The Dimensions of Childhood in Modern Architecture: From Urban Scales to Domestic Spaces

Rita Monteiro Vieira, Faculdade de Arquitetura da Universidade do Porto, Portugal

The IAFOR International Conference on the City 2016
Official Conference Proceedings

Abstract
According to many authors, architecture is more than meets the eye: it is the image of a certain historical, cultural, and social context, as it reflects the ideals and longings of the society by which it is built and inhabited. In the eventful years of the 20th century, amid a context punctuated by the horrors of war, society gradually began to revolve around children, their rights, well-being, and education. Seen as an innocent figure, the child represented hope in a better future, for today’s children would be tomorrow’s society. This change of attitude toward childhood will therefore be evident in both practical and theoretical forms of architecture and urban planning, ranging from the large scale of the city, to the intimate scale of domestic space.

Spaces for play, such as playgrounds and playrooms; the walking distance at which a school is placed from home and, inside the dwelling, spaces for social interaction and introspection – these all consist of evidence of how childhood started integrating the discourse of modern society and, thus, of architecture. By looking into the work of architects from this period – like Ernst May’s siedlungen in Frankfurt, Ernő Goldfinger and his exhibitions, Aldo Van Eyck and his playgrounds in Amsterdam, to name a few –, one can unveil the various interpretations of childhood in architecture, never forgetting that the architect who thinks the city also designs the home, the latter “being regarded as the very centre of town planning concerns and the focal point of all measures”.

Keywords: Childhood, children, domestic space, urban planning, public space, play, playground, playroom, modern architecture, design.
Introduction

‘Architecture (...) is everywhere with us, is a vital influence in our lives and a major expression of our culture, the most extensive and universal of the arts, experienced and used by all people.’ (Erskine, 1982: 642)

Architecture is a useful art that witnesses the way people live, their culture, and their ideals. Conceived as a shelter that ‘both protects our bodies and expresses our dreams’ (Erskine, 1982: 643), architecture has through time reflected the ways of life of society, and has changed its form to respond to specific contexts, wills, and needs. Besides, not only does it mirror the shifts in society’s ways, it also actively participates in those changes. In fact, the manner in which the architect configures domestic space – that portrays his convictions and interpretations of the current ways of life – will dictate how people live in private. Architecture can therefore be used as a means of shaping certain behaviours and habits, and serve as an instrument to educate the population on how to live in modern spaces, thus repelling attitudes deemed undesirable. And in fact, as an example, the realisation that hygiene was essential to maintaining a healthy living ended up extending to all the population and becoming a synonym of basic need, which resulted in the necessity of a bathroom in each dwelling. Likewise, the disappearance of customs, habits, or the obsolescence of certain elements also provoked changes is domestic space. For instance, the model of upper middle-class European families with an internal maid led to the need of a bedroom, small bathroom and service entrance close to the kitchen. As this domestic configuration disappeared, the maid’s quarters stopped being included in the design of domestic space.

This paper aims to show that, just as in the examples above, the new position of childhood in society changed modern architecture. In fact, the 20th century was marked by a series of events that provoked a rapid shift in society’s attitude toward children. On one hand, the difficult times of war, along with the Baby Boom, the lowering child mortality (due to the improving living conditions and to vaccination), and the realisation that a child could become a better adult if educated, gradually pushed children to a more central position. At the same time, the development of certain industries found support in the new ideas on child development (particularly divulged by Psychology), which they used as arguments to sell their products – toys, magazines, books, food, among others –, ending up implying the entire family in a consumption cycle centred on childhood. On the other hand, the destruction of the World Wars brought the need to rapidly rebuild cities and house the population in better conditions, so as to ensure public health and project the image of a renewed, modern society. This led to the reformulation of architecture itself which, according to Benevolo, established in this period ‘a fundamental connection between form and function’, acting simultaneously ‘in spatial organisation and in human and social aspects’. And, effectively, 20th century architects were rather prolific in the creation of new urban theories and spatial solutions that satisfied the needs of a changing society.

The Idea of Childhood

Despite being today often seen as child-centred, society not always cared for children, their rights, or their well-being. Historically, childhood is a rather recent concept, built along the last few centuries from the work of various philosophers and pedagogues. In
fact, according to Philippe Ariès, until the late 17th century children were regarded as small adults, pets, or even toys, and their untimely death wouldn’t come as much of a problem, for new children could be made in replacement of the ones who died. A new attitude toward childhood arose, however, with the end of the Ancien Régime and the emergence of the bourgeoisie, who understood the importance of investing in the education of their descendant in order to create a better adult – and therefore a better society. The affective value of the family, inexistent until then, was thus created.

