

BEYOND THE PLAYGROUND: STRATEGIES FOR CREATING PLAYABLE URBAN FABRICS IN CONTEMPORARY CITIES

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Abstract. In contemporary urban development the quality of public open space, opportunities for social interaction and residents' well-being have gained importance, while sedentary lifestyles, social isolation and generational segregation have become pressing concerns. In spatial planning, however, playfulness has remained associated almost exclusively with children's spaces. This paper examines how play elements are integrated into public open space beyond the conventional playground, tests public attitudes towards such integration in Latvia, and proposes an operational framework for design. The study combines a literature review with a purposive comparative analysis of nine international cases and a questionnaire survey of 139 respondents in sixteen Latvian cities across three age groups. Roger Caillois's four categories of play *agôn*, *alea*, *mimicry* and *ilinx* are operationalised as spatial design categories and cross-tabulated with four development domains. The comparative analysis indicates that playfulness operates at three non-substitutable levels – policy, process and form, and that the most spatially ambitious cases generate play without dedicated equipment. The survey shows that a large majority in both the adult and adolescent groups regard playfulness as intended for all ages, but that preference is weighted towards elements affording bodily movement and multifunctional greenery over sound-based interactive elements, indicating that internationally celebrated solutions are not uniformly transferable.

Keywords: playful city, ludic urbanism, public open space, sustainability, play typology

Introduction

Public open space is not merely physical infrastructure; it is a social, cultural and emotional space in which the values, habits and everyday experience of inhabitants are reflected, and its design has become an instrument that shapes daily routines, emotional experience and the capacity for interpersonal engagement. Within it, play occupies an ambiguous position. It is universally acknowledged as beneficial, is protected as a right of the child in international law, and is routinely provided for in municipal budgets. Yet that provision is overwhelmingly channelled into a single spatial type, the fenced and standardised playground, aimed at a single user group and offering a narrow repertoire of activity.

The relevance of the question is underscored by social and demographic pressures: rising sedentary behaviour, social isolation, and the segregation of generations in the urban environment. Playfulness has traditionally been associated almost exclusively with children's spaces, thereby neglecting the need of adults and older adults for stimulating and unstructured recreation. Contemporary planning discourse, by contrast, increasingly emphasises inclusive environments that dismantle social barriers and support intergenerational contact, and the deliberate integration of playful and interactive elements into public open space has been identified as an effective means of reducing stress, promoting physical activity and strengthening a sense of belonging.

In the Baltic context this shift is only beginning. The development of public open space in Latvian cities has in recent years increasingly foregrounded human experience and community need, yet the integration of playful design approaches remains a recent and under-researched area: attention has been directed principally towards infrastructure quality, safety and visual appearance, while elements that stimulate play, creativity and dynamic social interaction have received considerably less consideration.

Since Huizinga's *Homo Ludens* [17], and more directly since Stevens's formulation of the ludic city [39], a body of theory has argued for the reintegration of play into everyday urban space, translated into practice through initiatives such as Playful City USA and the Playable City programme. What remains underdeveloped is the intermediate level – an operational instrument that allows landscape architects and

planners to determine which kinds of play a given public open space affords, which are absent, and by what spatial means the absent ones might be introduced. Existing guidance tends either to remain at the level of general principle or to descend directly to catalogues of equipment.

The aim of this study is to establish how play elements are integrated into public open space, how such integration is perceived by potential users in Latvia, and on that basis to propose a framework for the design of playful public open space.

Theoretical background

The concept of play

Play is a significant mechanism of culture, of social relations and of environmental production, its definitions are diverse and at times contradictory. It may be approached as a means of development or as an activity valuable in itself [39]. No consensus on a single definition has been reached, but descriptions consistently identify several criteria: play is instinctive and intrinsically motivated, spontaneous, pleasurable and voluntary [14]. It has traditionally been dismissed as trivial, something children do by virtue of their immaturity and grow out of, and yet play is among the highest achievements of the human species, alongside language, culture and technology, none of which would have been possible without it [46].

The terminology is unstable across languages. In Latvian, *rotaļa* and *spēle* overlap and may both be rendered in English as either *play* or *game*. Dravniece [9] locates the distinction in the presence of rules: *spēle* denotes a rule-governed activity with defined content, an objective and an element of competition, whereas *rotaļa* covers both play in general and children's creative and symbolic play in particular. This has methodological consequences for the survey reported below, since the two terms elicit different mental images. Comparable difficulty exists in English: Sutton-Smith [40] attributes the definitional disagreement to the diversity of play forms, players, and settings, and proposes seven "rhetorics of play" – progress, fate, power, identity, the imaginary, the self, and frivolity – as persistent cultural discourses rather than categories of activity.

Huizinga [17] examined the concept across languages,

singling out from Greek *paidia*, children's play and play in general, and *agon*, the contest; and from Latin *ludus*, covering play, recreation, contest, theatrical performance and games of chance. *Ludus* becomes the central motif of his argument that the human being is not only *homo sapiens* but also *homo ludens*. Caillois [3] set out both to extend and to correct Huizinga, arguing that his account was too broad in some respects and too narrow in others, notably in excluding games of chance. Caillois classifies games not by outward features but by the psychological attitude of the player, distinguishing four categories – *agôn*, *alea*, *mimicry* and *ilinx* – and superimposing on them a continuum from *paidia* to *ludus*. These four categories constitute the analytical framework of the present study.

