the sculpted topography combined with the use of vegetation. Ninety centimetre high hedges allow children to experience a sense of enclosure, and create spaces for cozy play such as role play and story telling circles. These play areas can not be seen at one time, and there are places where groups of playing children can get away from the eyes of others. While children experience that sense of control over their placement, adults, because of the different height levels within the play area, still can observe them. It is recommended that playgrounds incorporate places for young children to hide out and get lost.

2. Ibid, 82

3. Ibid, 87

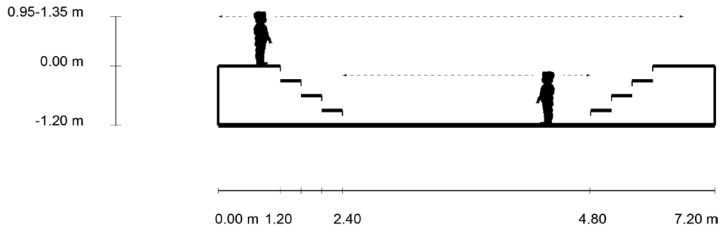


Figure 74. Change in child's perspective

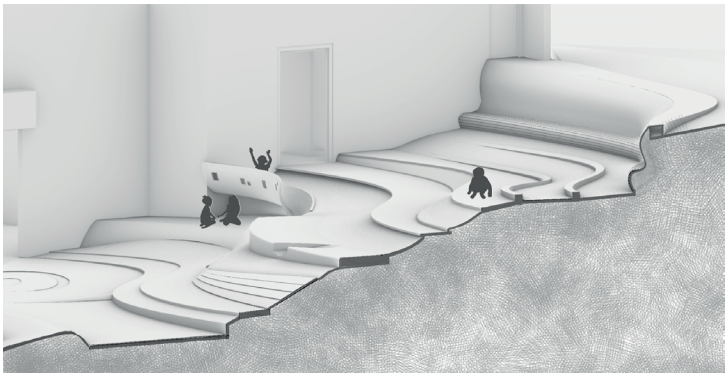


Figure 75. Sculpted topography

Figure 76. Child runs behind bushes

Spaces Sensitive to the child's physical and psychological needs

According to the literature on the play developmental, during the first years of life, children engage in various types and stages of play. Although the children that use this playground are all in the same age group, they vary in terms of their play stages, physical skills and psychological needs. Children at pre-school age are around two-and-a-half to six years old.

At younger ages, children are more at the stage of onlooker and parallel play, and either watch others at play or play alongside others, but with minimal interaction. More intimate and small group spaces, comprising two to three children at a time, are located in the south side of the playground. (Figure) These spaces, one-metre-and-sixty-centimetres under the ground level, create a sense of enclosure and intimacy that makes a three or four years old child feel safe and comfortable. (Figure) Additionally, younger children are interested in repetitive actions and sensory play. Thus, these spaces contain activities and materials that are more sensitive to senses, such as a music garden (Figure), a sandpit and a waterfall wall. (Figure)

Later, around five and six years of age, associative and cooperative play start to appear among children. They enjoy playing together. At first, their activities may not be organized, but later cooperative play develops and children start to share intentions during play. With growing, their interest for the outside world becomes stronger, when the desire for exploration and curiosity becomes more popular among children. Therefore, this design proposes spaces that rise from the ground alongside a sculpted topography, allowing older children reach the higher levels, and broadening children horizon.

Figure 77. Section, scale: 1:100

Children's physical skills and abilities, also, change during these years. A five-year multidisciplinary study of outdoor play spaces at childcare centres shows that children's perceptual motor activity varies at ages three, four, and five.[4] Therefore, this design proposes spaces that vary in material, height, accessibility so that every child has the opportunity to challenge themselves according to their skills and capabilities. (Figure)

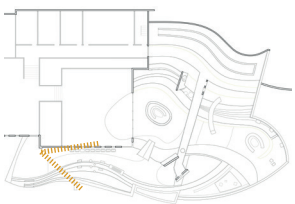
The proposed design advocates for the harmonization of spatial qualities with children's physical and psychological, as well as play development in the process of every playground design. Variations in height, slope, size, acceptability, as well as the use of topography are the means through which this notion has been addressed in this design, which can be transformed into other contexts as well.