As mentioned above, this new idea of childhood would be, through time, consolidated by the efforts of several people; a shift marked, according to George Boas, by Jean-Jacques Rousseau’s declaration that children were *children*, different from adults and animals. Other important contributions are those of John Locke, who before Rousseau stated that people are born without innate ideas, or that the mind is a *tabula rasa*, and that knowledge is only acquired by experience – that is, by learning; Johann Heinrich Pestalozzi and his *Pestalozzi Method*, which consisted of having children learn according to their age or development, starting from simpler and continuing to more complex tasks; and Friedrich Fröbel, who declared learning is acquired through action, work and play and that children need activity and liberty to properly develop their cognitive, physical, emotional and social skills. Founder of the kindergarten and a disciple of Pestalozzi, who greatly influenced his work, Fröbel was also the first to realise the importance of play – in itself a language, he believed, with all its sounds, gestures, and words –, reason that made him create the *Fröbel Gifts*, a series of educational toys structured in different levels according to each stage of development, designed to help children express themselves. In the early 20th century, Maria Montessori further developed the work started by Pestalozzi and Fröbel, notably by inventing a new method that emphasised the independence of each child, their liberty – although supervised –, and their natural development. Written in the transition from the 19th to the 20th century, *The Century of the Child* is a manifesto penned by Ellen Key in which she expresses her thoughts on how society should seize the opportunity of the years ahead to restructure itself. Key argued that childhood should have a more determining role in this renewed society, stressing that children’s rights and needs should therefore be at the forefront of people’s concerns.

The appearance of Psychology would also have a fundamental impact in the consolidation of childhood’s position in society. The contributions of Wallon and Piaget are the most relevant here, for they, based on observation, examined in depth the mental and physical development of children and classified their development in different stages. Particularly in the 20th century, these studies and findings shed some light into children, their characteristics, behaviour and development; knowledge that proved essential to the emergence and evolution of new educational theories and that helped open up the way, as mentioned before, to a consumption cycle that would revolve around the figure of the child.

Through time, these theories and ideas would infiltrate the mentalities and shape the way children were perceived by society. The groundbreaking work of these philosophers, educators, pedagogues and psychologists would lead the way to new theories, but above all it would build the foundations on which modern society stands.
Children in Public Space

As aforementioned, the profound changes that in the 20th century occurred in modern society reshaped architecture in both its theoretical and practical approaches. The new attitude toward children brought new needs, which would inevitably translate into new spaces. Supported on the theories of child development established by the efforts of the personalities above mentioned, these needs can be divided into different types – the physical, intellectual, and emotional needs – that, together, will be determining to a child’s well-being and growth. And in fact, a healthy body and a stimulated mind were recognized as the pillars to a good cognitive development. Invariably, physical development was thought of as only being possible if the child lived in a good environment, which resulted in the creation of exterior spaces in direct contact with the sunlight and the clear air, and composed of stimulating elements. The maturing of children’s intellectual capacities, on the other hand, was perceived as only attainable if in a good learning environment. This being said, the ideas of body and mind can be associated to specific spaces: the city is thus understood as the place for the child to explore with the body, to see and feel different scales and dimensions; whereas the school is the place for stimulating the mind. Unsurprisingly, these interpretations of childhood will be visible in the theoretical and practical production of 20th century architecture, particularly in the postwar period when, according to Kozlovsky (2004), the child became a common theme in discussions on urban planning.

This being said, the notion that an educated child could result in an ‘improved’ adult – or that by educating children one can reshape tomorrow’s society – led to the need of creating more and better spaces for learning. According to Ogata (2013), the new school programmes – centred on the individuality of each child instead of in the authoritarian figure of the teacher –, required large areas that could accommodate a variety of activities. This resulted in spaces equipped with light furniture to be rearranged by each child according to need, and connected to the exterior so as to ensure a healthy, aerated and naturally illuminated environment for the children. Furthermore, the vital role education plays in society led to the realisation education should be universal, idea that would also be illustrated in architecture projects and theories of inter- and postwar periods. The new siedlungen in Ernst May’s Das Neue Frankfurt and Ernő Goldfinger’s exhibitions provide good examples of this frame of mind, for both architects placed kindergartens and schools within easy reach of each home in the new neighbourhoods they designed.

Moreover, the notion that play is a fundamental learning mechanism and that the environment children live in influences their cognitive development, would gradually turn architects’ attention to the importance of having well-designed spaces for play in a city.