The developmental significance of play is well established across the life course. Its role is sufficiently significant that the United Nations Convention on the Rights of the Child recognises rest, leisure and play as rights of the child [44], a provision transposed into Latvian law [30]. Play has been described as the earliest form of human communication [28], and engagement in play during early life enables adults to orient themselves more effectively within changing environments [37]. During play the nerve signals generated by the body form pathways supporting neural development [24]; play with sounds, invented words and rhymes supports the phonological awareness underpinning early literacy [46]; shared play develops communication, cooperation, empathy and self-control [24; 31]; and play develops emotional regulation and resilience [12; 32] while counteracting boredom, anxiety, loneliness, and depression [23]. In the urban environment these effects extend across all age groups, genders and economic strata [41], and, critically for the present argument, introducing playfulness does not require purpose-built grounds: it can be integrated into settings not primarily intended for play, such as pavements, steps, water features, and street furniture [20].

Play in the designed landscape

Playfulness in landscape architecture is generated both by deliberately designed spaces and by spatial elements that stimulate spontaneous activity irrespective of their original purpose [39; 41; 18]. Its history in the designed landscape is long and continuous (Fig. 1).

Archaeological evidence attests to play from the Palaeolithic onwards, such as dice, gaming sticks, boards and ball-game materials, while excavations in ancient China, Peru, Mesopotamia and Egypt have revealed miniature models most probably used as toys, together with depictions of people playing in urban space [46]. From ancient Egypt onwards a playful atmosphere was deliberately created in the designed landscape: the gardens of Egypt and Persia were furnished with water basins that tempered the microclimate while functioning as playful mirrors. In ancient Greece, competition *agon* stood at the centre of civic life, and the first evidence of play integrated into the urban fabric survives there in the form of gaming boards incised into steps, paving and other stone structures in sanctuaries including the Acropolis [27]. In Rome, *ludi* were central to public entertainment and the amphitheatre was reproduced across the empire as an instrument of collective identity [38]. Medieval urban life was bound to the ecclesiastical calendar, which absorbed pagan rituals and seasonal festivals and provided occasions for collective play [2]; compulsory archery practice generated dedicated settings in the village landscape that served military ends while providing entertainment [26; 19].

In the Italian Renaissance garden, playfulness and dramatic effect were integral to design [5]. Water jokes were the characteristic

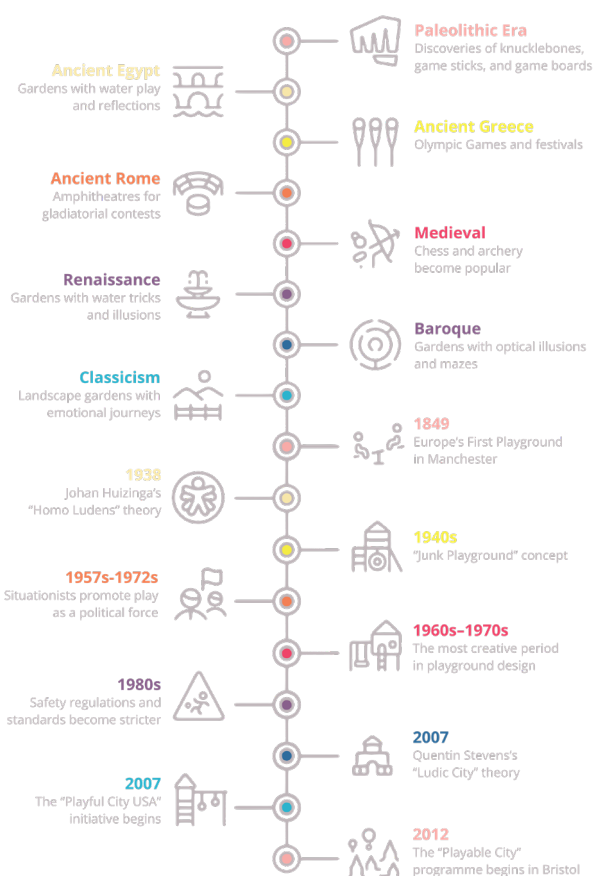


Fig. 1. Tracing the Development of Play Environments
 [created by the authors]

device: at the Villa d'Este in Tivoli a concealed fountain in the Grotto of Pomona was fitted with two jets, so that blocking one caused the other to strike the face of the curious visitor, while the water organ produced music from water flowing through pipes [35]. In the Baroque period gardens became stages on which illusion prevailed: Le Nôtre employed false perspective to compress or extend apparent distances and modelled terrain so that the main axis appeared to stretch into infinity, while canals hosted water spectacles and staged battles of miniature ships [6]; the labyrinth created a physical and mental journey requiring the visitor to make choices [8]. The English landscape garden developed playfulness into a choreography of experience, composing the garden as a sequence of pictorial scenes along a predetermined route that deliberately alternated dark plantings with sudden sunlit prospects [33].

For centuries children played unsupervised, chiefly in the street. The playground emerged in the 1840s (Fröbel's first sandpit, and in 1849 the first documented European playground in Queen's Park, Manchester, equipped for cricket, bowling and ball games and intended for adults as well as children), motivated primarily by safety, and from the 1880s spread in the United States partly as an instrument for integrating immigrant children [7]. Growing motorisation in the early twentieth century made street play unsafe and became the principal justification for construction, while timber apparatus gave way to mass-produced metal structures. Criticism of uniformity produced Sørensen's *junk playground* in the 1940s, and the 1960s and 1970s are regarded as the most inventive period in playground design, when landscape architects produced singular solutions unconstrained by prescriptive codes; from the 1980s, liability and safety concerns imposed standardised regulation [7].