4. Susan Herrington and Ken Studtmann, "Landscape interventions: new directions for the design of children's outdoor play environments," *Landscape and Urban Planning* 42, no. 2-4 (1998): 191-205

1. Entrance to the playground
2. Entrance to the pre-school
3. Music garden
4. Intimate spaces
5. Sandpit
6. Waterfall
7. Stepping stones
8. Climbing hill
9. Edible garden
10. Tree houses

Figure 78. Plan, scale: 1:200

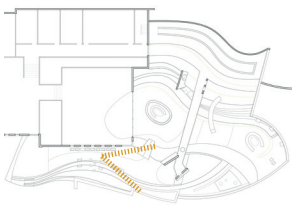
A music garden is located near the playground and pre-school entrance. Children around three and four become interested in artful activities such as playing music and painting. Variety of play instruments, integrated with architectural elements, encourage fluid movements filled with musical sounds. Piano keyboards are installed on the climbing steps and wooden platforms, as well as drums on the south side wooden wall. Children can jump on the steps, run alongside the wall, and create songs.



View guide

Figure 79. Music garden next to the pre-school entrance

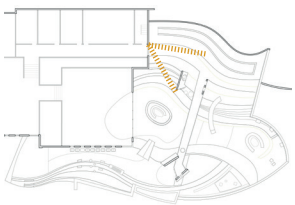
In this intimate space, children can watch others at play. It is aimed for younger children that engage in parallel and onlooker play. There is a painting wall pushed back and situated under a low ceiling, one-metre-and-thirty-centimetres high, creating a space in which children can gather in small groups and play. A small slide, placed on a sloped rubber hill, connects this place with the lower grade area that has a direct access to the playroom. Children can reach a small tree house climbing a suspended ladder. An opening in the roof frames the sky, through which children can gaze at clouds moving and dream away.



View guide

Figure 80. Intimate spaces for younger children that contain art activities such painting wall

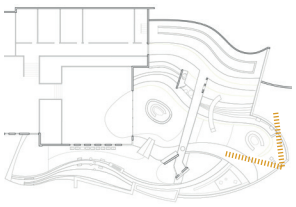
This is a place for noise and movement, where older children can play games in larger groups. A sloped topography connects this level of the playground to the lower middle area. The sculpted topography create different layers of activities, containing hedges to hide behind, a curved surface to lounge on, and grassy grounds to lay down. The topography is steep in few areas, ensuring that older age-range has access to the more treacherous areas. This level has a direct access to an indoor corridor, adjacent to the classrooms, through a glass door.



View guide

Figure 81. Spaces for older children

Two trees are situated in the middle area of this playground. Trees create shade for gatherings. Thus, a wooden furniture is placed underneath that grows out of the ground, enabling variety of use. The larger slide in the back connects two levels of the playground. This design aims to integrate play equipment with spaces, that is, a slide is not just an apparatus to climb on and slide down, but can be used to access different levels of play activities. In this configuration, movement around the spaces becomes more fluid and free spontaneous play is evolved. Several wooden boxes, integrated into the wall, create spaces for children to be alone, while reading, playing, or just dreaming. Older children can climb over while younger children may crawl under.



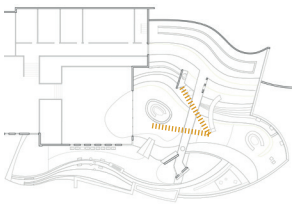
View guide

Figure 82. Spaces around large tree

What Type of Playground?

As discussed, there are three types of playgrounds: traditional, contemporary, and natural. In the proposed design, play equipment is defined in a less obvious and more abstract manner open to a wide range of imaginative interpretations. Through a combination of natural elements, topography, and play apparatus, my design aims to embrace child's imagination and encourage non- directive spontaneous play.

Two younger children are sitting on the ground under the smaller tree, while playing, discovering, and learning. The indoor playroom is connected to the playground through a wide sliding door that can be open in the good weather, allowing children to move between indoors and outdoors. Flooring materials vary in order to enable various play activities. Rubber and wood-chips provide surfaces that are more comfortable for children to to sit or to lie, as well as make it safer if children fall down. Wood creates hard flooring, enabling activities such as biking. Ninety-centimetre hedges integrated with topography levels create spaces for children to hide.