A closer look into Ernst May’s siedlungen in Das Neue Frankfurt, built between 1925 and 1930, reveals strategically placed playgrounds in each neighbourhood, within easy visual reach from each dwelling (Figure 1). An even more attentive inspection unfolds May named some elements after Pestalozzi: a street and a square in the Bornheimer Hang siedlung and a school in the Riederwald siedlung (Pestalozzistr, Pestalozziplatz and Pestalozzischule, respectively). Furthermore, Das Neue Frankfurt, title of his monthly publication on urban planning and where he divulged his ideas, projects and experiments of cultural interest, devoted in 1931 a number to the creative
child (*Das Schaffende Kind*), clearly indicating May was conscious of the importance of play in a child’s development.

![Figure 1: Niederrad siedlung, Frankfurt (Dreysse, 1988: appendix). Playgrounds signaled in blue.](image)

Having designed, in 1936, a toy store in London – as well as some of the toys and furniture – for Paul and Marjorie Abbatt, Ernö Goldfinger was well familiarised with play and its vital role in a child’s life. In 1937 he prepared, again with the Abbatts, the child section of the British Pavilion at the *Exposition Internationale* in Paris, which would also be displayed, the following year, at the MARS Group exhibition in London. The exhibitions he later designed for the Army Bureau of Current Affairs (A.B.C.A.), meant to launch discussion on postwar reconstruction, and particularly one displayed in 1944 and titled ‘Planning Your Neighbourhood: for home, for work, for play’, repeatedly emphasised how fundamental places for play were, both indoors and outdoors, for a healthy living. Besides this, Goldfinger also designed several nursery schools, holiday and evacuation camps for families and a series of differently sized homes, with areas exclusively depending on the age and number of children in a family.

At the Unité d’Habitation de Marseille, Le Corbusier placed the *maternelle* at the rooftop of the building, offering children a safe, well aerated, and illuminated place to learn and play. The outdoor space of the *maternelle*, composed of a succession of abstract volumes with different textures and colours, was conceived so as to stimulate children at play. The existence of a small pool where children can play with water, the contrast between light and shadow, the possibility to explore, with the body, the different proportions in space, either by running, crawling, jumping, climbing or hiding, allow for a challenging experience, meant to stimulate children’s spatial cognition and to have them learn through sensation, just as in Fröbel Gifts. Similarly, albeit on the ground floor, Goldfinger designed a space for children in Rowlett Street; a sunken play area comprising a tower, a sandpit, a slide and a small pool.
Despite the examples shown above, Kozlovsky (2004) states that childhood only became an assiduous presence in discussions on architecture and urban reconstruction after Alison and Peter Smithson presented their *Urban Re-Identification Grid* at CIAM 9 in 1953. Illustrated with photographs of children at play, this panel was used by the Smithsons to criticise the strict, overly rational approach of the Modern Movement – and particularly of the *Charter of Athens* – to urban planning, which they classified as a ‘too diagrammatic a concept’ (2005: 24). The functionalist city thus failed to incorporate what, to the Smithsons and the Team 10 members, was the essential component of a city: the relations and interactions between its inhabitants, particularly well conveyed by the movements and appropriations children make of space, of which the Smithsons’ ‘*diagram of child association pattern in a street*’ (Figure 2) is rather illustrative.

Figure 2: *Diagram of child association pattern in a street*, Alison Smithson (Chung, 2005: 23).

A core member of Team 10, Aldo van Eyck carried on with the criticism to the Modern Movement started by the Smithsons, arguing that the city comprised a network of human associations and was therefore rich for its movements, for the appropriations people made of space, for, in sum, its *in-between realms*. He presented, in the following CIAM, his *Lost Identity* grid, in which two contrasting images of children at play in different environments – in one, dangerously near passing cars and, in the other, in streets covered by snow – evinced how urban space disregarded children despite their importance to a city and to a society’s life. In fact, the snow temporarily erased all urban boundaries and limits, allowing children to play everywhere. However, van Eyck defended urban space needed to offer children ‘something far more permanent than snow’ (van Eyck, 1956: Lost Identity grid). His view on the city is well conveyed in this *Team 10 Primer* (1968: 53) excerpt: ‘To cater for the pedestrian means to cater for the child. A city which overlooks the child’s presence is a poor place. Its movement will be incomplete and oppressive. The child cannot rediscover the city unless the city rediscovers the child’. A restless advocate of children’s right to the city, he expressed his views not only in the CIAM meetings, but also in his writings and projects. As an example, he built close to 700 playgrounds in empty plots in Amsterdam between 1947 and 1978 (Figure 3). Composed of abstract shapes and offering contact with different colours, textures and materials – some featured sandpits, for instance –, his playgrounds offered children the possibility of different types of play according to their age and to whether they were playing alone or with other children. Just as Le Corbusier’s *maternelle* playground, and just as the *Fröbel Gifts*, the different volumes in van Eyck’s playgrounds were meant for children to incorporate into their activities, therefore triggering learning mechanisms only play allows. The most interesting side of van Eyck’s designs, however, was that they perfectly blended into their urban context and
met the needs of its other users, reuniting all – instead of isolating children, adults and the elderly from each other – in a true community.