This trajectory matters for the present study: over roughly a century and a half, play was progressively concentrated

into a single, separately regulated spatial type, reversing the historical condition in which playfulness was distributed throughout the designed landscape.

From the ludic city to the playable city

Homo Ludens established play as constitutive of culture, arguing that ritual, contest, judicial procedure, art and literature are generated through play, and warning that modern civilisation was losing the spirit of play [17]. The work inspired the Situationists, who reconceived playfulness as a political force for recovering freedom and creativity and introduced the *dérive*, *psychogeography* and *unitary urbanism* [13; 39]. Building on both traditions, Stevens [39] developed the ludic city: one function of urban public open space is to host informal, non-instrumental social interaction, and playful activity responds to the affordances of space but arises equally as a reaction against its constraints. Cities must therefore retain loosely defined space that may appear redundant, since any site affords more uses than its design anticipated.

From the early twenty-first century these ideas entered policy. Playful City USA, launched in 2007, challenged municipalities to rethink the city from the child's perspective and marked a practical step from the theoretical ludic city to an implemented playful city [20]. The Playable City programme, begun in Bristol in 2012, mobilises smart-city infrastructure to produce sociable urban experiences and positions itself as a critique of the conventional smart-city paradigm [25]. Playfulness further intersects with tactical urbanism [42], the child-friendly city [43], cities for people [10], and the sustainable, resilient and inclusive city [4].

Materials and Methods

The study is qualitative and exploratory, conducted in four stages: a literature review establishing the concept of play and its historical manifestations; a purposive comparative analysis of nine international cases; a questionnaire survey of public attitudes in Latvia; and the synthesis of an operational design framework. A narrative rather than systematic review was selected because the subject spans archaeology, cultural theory, developmental psychology, planning policy and design practice, and because a substantial part of the relevant material (municipal strategy documents and design office publications) falls outside indexed academic databases. Cailliois's [3] four categories were adopted as the analytical framework for both the case analysis and the interpretation of survey preferences. Three considerations motivated the choice. The categories classify play by the attitude of the player rather than by the outward form of the activity, which makes them transposable across cultures, ages and equipment types; they encompass non-competitive play and therefore avoid the bias towards measurable athletic performance that characterises much conventional provision; and an attitude-based classification is compatible with affordance-based reasoning in design, since each attitude implies a set of environmental properties a site must possess for that attitude to be adopted. The transposition itself forms part of the contribution of this paper: Cailliois developed his typology to classify games, not places.

Nine cases were selected purposively against five criteria: the project is completed and in operation, or the policy formally adopted; playfulness is an explicit and documented intention; the set covers three scales of intervention: municipal policy, programmatic intervention and permanent spatial design; the set covers three site typologies: squares, waterfronts and post-industrial territories; and documentation is publicly

available in English or in translation. Each case was analysed for the mechanism by which playfulness is produced, rather than described formally, and coded for the dominant Cailliois categories it affords.

The questionnaire survey was conducted among residents of sixteen Latvian cities: Riga, Cēsis, Valmiera, Jelgava, Bauska, Jūrmala, Tukums, Dobele, Saldus, Kuldīga, Talsi, Liepāja, Līvāni, Rēzekne, Krāslava and Daugavpils. A total of 139 responses was obtained: children aged 7–12 ($n = 23$), adolescents aged 13–17 ($n = 26$) and adults aged 18 and over ($n = 90$; 65 women, 25 men). Three instruments were used, adapted to each group; the children's questionnaire was administered on paper and electronically, the other two electronically, sharing the majority of their items and so permitting direct comparison. Instruments combined closed items, image-based forced-choice items presenting alternative design solutions for the same urban element, five-point rating items and open-ended questions, the latter analysed by inductive thematic categorisation. Participation was voluntary and anonymous; for respondents under 18 it was arranged through guardians or the educational institution.

Several limitations should be stated. The case analysis is desk-based, and case documentation is in part produced by the designers themselves. The cases are drawn exclusively from high-income Western European, North American and East Asian contexts. The survey used a non-probability convenience sample, is not statistically representative, is skewed towards women in the adult group, and has a children's subsample small enough that a single response shifts a proportion by more than four percentage points; response counts also varied between items, and bases are given below where they differ from the group total. Image-based items measure stated preference rather than observed behaviour.

Results

International experience

City-scale strategies. In Bristol, the Playable City movement treats digital infrastructure as a medium of play: *Stop, Smile, Stroll* converts a pedestrian crossing into a thirty-second interlude in which a camera responds to the waiting user with a compliment, music and a filtered video; *Urbanimals* projects motion-responsive animal figures onto surfaces throughout the city; *Street Pixel* converts paving into light- and sound-responsive panels. The interventions are low in capital cost, reversible, and dependent on continuous maintenance [29]. In Rotterdam, playfulness is embedded in municipal policy rather than in objects: the vision *Kom op naar buiten!* prescribes measurable requirements including universal accessibility, meeting places along frequently used routes, provision for several target groups in any space exceeding 1,000 m², and a minimum of 25 % undesignated free space within play and sports areas [11]. In Dublin, A Playful City operates through co-design conducted in the everyday settings of residents rather than in institutional venues, with the effect that inhabitants author the design brief; *Love Our Laneways*, the *Portlaoise Active Travel Zone* and *Beat Seats*, a set of xylophone-like benches designed by a teenager, illustrate the approach [36].