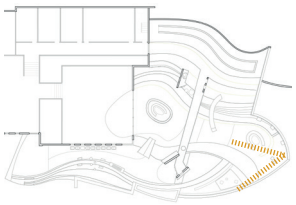


View guide

Figure 83 . Spaces around small tree

In today's overly organized lives of children, time for dreaming, it could be argued, is slowly disappearing. Yet, as Helen Tovey suggests, "it is paradoxically often in quiet stillness that our minds wander freely into a world which is no longer restricted by physical spatial boundaries, but only the limits of our imagination."[5] Therefore, this small semi-private area, compromising a waterfall wall, a sandpit and low-height bushes, allows children to stay still, dream, and experience quiet intimacy with others.

5. Helen Tovey, *Playing Outdoors: Spaces and Places, Risk and Challenge* (Milton Keynes: Open University Press, 2008), 78.



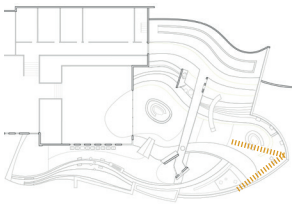
View guide

Figure 84 . Spaces for quiet friendships and peace

What happens in winter?

Playground is a dynamic place. Its appearance and spatial qualities change over seasons. The quiet stillness in this area can be filled with children's noisy happy voices, playing with snow. In Toronto, educational institutions have different regulations regarding the least temperature in which children can go outside in winters. According to the Forest School philosophy, children, as young as three years old, should be given the opportunity to roam freely in the woods with little or no shelter, in all weathers. Through variety of experiences in this context, children learn to make decisions and grow in confidence and self-esteem.[6]

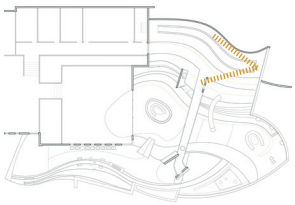
5. Ibid, 82.



View guide

Figure 85 . What happens in winters

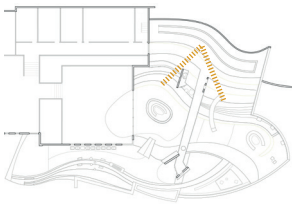
According to the literature on the outdoor play environments in early childhood educations, gardening enables children to create first-hand experiences. It creates possibilities for children to make decisions, take responsibilities, and practice cooperation. More importantly, gardening brings children closer to the nature and escalates their appreciation of the natural environments. An edible garden is situated in the north side of the playground. It is an intimate space enclosed with evergreen hedges along one side and a green wall along the other side. A wooden furniture element alongside the green wall can function in various forms: a bench, table, platform, and anything else that children can imagine such as a train.



View guide

Figure 86 . Edible Garden

The elevated view of the forest gives the child an ever better connection with their surrounding while occupying the tree house. Through providing a previously unfound view of the landscape, the design aims to expand the child's horizon, and contribute to a better understanding of their natural surroundings that brings something special and essential to their development.

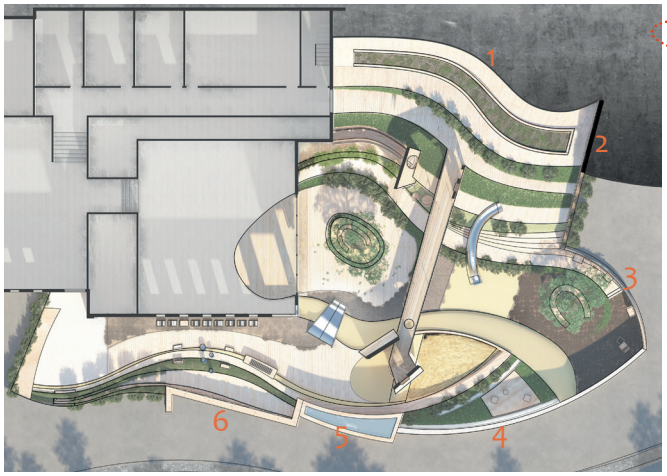


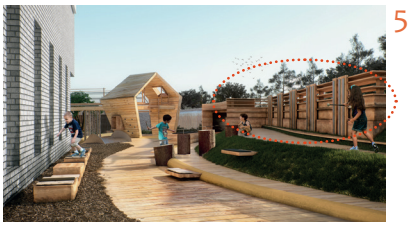
View guide

Figure 87. Frame

Fences?