Figure 3: Playground, Aldo van Eyck, Amsterdam. Retrieved from: www.play-scapes.com

Similarly to van Eyck, Lady Allen of Hurtwood suggested the use of bombsites and empty plots as playgrounds. Although van Eyck’s playgrounds already distanced themselves from the typical playground based on kinectic sensations – such as those equipped with slides, swings, or seesaws –, Lady Allen’s Adventure Playgrounds offered children the possibility of using the different elements composing these play spaces and giving it the meaning they wanted. Here, children could take risks and be autonomous, which was in good agreement with Montessori’s theories on child development. These playgrounds, in existence since the 1940s1, were especially popular between the 1960s and the 1970s, during which period they proliferated in the United Kingdom. As Aldo van Eyck, Lady Allen of Hurtwood campaigned tirelessly for the rights of children and divulged her ideas in both her projects and writings. One of her most important contributions was ‘Planning for Play’, a book first published in 1968 detailing instructions on how to design an adventure playground.

The same year, artist Palle Nielsen designed The Model - a model for a qualitative society (Figure 4), an adventure playground intended to show how art can be actively used to trigger emotions and creativity. This installation proved a true social experiment, for its space only became alive when used, living from the freedom of each individual and the collaboration between users.

---

1. Lady Allen of Hurtwood borrowed the idea from Sorensen, who built the first Junk Playground, as these used to be called, in Denmark. It was with Lady Allen, however, that these playgrounds reached their highest success, when she brought the idea to England and started building playgrounds on bombsites under a new name: the Adventure Playground.
At last, the perception that body and intellect are closely knit together and that learning does also occur through play, led to the emergence of new spaces that promoted interactions between user and environment. Besides the adventure playground, museums started offering interactive exhibitions, designed to teach children through an engaging, amusing and ‘hands-on’ experience. Commissioned by IBM, the exhibition *Mathematica: A World of Numbers... and Beyond*, served as a model for countless other museum displays, making Charles and Ray Eames – its creators –, pioneers in the design of interactive learning environments.

**Children in Domestic Space**

If the school is seen as the place for stimulating the intellect, and the city as that of a healthy body, home is the place of affection. In fact, home is the child’s first contact with the world; it is, as Bachelard (1983: 24) said, ‘our corner of the world, our first Universe’ and where we establish our strongest relationships – the bonds between child, mother, father and siblings. At the same time, it is the place where we first experience introspection, socialisation, and come in contact with different emotions. But most importantly, domestic space is what most accurately mirrors people’s ways of life, longings and ideals that, as shown before, were in this period deeply connected to the innocent figure of the child. And if the most relevant theories of this period declared that urban space was to ‘be based exclusively on human proportions’, the dwelling being ‘the very centre of town planning concerns and the focal point of all measures’ (*CLAM: Charter of Athens: tenets*, 1941: 138; 140), it is fundamental to look into domestic space to assess the impact of childhood in modern architecture, for the architect who conceives the city is also responsible for designing the home.

The central role of children in society – and the way the notion of childhood swiftly blended in the discourse of modern architecture – is perfectly conspicuous in Northern-American postwar construction. Effectively, examples such as Marcel Breuer’s 1949 *House in the Museum Garden* (Figure 5) reveal a playroom in the centre of the house, connected to the kitchen through an opening on the wall, that not only reflects the models of family accepted as normative, but also expresses the idealised role of each family member. In this case, it portrays a family where the mother is expected to be in the kitchen, occupied with domestic chores, while supervising her children through the opening on the wall.
The playroom, just as the playgrounds shown before, allowed children to develop their autonomy and engage in different types of play, yet under close adult observation. In the USA, these spaces became products of great desire, which led to an increasing search for solutions that integrated these areas in domestic space. In fact, Snyder (2004) shows how, in a short period of time, playrooms in postwar north-american homes seized the place of the living room, featuring larger dimensions and a franker connection to the kitchen.