Squares and waterfronts. *Superkilen* in Copenhagen uses play as an instrument of cultural integration: residents nominated more than one hundred urban objects from their countries of origin, distributed across a red activity square, a black square for quieter gathering and a green park, with boundaries between playground, street and rest area deliberately absent [1]. At *Alldgate* in London a continuous

Table 1. Comparative overview of the analysed cases [created by the authors]

Case, location, year	Scale and type	Mechanism of playfulness	Dominant play forms	Transferable principle
Playable City (Bristol, 2012)	Programme; digital layer	Responsive projection, sensing and sound in circulation space	<i>Alea, mimicry</i>	Play can be added to existing infrastructure without reconstruction
<i>Kom op naar buiten!</i> (Rotterdam, 2016)	Municipal policy	Quantified spatial standards	All four, indirectly	Playfulness is governable through measurable norms
A Playful City (Dublin, 2017)	Co-design	Brief authored by residents in their own settings	<i>Mimicry, agôn</i>	Relevance is a product of method, not object
Superkilen (Copenhagen, 2012)	Square	Resident-nominated objects; zoning removed	<i>Mimicry, agôn, ilinx</i>	Cultural identity as the content of provision
Aldgate (London, 2024)	Square	One continuous element deformed into many functions	<i>Agôn, ilinx</i>	One form replaces a set of single-purpose objects
WaveDecks (Toronto, 2009)	Waterfront	Wave geometry producing level change	<i>Ilinx, mimicry</i>	Play as by-product of structural form
LaLaport Toyosu (Tokyo, 2006)	Waterfront	Undulating ground plane; oceanic narrative	<i>Ilinx, mimicry</i>	Topography substitutes for equipment
Bridgeline Park (Shanghai, 2021)	Post-industrial	Retained fabric plus interactive water	<i>Alea, agôn</i>	Minimal intervention with retained identity
Tank Park (Auckland, 2022)	Post-industrial	Industrial components reused as apparatus	<i>Mimicry, ilinx, alea</i>	Heritage material as play material

orange ribbon deforms along its length into seating, a climbing bridge, exercise apparatus and a communal table [22]. The Toronto *WaveDecks* replace narrow promenade sections with timber platforms built out over the lake, their wave geometry generating amphitheatre seating, a 57 m bench and level change for climbing [45]; *LaLaport Toyosu* in Tokyo applies an oceanic metaphor across landform, furniture and lighting, the undulating ground plane producing enclosed pockets and slopes that operate as slides [21]. In the last two cases play is generated by topography, without conventional equipment.

Post-industrial territories. *Bridgeline Neighborhood Park* in Shanghai, on the site of a closed vacuum-flask factory, retains the chimneys as historical evidence while accommodating a market plaza, a community plaza with an interactive fountain, a 600 m running loop and a retained camphor avenue [15]. *Tank Park* in Auckland retains the tanks, pipes and valves of a former bulk-storage terminal; its *Play Line*, assembled from recycled industrial components and incorporating light, sound and water triggered by restored valves, converts the industrial residue itself into the play apparatus [16].

Four findings emerge from the comparison. First, playfulness operates at three distinct and non-substitutable levels: policy, process and form. Rotterdam demonstrates the first, Dublin the second and the six design cases the third; interventions at the level of form alone remain isolated exemplars unless supported by a policy framework that requires them and a process that grounds them in local use. Second, in the most spatially ambitious cases play is generated without dedicated equipment, through landform, structural geometry, a single continuous element or retained industrial fabric; the conventional playground is one delivery mechanism among several, and not necessarily the most efficient in area or cost per user. Third, the deliberate removal of functional zoning recurs in the strongest square and waterfront examples,

indicating that indeterminacy is pursued as an objective and corroborating Stevens's [39] argument that loosely defined space is a necessary rather than residual component of public open space. Fourth, digital interventions offer reversibility and low capital cost but transfer expenditure to maintenance, and a non-functioning installation delivers no benefit while remaining physically present.

Public perception in Latvian cities

The most consistent finding of the survey is that playfulness is not perceived as a children's prerogative. Asked whether playfulness is intended for children, for adults, or for everyone together, 87.8 % of adults (n = 90) and 73.1 % of adolescents (n = 26) selected "for everyone together"; the remainder in each group attributed it principally to children, and no respondent in either group attributed it principally to adults. The children's group concurred: 76.2 % considered that adults can play in the same way as children. This stands in direct opposition to the prevailing allocation of play provision to a single age group.

The two older groups nonetheless associate playfulness with different values. Among adolescents it is most often linked to freedom and joy (54 %), followed by being together with others (27 %), childishness (15 %) and sport (4 %). Among adults the order is reversed: being together predominates (58 %), while freedom and joy is selected by 28 %. Playfulness is thus construed by adolescents primarily as emotional release and by adults primarily as social proximity – a difference with direct design consequences.

Preferred forms of activity likewise diverge (bases n = 26 and n = 89). Adolescents favour digital and intellectual activities (73.1 %) and creative activities (69.2 %), with constructive activities least selected (38.5 %). Adults favour intellectual (64 %), physical (60.7 %) and constructive activities (57.3 %),