The proposed design intends to experiment with approaches other than fencing a playground to achieve the safety required in early educational settings. In the final design, because the playground levels are lower than the site level, the playground is surrounded with walls about one-and-a-half metre high.. Through integrating these walls with play activities and proposing a green wall in the north side, children may not feel separated from the outside world.





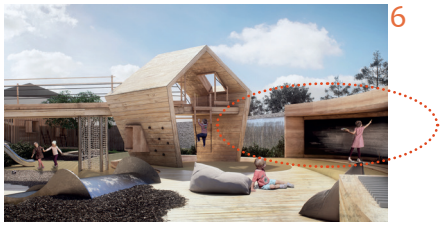


Figure 88. Playground enclosure strategy

Conclusion

I have always been interested in the life of the child. And I have longed to design an environment that is sensitive to the child's needs and desires. During my childhood, I experienced many vicissitudes. Whenever I played, I felt at ease, safe and joyful. The research that I undertook in this thesis, gave me a foundation to understand the psychology of the child's life. I have learned that play is an inseparable element in the child's encounters with their environment. Children's play is not only a joyful experience, but also their means of communication and social interactions with the world. Children can play in any place; nevertheless, a quality outdoor play environment can enhance their playful attitudes. As an architect, I was inspired by the playfulness of children, and I have tried to bring that playfulness to the design of a playground.

The design offers fluid mobility, with opportunities to enrich imagination and creativity, while promoting moments of rest and reflection. The playground is adjacent to a childcare centre that accommodates preschool children. Children can access it through different levels of the building; a quality that facilitates freedom of movement, and allows children to fly in-between spaces and play out their imaginings. Corresponding to every child's playfulness, diverse spaces encourage their sense of curiosity, exploration, and spontaneity. Possibilities to get lost restores to them the sense of excitement that 1960's children experienced by exploring local fields. The design is sensitive to children's physical and mental needs; each child can challenge themselves depending on their own skills and abilities, feeling secure and safe. The combination of natural and built elements is an attempt to design an open-ended playful environment that is not fixed, but rather can be transformed into any play scene that every child's imagination crawls into.

The playground is a dynamic place. Therefore, it is not finished in the sense that overtime, having watched children play and observed their uses of playgrounds, I would anticipate this playground will change and be influenced by the instincts and playfulness of the children enjoying it. This would also allow over time for there to be responses to what might be dangerous or what might require adjustments.

In the twentieth century, in response to the studies on the child and childhood, significant developments occurred in relation to the quality of life of children. According to Article 31 of 'The Convention on the Rights of the Child,' children were officially given the right to play, rest and leisure time. As a result, the child was allocated places to play, outdoors and indoors. In spite of the practices in the design of these places, the limitations of modern life and concerns over the child's safety and security have hampered the quality of their environment. However, the science has shown how much the child's environment is influential throughout the child's life. It influences learning, social skills, and the ability to interact with others. Therefore, my hope is that professionals and lay people alike, and architects in particular, will be committed to accepting the life of the child as an important element of society; value the current knowledge we have about children and their needs, and put it into practice; and enable every child to thrive and flourish within their own uniqueness.