In Europe, some examples of the same kind can be found – it suffices to observe the considerable size of the child's bed- and playroom at the Haus Am Horn, built in 1923, and how it connects to both the mother's chamber and the dinning area.

However, whereas Northern-American construction was mostly based on detached houses for single families, in Europe it found its utmost expression in collective housing buildings that followed the principles of urban planning in discussion. The apparent lack of space in this type of dwelling might make one doubt of the existence of individual playrooms in each flat; nevertheless, architects presented rather ingenious solutions for this problem and still offered children their spaces for play within domestic space.

One of these solutions is well portrayed in the Les Buffets project designed by LWD Atelier (Figure 6). In-between bedrooms – parents to one side, children to the other –, a large hall opens into the living room through a sliding panel, creating a playroom for the children and ensuring the privacy of parents while in their bedroom. Similarly to Breuer’s prototype, this playroom allows parents to watch over their children at play without interfering; again demonstrating that architecture absorbed the discoveries and theories on childhood cognitive development of that period and turned them into new spatial forms.
The Unité d’Habitation de Marseille (Figure 7) presents yet another solution for the space of childhood in domestic space, showing some affinities to Breuer’s House in the Museum Garden. On one hand, in a similar way to Breuer’s prototype, the openness of the kitchen and the position of the parents’ bedroom allow for the easy supervision of the living room. On the other hand, most importantly, a simple mechanism turns the children’s bedrooms into a playroom: a sliding wall between them creates, with a simple gesture, a wider space where children can play together. As the sliding panel is closed, each child can return to the privacy of their own corner of the world. The bedroom, here, is a universe of multiple activities, a space that holds the possibility of social interactions, introspection, and, as Fröbel defended, activity and liberty. A place that contains various rhythms – from those in a day to the successive times in life –, the child’s bedroom encloses the possibilities of sleeping, working, playing, and dreaming. And at the Unité, the sliding wall transforms this place at the user’s will, offering, if not morphologically, a playroom in essence.
This connection between form and function in architecture did also imply the redesign of the furniture that equipped the new spaces. The schools, as previously mentioned, came accompanied with furniture at the child’s scale, light enough to be moved around according to the activities in occurrence. These objects, meant to fit new spaces and needs, and many of which were specifically designed for children, were often conceived by architects. It suffices to take the example of the Haus Am Horn, where the child’s bedroom was furnished with furniture and toys designed by Alma Buscher-Siedhoff; or that of the playrooms in the USA, frequently sold with furniture that would serve different uses according to the child’s size or age. Besides, the child’s bedroom previewed multiple activities, including play, which resulted in spaces furnished with elements children could climb, jump from, or hide in – as in the examples provided by André Arbus’ chambre d’enfants (Figure 8), and Bruno Munari’s Abitacolo.

Figure 8: La Maison d’une Famille Francaise, André Arbus, Exposition Internationale des Arts et Techniques dans la Vie Moderne, Paris 1937: Chambre d’enfants. Retrieved from: www.ribambins.canalblog.com

Closely connected to the idea of play, the toy constituted an object that both belonged to the culture of childhood and was deeply linked to a domestic living and to the child’s space in the dwelling, which explains the attraction of many architects – from Bruno Taut, to Goldfinger and the Eameses –, for their design. Toys, furniture, playhouses, playrooms and other objects and spaces associated to the material world of childhood were, particularly in the postwar period, publicised on television, magazines, World Fairs and other exhibitions, which as Ogata (2013) explains helped expand the culture of childhood to the general public.

Conclusion:

The projects shown above strongly suggest that the renewed idea of childhood changed 20th century architecture. As the innocent figure of the child took centre stage in society, architecture incorporated the different ideas, ideals and conceptions relating to childhood into its theoretical and practical production of public and
domestic space. From playgrounds to playrooms, new spatial solutions were used in order to satisfy children’s physical, intellectual and affective needs. In a period when building fast and in large numbers was essential, architects sought efficient and replicable solutions for answering to the demands of the new ways of living, which they thoroughly discussed in meetings such as the CIAM. Furthermore, exhibitions displayed in museums and at world fairs provided efficient means to spread not only novel attitudes and ways of living, but also the objects and spaces to them associated. The divulgence of these projects and solutions, many of which were later replicated by other authors in different projects, led to the unequivocal dissemination of the culture of childhood, thus making the 20th century the century of the child.
References