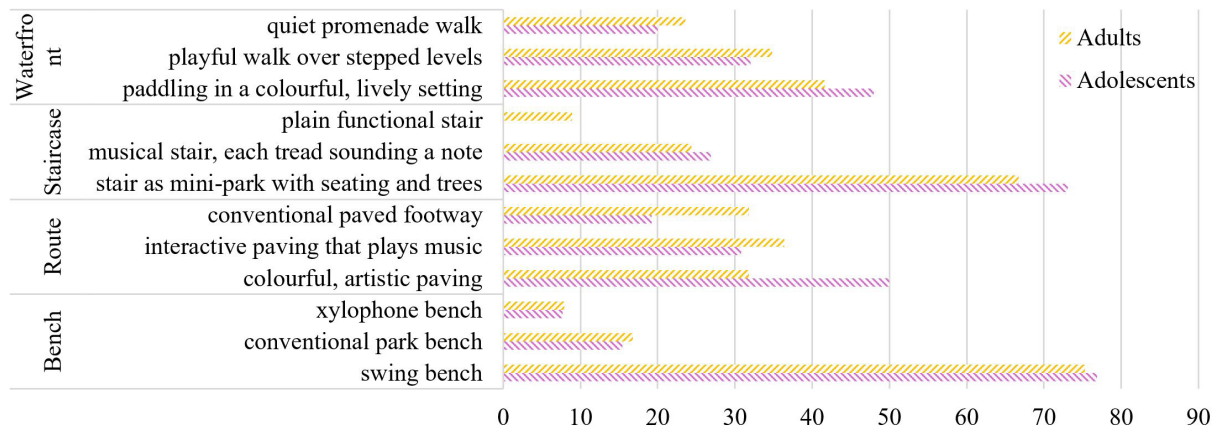


Fig. 2. Preference between alternative design solutions for the same urban element (%) [created by the authors]

with digital activities distinctly rare (28.1 %). Asked what kind of city they would choose, both groups placed safety first (adolescents 88.5 %, adults 73.3 %) and greenness second (76.9 % and 60.0 %); in both groups a predictable city was the least desired option (3 %), corroborating from the demand side the finding that indeterminacy is a design objective.

Image-based forced-choice items produced a consistent and, for the argument of this paper, unexpected pattern (Fig. 2).

The swing bench – an element affording bodily movement, and thus *ilinx* – was the single most preferred solution across both groups, and the staircase conceived as a miniature park was similarly dominant. By contrast, the two sound-based interactive elements were the least preferred options in their sets, the xylophone bench attracting under 8 % in both groups. Rating items confirmed the pattern: the rope net received the highest mean rating (adolescents 4.38, adults 4.32), followed by the mist fountain (4.08 and 4.30) and the slide as an alternative to stairs (4.23 and 3.74).

Among children ($n = 23$), no single category of game dominated, indicating diverse and undifferentiated interest. Two findings are of direct design relevance. Asked whether a ready-made playground or a self-invented game using whatever is at hand is more fun, 52.2 % answered that both are equally enjoyable, indicating that structured provision and opportunity for improvisation are complements rather than alternatives. Asked what most obstructs play in the city, 65.2 % identified the absence of friends or other children, well ahead of traffic volume or the lack of interesting objects: for this group the binding constraint on play is social rather than physical.

Open responses reinforced these results. Asked what makes a city boring, respondents produced five recurring categories: architectural monotony, emotional atmosphere, absence of greenery, lack of cultural activity, and acoustic conditions; boredom is constituted as a compound of visual, emotional, environmental, social and acoustic factors rather than the visual monotony that design responses usually address. Asked about the significance of play, respondents treated it as a source of emotional well-being, a social instrument overcoming barriers between age groups, and a developmental capacity sustaining creativity and flexible thinking into adulthood; play was consistently characterised as a universal human need across the life course.

A design framework for playful public open space

Competition (*agôn*) comprises play with explicit rules in which skill, agility or strength is tested, and may equally be directed against oneself (Fig.3). **Chance (*alea*)** introduces surprise and the pleasure of discovery, the outcome

determined by factors outside the user's control (Fig.4).

Simulation (*mimicry*) rests on the capacity to pretend, to assume roles and to enact events outside everyday reality, allowing public space to become a stage (Fig.5).

Vertigo (*ilinx*) rests on the pleasure generated by movement, speed, rotation and swinging, when accustomed equilibrium is disrupted (Fig.6). Because this last category deliberately operates at the threshold of controlled instability, its implementation is inseparable from risk management: fall heights, impact-attenuating surfacing, clearance zones, and maintenance regimes must be resolved in accordance with applicable safety standards, the design task being to preserve perceived risk while eliminating hidden hazard.

Play in public open space supports four clusters of development outcomes. **Physical** development is served by climbing structures, unstable surfaces, inclined planes, changes of level and spring-mounted elements, and even by graphic markings on pavements that introduce brief interludes of movement in users with no conscious intention of playing. **Social** development arises where elements attract several users at once: rotating structures, jointly turned cylinders and swinging platforms oblige cooperation to generate motion. **Cognitive and creative** development is activated by mechanisms responding to particular sequences, by chalk walls and perforated panels, and by optical illusions that resolve only from a particular viewpoint. **Sensory and emotional** experience is produced by contrasting textures, materials of differing thermal behaviour, wind chimes and water sounds, reflective surfaces and presence-responsive lighting.

The intersection of the four play forms with the four domains yields a matrix (Table 3) which may be used diagnostically, to identify which combinations an existing public open space already affords and which are absent; and generatively, to derive a programme of elements covering the full range rather than defaulting to the physical *agôn* combination that predominates in conventional provision. Applied to the analysed cases it explains their differing reach: Superkilen and Tank Park populate three columns across three rows, whereas a standard equipment-based playground typically populates a single cell.

Principles and scales of implementation

The matrix specifies which forms of play a public open space should afford; it does not specify where in the city or at what scale they should be introduced. Five principles govern integration, each traceable to specific evidence in this study rather than asserted as general good practice.