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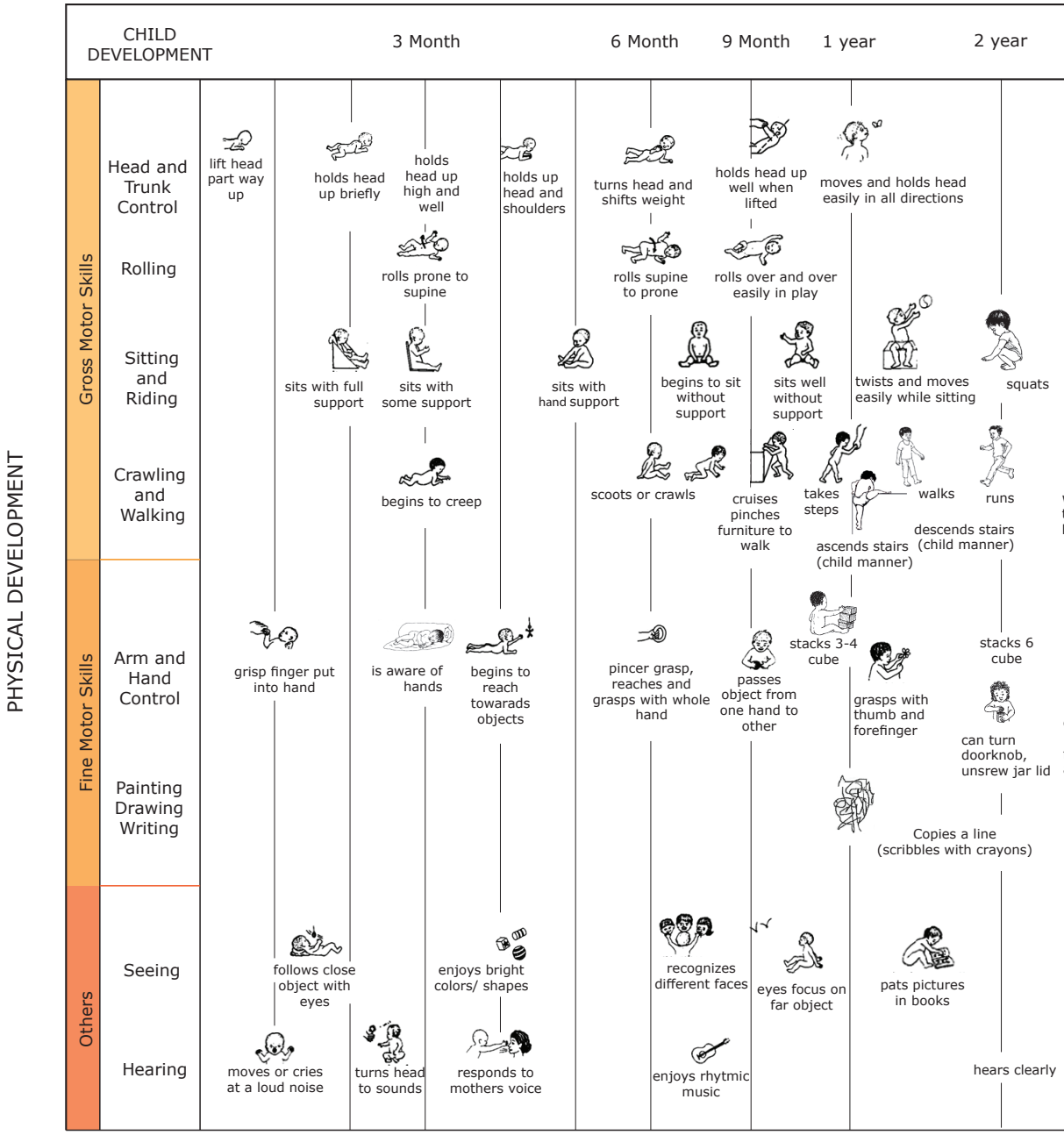
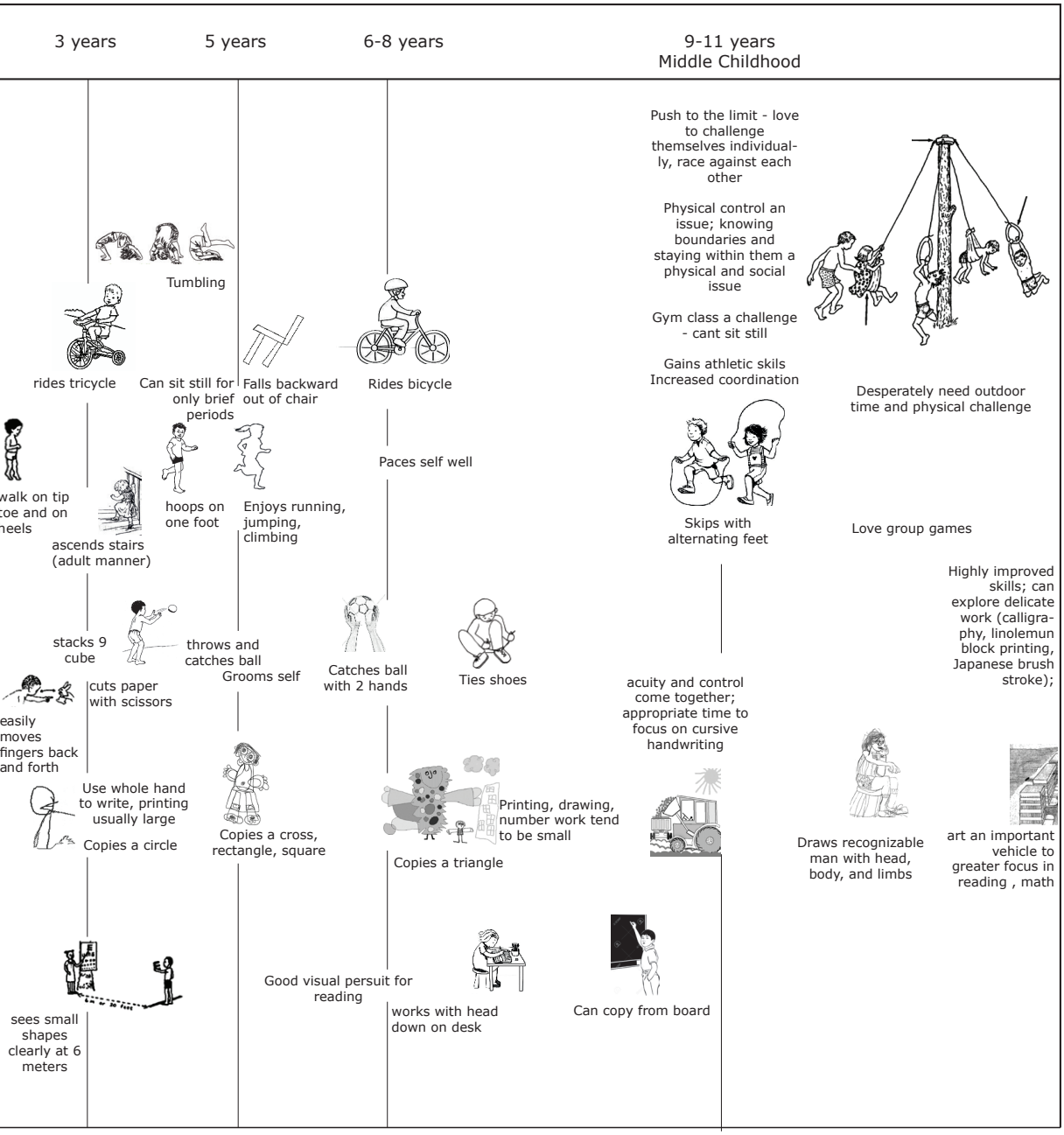