Accessibility. Play must be attainable by everyone irrespective

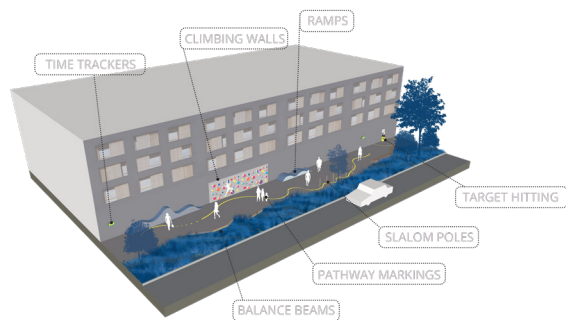


Fig. 3. Conceptual application of competitive (Agon) elements in the urban environment [created by the authors]

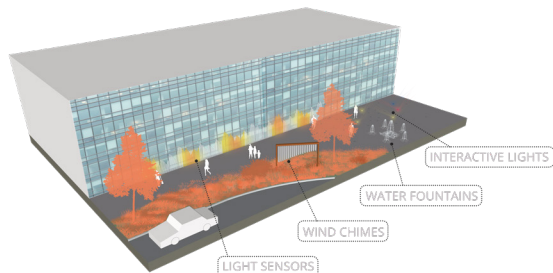


Fig. 4. Conceptual application of chance (Alea) elements in the urban environment [created by the authors]

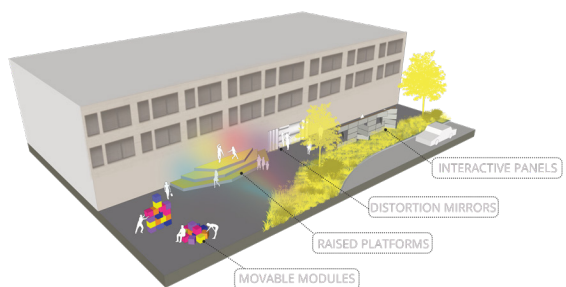


Fig. 5. Conceptual application of simulation (Mimicry) elements in the urban environment [created by the authors]



Fig. 6. Conceptual application of vertigo (Ilinx) elements in the urban environment [created by the authors]

of age, physical ability or social status, which requires that playful elements be positioned along everyday routes – on pavements, in parks, in the spaces between buildings and wherever pedestrian flows concentrate – rather than in destinations reached only by deliberate journey. Rotterdam shows the requirement to be amenable to quantification; the survey supports it from the demand side, since the most cited obstacle to children's play was the absence of other children, a constraint that positioning within existing flows addresses and that additional equipment in isolated locations does not.

Safety. Safety is understood not as restrictive control but as considered spatial organisation within which people can explore and test their capabilities: well-overlooked areas, durable materials, controlled fall heights and impact-attenuating surfaces where required, and lighting adequate for the dark part of the day; of particular weight at Baltic latitudes. It also entails separating play from vehicular traffic. This must be distinguished from the zoning the strongest cases remove: the boundary to be maintained is that between play and traffic, not that between play and the other uses of public space. Conflating the two produces the fenced enclosure this argument seeks to move beyond.

Place identity. Play elements cannot exist in isolation from the character, history and social life of their setting, and solutions may draw on local traditions, materials, forms and motifs. *Superkilen*, where the content of provision is the cultural origin of the residents, and *Tank Park*, where industrial residue becomes the apparatus, demonstrate the principle in its strongest form: identity is not applied as decoration but constitutes the material of play.

Continuity with existing structure. Playfulness should extend the functional and spatial order of the city rather than compete with it, which also permits existing resources to be used, material where budgets are constrained. At *Aldgate*, *Toyosu* and the Toronto *WaveDecks*, play is a by-product of the primary spatial gesture rather than an additional layer of equipment.

Community involvement. Playfulness cannot be produced solely as a professionally prepared design solution; co-design workshops allow representatives of different ages and social groups to work jointly on a vision for a specific site through idea mapping, use scenarios and experimental prototyping. The involvement of adolescents deserves particular emphasis, since they are among the most intensive everyday users of public open space while their needs are among the least registered in planning. The Dublin cases show local relevance to be a product of the engagement method rather than of the object installed.

Small-scale interventions allow change to be introduced quickly and with modest resources. Playful markings and graphic elements integrated into pavements convert

Table 2. Operationalisation of Cailliois's categories as urban design affordances [created by the authors]

Category	Player's attitude	Spatial affordance sought	Representative elements	Principal risk
<i>Agôn</i>	Reliance on one's own ability; measurable outcome	Comparability, graded difficulty, visible results	Graded climbing walls, balance beams, sprint markings, target elements, reaction panels, timing sensors	Exclusion of lower-ability users if difficulty is not graded
<i>Alea</i>	Reliance on anything other than oneself	Unpredictability, responsiveness, surprise	Sensor-controlled fountains, responsive lighting, wind-driven bells, spinners, moving panels	Dependence on technology and maintenance
<i>Mimicry</i>	Temporary suspension of one's own identity	Ambiguity, open interpretation, loose parts	Abstract objects, unconventional seating, mirrors, distorting panels, movable blocks, projections	Over-specification, which forecloses interpretation

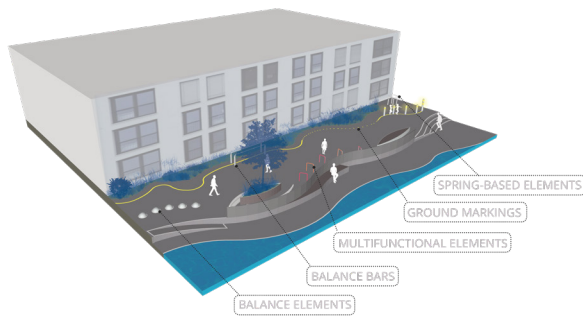


Fig. 7. Conceptual application of physical activity elements in the urban environment [created by the authors]

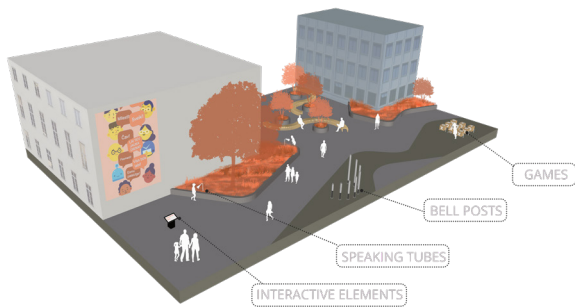


Fig. 8. Conceptual application of social interaction elements in the urban environment [created by the authors]

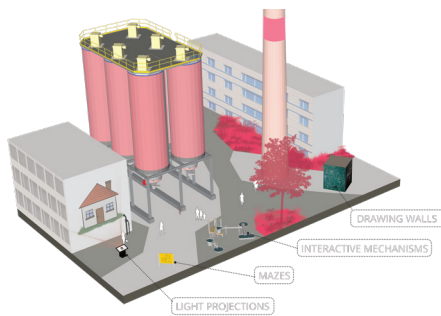


Fig. 9. Conceptual application of cognitive and creative elements in the urban environment [created by the authors]



Fig. 10. Conceptual application of sensory elements in the urban environment [created by the authors]

ordinary movement into a playful experience, occupy no additional land and require no structural work. Mobile and movable objects (benches, modular platforms, timber blocks, improvised stage elements) permit residents to alter the arrangement of space, and are the principal spatial means of affording *mimicry*, since their openness to reinterpretation is precisely what they offer. Contemporary art elements operate as unexpected discoveries and introduce alea without dependence on technology. Interactive elements responding to movement, touch or sound provide immediate feedback and are effective where pedestrian flow is high, but the survey qualifies this category: sound-based variants were the least preferred options tested, and interactive solutions should therefore be introduced selectively, with movement- and light-responsive variants preferred in the absence of local evidence to the contrary. Beyond their intrinsic value, small-scale solutions function as pilots: temporary installations reveal how people respond before capital is committed, and the cost of establishing this is negligible relative to the cost of construction.

Large-scale strategies extend to the scale of the city as a whole, resting not on individual elements but on an integrated approach encompassing mobility planning, a network of public spaces and community involvement. Playful routes are the principal instrument: thematic or movement-oriented connections between significant points, linking schools with parks, residential districts with central squares, or cultural quarters with recreational areas, along which playful elements are distributed linearly rather than concentrated at a single point, so that they function as landmarks orienting the user. Three arguments from this study support the route as the organising device. The binding constraint on children's play is social rather than physical, and a route connecting schools with parks places play where children already move in numbers. Playful elements are most effective where they extend existing structure, and a route requires no new land. And the Portlaoise case demonstrates that a playful route can carry an additional policy objective, the shift of school journeys from car to active travel, which materially strengthens the case for funding.

A route strategy presupposes a network. In Latvian and wider post-socialist cities a substantial part of that reserve consists of the large, undifferentiated inter-block courtyards of the mid- and late-twentieth-century housing stock: extensive, centrally located, under-used and already embedded in daily pedestrian movement. Their ownership structure is an obstacle to conventional redevelopment but not to the small-scale and mobile interventions described above, which makes the courtyard the primary site at which the route network and the small-scale repertoire meet. At Baltic latitudes such a strategy must also address a long season

Table 3. Play forms and developmental domains: a matrix for design and analysis [created by the authors]

#	Physical	Social	Cognitive and creative	Sensory and emotional
Agôn	Strength, agility, coordination, reaction	Peer contact, spectatorship, rule negotiation	Strategy, self-assessment, goal setting	Achievement, self-efficacy
Alea	Reactive movement, timing	Shared surprise, spontaneous grouping	Anticipation, causal reasoning	Curiosity, delight, refreshment
Mimicry	Gesture, expressive movement	Role negotiation, collaborative narrative	Symbolic thought, narrative construction	Identification, emotional bond with place
Ilinx	Balance, proprioception, vestibular stimulation	Turn-taking, mutual encouragement	Risk assessment, bodily self-knowledge	Release, exhilaration

of darkness and snow cover: lighting performs a double function, extending usable hours and constituting a playful element in its own right, and provision should be weighted towards elements operating year-round, with winter treated as a design condition rather than an interruption.

Discussion

The case analysis and the survey converge on the central claim of this paper from opposite directions: the cases demonstrate that playfulness can be produced throughout the public realm by spatial means other than equipment, and the survey demonstrates that this is what people say they want. The near-unanimity of the finding that playfulness is "for everyone" indicates that the concentration of provision in children's facilities reflects planning convention rather than public expectation.

The survey also qualifies the case evidence in a way the case analysis alone could not. Two of the three sound-based interactive elements tested were the least preferred options in their sets, the xylophone bench attracting under 8 % in both age groups; significant because such an element, in the form of Dublin's Beat Seats, appears in the international literature as an exemplary intervention. The pattern that emerges is a preference for elements affording bodily movement and multifunctional greenery, and a comparative indifference to elements whose playfulness is delivered through sound. Whether this reflects cultural norms concerning noise in public space, a preference for solutions legible as useful, or the presentation of the images themselves cannot be determined from these data. The practical implication is that transferability cannot be assumed from international acclaim, and that temporary installation offers an inexpensive means of establishing local preference before construction.