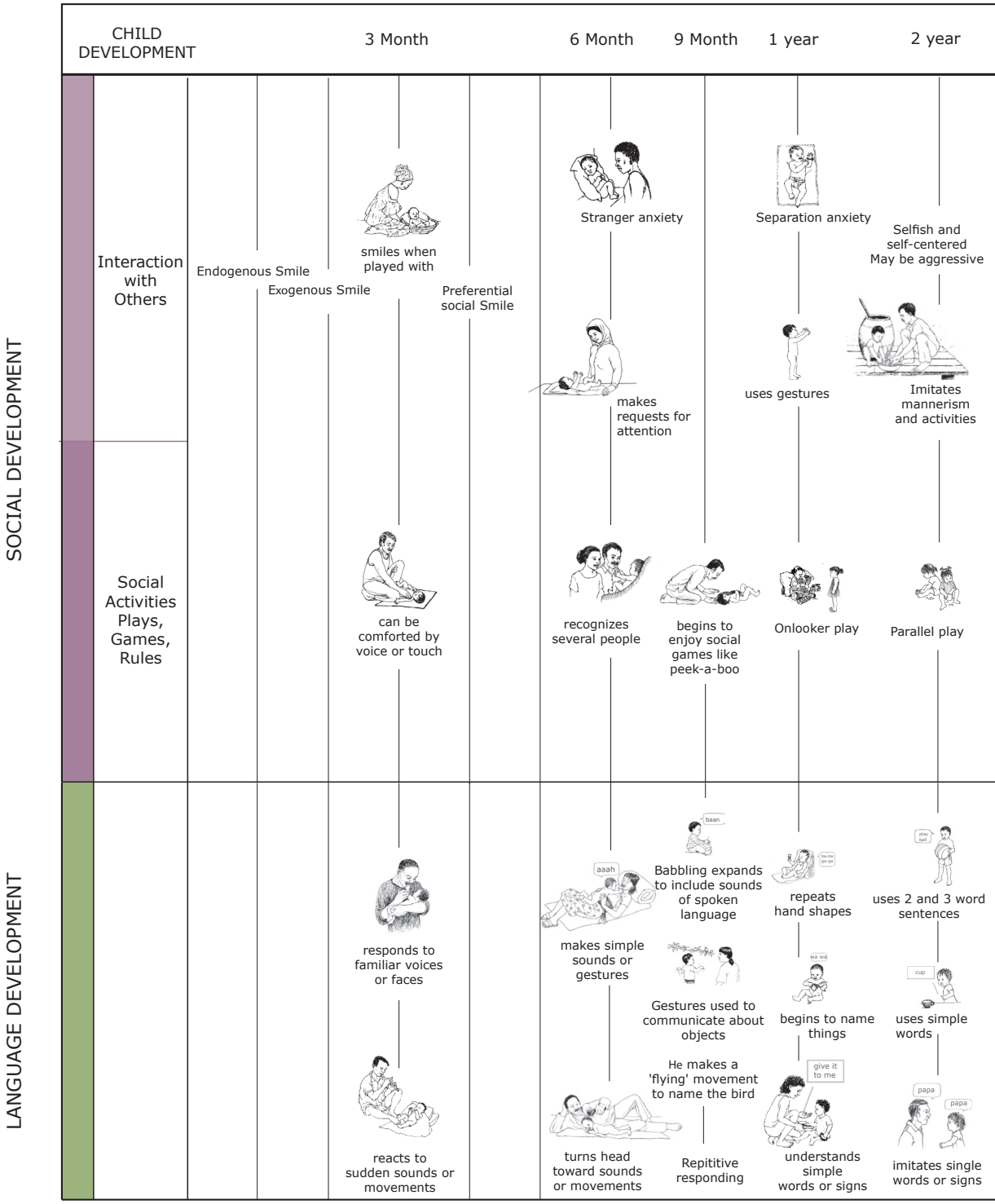
Diagrammatic exploration of children's Physical, social, and Language development
From birth to adolescent




3 years
5 years
6-8 years
9-11 years
Middle Childhood
Tumbling
rides tricycle
Can sit still for only brief periods
Falls backward out of chair
Rides bicycle
Push to the limit - love to challenge themselves individual-ly, race against each other
Physical control an issue; knowing boundaries and staying within them a physical and social issue
Gym class a challenge - cant sit still
Gains athletic skils Increased coordination
Desperately need outdoor time and physical challenge
walk on tip coe and on heels
ascends stairs (adult manner)
hoops on one foot
Enjoys running, jumping, climbing
Paces self well
Skips with alternating feet
Love group games
stacks 9 cube
throws and catches ball
Grooms self
Catches ball with 2 hands
Ties shoes
Highly improved skills; can explore delicate work (calligra-phy, linolemun block printing, Japanese brush stroke);
easily moves fingers back and forth
cuts paper with scissors
acuity and control come together; appropriate time to focus on cursive handwriting
Use whole hand to write, printing usually large
Copies a circle
Copies a cross, rectangle, square
Printing, drawing, number work tend to be small
Copies a triangle
Draws recognizable man with head, body, and limbs
art an important vehicle to greater focus in reading , math
sees small shapes clearly at 6 meters
Good visual persuit for reading
works with head down on desk
Can copy from board


CHILD DEVELOPMENT
3 Month
6 Month
9 Month
1 year
2 year
SOCIAL DEVELOPMENT
LANGUAGE DEVELOPMENT
Interaction with Others
Social Activities Plays, Games, Rules
Endogenous Smile
Exogenous Smile
smiles when played with
Preferential social Smile
Stranger anxiety
Separation anxiety
Selfish and self-centered May be aggressive
uses gestures
Imitates mannerism and activities
makes requests for attention
can be comforted by voice or touch
recognizes several people
begins to enjoy social games like peek-a-boo
Onlooker play
Parallel play
responds to familiar voices or faces
Babbling expands to include sounds of spoken language
repeats hand shapes
uses 2 and 3 word sentences
makes simple sounds or gestures
Gestures used to communicate about objects
begins to name things
uses simple words
He makes a 'flying' movement to name the bird
reacts to sudden sounds or movements
turns head toward sounds or movements
Repititive responding
understands simple words or signs
imitates single words or signs