The generational difference in the meaning attributed to playfulness carries a further consequence. Provision aimed at adolescents should prioritise autonomy, movement and unprogrammed space; provision aimed at adults should prioritise co-presence and settings supporting extended stay. Both readings can be accommodated in the same space, but not by the same element.

Three tensions warrant attention in application. The strongest cases pursue functional ambiguity, whereas the post-1980s regulatory framework presupposes designated, inspectable and certified equipment within defined zones; *ilinx* is where this tension is sharpest and, on the survey evidence, where demand is highest. *Agón* is the most readily provided category and also the one most liable to exclude where difficulty is ungraded. And digital interventions convert capital cost into operating cost, so that in municipalities with constrained maintenance budgets a topographic solution may deliver a longer service life for comparable expenditure; a consideration reinforced by the low preference recorded here for technologically mediated sound elements.

Two limitations bear directly on interpretation. Reported play frequency differed sharply between adolescents, none of whom reported playing weekly or more often, and adults, over half of whom did; this is more plausibly attributable to the presence of children in adult households and to differing interpretation of the term *rotalāties* than to a genuine behavioural difference, and is the least secure result reported here. The sample is also a convenience sample, and image-based items measure stated preference rather than behaviour. Three lines of further research follow: observation-based validation of the matrix through post-occupancy evaluation; a representative survey capable of supporting inferential comparison between age groups; and dedicated investigation of the apparent aversion to sound-

based interactive elements, which is the most actionable and least explained result of this study.

Conclusions

Playfulness has been an instrument of landscape design since antiquity, distributed throughout gardens and public space rather than concentrated in a dedicated typology. The playground, which emerged in the mid-nineteenth century and was progressively standardised after the 1980s, resolved a real safety problem but reversed this historical condition. The contemporary playful city movement is best understood as a return to the earlier distributed condition under modern circumstances.

Comparative analysis of nine international cases shows that playfulness operates at three non-substitutable levels (policy, process and form) and that in the most spatially ambitious cases play is generated without dedicated equipment, through landform, structural geometry, a single continuous element or retained industrial fabric.

Survey evidence from 139 respondents in sixteen Latvian cities indicates that playfulness is not perceived as a children's prerogative: 87.8 % of adults and 73.1 % of adolescents regard it as intended for all ages. Current provision therefore reflects planning convention rather than public expectation. Among children, the principal obstacle to play was the absence of other children rather than any deficiency of equipment, which reframes provision as a question of location and programming rather than of specification.

Preference is weighted towards elements affording bodily movement and multifunctional greenery – the swing bench, the rope net, the stair conceived as a miniature park – and away from elements whose playfulness is delivered through sound, with the xylophone bench attracting under 8 % in both groups despite the international standing of comparable interventions. Transferability of celebrated international solutions cannot be assumed and should be tested before implementation.

Cailliois's four categories can be operationalised as spatial design categories and cross-tabulated with four developmental domains. The resulting matrix supports both diagnostic assessment of existing public open space and generative programming of new space, and offers a corrective to the physical *agôn* default of conventional provision. At city scale, the playful route offers an organising device that requires no new land, places play where users already move, and can carry additional policy objectives; in the Baltic context the inter-block courtyard constitutes the principal spatial reserve for such a network, and seasonality must be treated as a design condition rather than an interruption.

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Kopsavilkums

Publiskā ārtelpa nav tikai fiziska infrastruktūra, tā ir sociāla, kultūras un emocionāla telpa, kurā atspoguļojas iedzīvotāju vērtības un ikdienas pieredze. Rotaļīgums tajā tomēr gandrīz vienmēr tiek novietots vienā telpiskā tipā – norobežotā un standartizētā rotaļu laukumā, kas paredzēts vienai lietotāju grupai. Raksta mērķis ir noskaidrot, kā spēles elementi tiek integrēti publiskajā ārtelpā ārpus tradicionālā rotaļu laukuma, kā šādu integrāciju vērtē potenciālie lietotāji Latvijā, un uz šī pamata piedāvāt ietvaru rotaļīgas publiskās ārtelpas projektēšanai.

Pētījumā apvienota literatūras analīze, deviņu starptautisku gadījumu salīdzinošā analīze un iedzīvotāju aptauja, kurā piedalījās 139 respondenti no sešpadsmit Latvijas pilsētām trīs vecuma grupās. Rožē Kaijuā (*Roger Caillois*) četras spēļu kategorijas agôn, alea, mimicry un ilinx operacionalizētas kā telpiskā dizaina kategorijas un sasaistītas ar četrām attīstības jomām, veidojot matricu, kas izmantojama gan esošās ārtelpas izvērtēšanai, gan jaunas telpas programmēšanai.

Gadījumu analīze rāda, ka rotaļīgums darbojas trīs savstarpēji neaizstājamos līmeņos (politikas, procesa un formas), un ka telpiski vērienīgākajos piemēros rotaļa tiek radīta bez speciāla aprīkojuma, izmantojot reljefu, konstrukcijas ģeometriju vai saglabāto industriālo mantojumu. Aptauja liecina, ka 87,8 % pieaugušo un 73,1 % jauniešu uzskata rotaļīgumu par visām vecuma grupām domātu, taču priekšroka tiek dota elementiem, kas rosina ķermeņa kustību un ir daudzfunkcionāli un zaļi, nevis skaņā balstītiem interaktīviem risinājumiem. Tas norāda, ka starptautiski atzīti risinājumi nav vienmērīgi pārnesami un pirms ieviešanas būtu jāpārbaudāmi vietējā kontekstā.