3 years | 5 years | 6-8 years | 9-11 years Middle Childhood


is aware of people's feelings


Imaginary friends


expresses many feelings


Tremendous capacity for enjoyment; likes surprises, treats


Gregarious, humorous


Laughing with nines is the best medicine


Enjoy both family and peers


Nightmares monster fears


Competitive; enthusiastic


Trouble with limits and boundaries

Group activities, whole class cohesion, cooperative learning

Use teams, groups, games, competition to allow for practice in social interaction

Demonstrating competence is key

Moody; sensitive

Oppositional; tests limits

Often does best away from home

Loves to argue

Difficulty with decisions

Self-absorbed

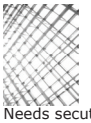
Extremes of emotion

Seeks to belong

likes to be praised after doing simple tasks


learns by Imitating adult roles like setting the table


enjoys helping around the house


Needs secutiry, structure

Strong likes and dislikes


understands and likes rules and routines


Anxious to do well

Highly competitive


Friendship groups

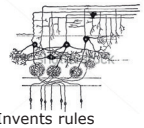

Generally happy and flexible

cross-age tutoring

enjoys community service projects

Enjoys being noticed, rewarded for efforts


Love working with their friends


Invents rules


children work best in pares or alone


Group play; 3 kids make a group

understands "taking turns"


Can work at quiet, sitting activities


Competition in the curriculum, gym classes

with a sense of fun


Classroom organisation : desks in groups, or groups at table

Prefers same gender activities


Sex specific play


Roughhouse play

Friends are important


Moderate seriousness of classroom

provide private, physical space to think things over

communicates clearly using complete sentences

talks about what he has done

Good listener

Precise talker

Likes one to one conversation

Vocabulary development

Interested in meaning of words

Descriptive

Loves vocabulary and language play and information

Baby-talk sometimes re-emerge

Use of hyperbole

Age of negatives

Graffiti


Discovery of the telephone

Impulsive- talks before thinking

Can be cruel

Argumentative; debater

Appreciates humor

Imitates adult language

Shift from egocentric to social speech

Vocabuary expands(50,000 words)

Likes to explain things

Loves jokes and guessing games

enthusiastic language

understands most simple language

Recognizes common objects in pictures

asks many questions

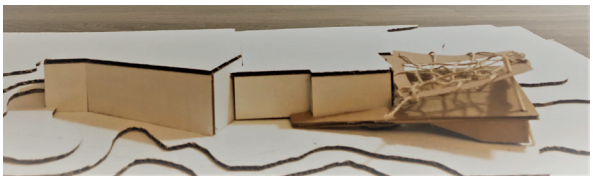
Talkative

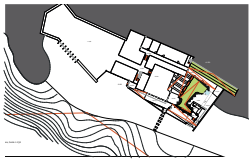
Listens, but so full of ideas

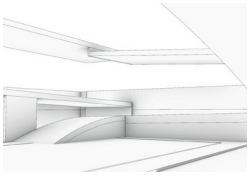
Exaggerates

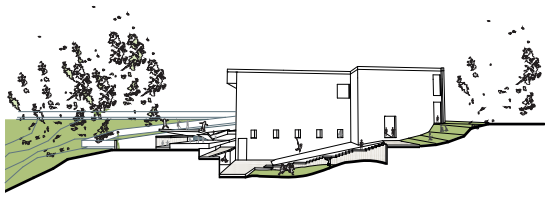
Likes to explain ideas

Experiments throughout the process of design









East Section, Scale 1:200