The Urban Transitions Through Dance and Movement: Innovative Concepts of Urban Interventions in Terms of Physical Activity

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Abstract

In contemporary urban revitalization processes, the role of physical activity and movement is increasingly recognized as a factor stimulating spatial development. This applies not only to forms of mobility and the development of walkability concepts, but also to the use of urban space as a stimulator for integrative physical activities. At the same time, there is a growing importance of urban interventions based on informal, artistic, and flexible actions developed in cooperation with local communities. In the case of shared physical activity, local traditions, cultural values, and collective memory may be particularly significant for tactical urban practices. This article adopts the thesis that diverse forms of movement present in contemporary urban space (e.g., dance, yoga, active walking) as expressions of social and cultural identity can serve as effective tools for activating local communities. Moreover, they may contribute to the revitalization and symbolic reclaiming of urban spaces, including heritage sites. The aim of the article is to highlight the potential of movement as a form of social and cultural expression to strengthen social integration and local identity. The research methodology applied to the above issues consisted of two stages. The first stage involved an analysis of examples of urban and performing actions engaging residents in physical activity - dance and movement. The outcome was the identification of key components of these actions that are essential in the process of reclaiming urban space for local communities. In the second stage, participatory research was conducted to analyse the potential of historical urban districts in terms of using their features as a factor stimulating physical activity. The target group of this research were older residents of the cities of Gliwice and Barcelona, where innovative Urban Health Paths (UHP) were implemented. The concept of UHP is based on the idea of urban therapy—integrating movement, mental focus, and group activities that draw on the characteristics of local architecture. Moreover, the UHP structure also incorporates design qualities from the Active Design strategy: memorable places, defined space, urban furniture, visibility, and richness of place. The research results made it possible to develop guidelines identifying the key components for implementing such solutions in new locations. These include: in the area of spatial features: flexibility of the solution, clear designation of exercise points, aspects of accessibility in urban space, in the area of building a relationship between the participant and the environment: stimulation of short-term memory, integration of movement with surroundings, sensory stimulation, and concentration training. Furthermore, the implementation of this project serves as an example of an engaging urban strategy that supports physical activity and mental health among older adults. At the same time, it contributes to active ageing programs and efforts aimed at building resilient local communities.

Keywords: *urban transitions, active design, dance, urban space, Urban Health Path*

1. Introduction

In contemporary processes of urban space transformation or spatial micro-interventions, the role of physical activity and movement is growing as a factor stimulating spatial development and the renewal of the multisensory nature of urban environments. Movement is becoming an integral part of modern urban strategies, closely linked to the concepts of neighborhood and district development through the idea of walkability [1,2,3]. At the same time, an approach has become established that uses performative actions related to movement and dance to redefine urban space. Dance is an expression of communal co-sharing of space, through which we manifest our experience of self [4]. In this context, dance as a phenomenon began to appear in public urban space, particularly in places where it manifested alternative forms of artistic expression: factory buildings, post-industrial sites, train stations, museums, and city squares became the stage for dance performances, often involving the audience.

Projects involving residents draw on New Materialist lenses (Barad, 2003), spatial theory (Lefebvre, 2004), and concepts of flow and mobility in the city (Harvey, 2012) [5]. A key value in these activities is the material and immaterial identity, which forms the basis for participants' engagement in space (through emotions, rhythms, kinesthetics, touch, memories). At the same time, the role of urban strategies based on informal, flexible actions and collaboration with local communities is growing. In such cases, the role of local traditions, cultural values, and memories can be significant for tactical urban practices.

The article proposes that these embodied practices constitute a form of soft resistance to the dominant flows of capital and planning, offering an alternative choreography of the city shaped by presence, relationality, and imagination. The article adopts the thesis that various forms of movement present in contemporary urban space (e.g. dance, yoga, active walking) as forms of social and cultural expression can be effective tools for activating local communities and contribute to the revitalization and symbolic reclaiming of urban spaces, including historic sites. The purpose of the article is to highlight the potential of movement as a form of social and cultural expression in strengthening social integration and local identity. The fundamental form of experiencing urban space through movement is related to the sensory perception of pedestrian environments. In relation to the patterns of pedestrian mobility in the city, urban space should have a diversity aspect—behavioral quality created by specific physical elements that invoke emotions and create a lasting impression.

The presented example of movement-oriented action in urban space, in the form of an innovative Urban Health Path (UHP), demonstrates a holistic approach to building residents' relationships with the urban landscape through physical activity. The applied research methodology allows an analysis of the proposed solutions in terms of the potential of historic urban districts to encourage physical activity among older residents. Participatory research conducted on prototype Urban Health Paths in the districts of Gliwice and Barcelona not only highlights the potential to promote health of this initiative, but also underscores the importance of movement and sensory experience of space in fostering an engaging connection with one's place of residence. Previous studies indicate a correlation between proximity to walkable areas, the aesthetic attractiveness of the surroundings, and a sense of safety, and the increase in social interactions among older adults [3,6,7,8]. Meanwhile, the results of participatory research also suggest that such active walks may serve as a foundation for strengthening local identity.

2. Methods

The research methodology applied to the above issues consisted of two fields. The first field involved an analysis of the research results and presented examples in the grey literature concerned with dance and movement-based interventions in urban space that can function as innovative tools to foster social cohesion, spatial engagement, and individual well-being. It builds on interdisciplinary approaches linking dance, architecture, urban studies, and phenomenology to examine how the human body interacts with city space not only as a user but as an active agent of transformation. The outcome was the identification of key effects of these activities that are essential in the process of reclaiming urban space for local communities.

In the second field, participatory research was conducted to analyze the potential of historical urban districts in terms of using their features as a factor that stimulates the physical activity of older adults. The target group for this research was older residents of the cities of Gliwice and Barcelona, where innovative Urban Health Paths (UHP) were implemented. In the first stage of the project, it was necessary to define the overall vision of the path model and the key architectural features and public spaces. In the second stage (prototyping), expert interviews in the area of architecture and rehabilitation, verifying the prototype route of the health path. Moreover, the proposed forms of urban game, physical, and relaxation exercises were discussed and developed in the team project. In addition, the prepared physical exercises were integrated with the indicated buildings, their architectural details and sculptures to enhance the interactions with the cultural and architectural landscape of the districts. The testing phase with research walks was crucial for building senior citizen participation, and cooperation with local senior civic centers was essential at this stage to facilitate the dissemination of project information among local citizens. As part of the path testing, the leaders focused seniors' attention on the information contained in the urban game and encouraged them to share their knowledge about the district. For many participants in the research walk, this was the motivation to share memories, historical facts, and previously unnoticed building details with the group. The information collected was incorporated into the content of the urban game, while the seniors emphasised the integrative importance of this element of the UHP.

3. Phenomenology of dance: dance and movement as spatial practice – "reclaiming" space through the presence of the body

In research on movement and dance in urban environments, the active approach is the most commonly used. It assumes that kinesthetic events, including connections between dance and architecture, allow the formation of deep relationships with the surroundings through interaction with physical environmental artifacts (e.g., rhythm, form) [4,9]. The contemporary spatial concept of movement developed by Laban suggests that space is defined by human movement and creates trace forms [9,10]. This approach laid the groundwork for the development of hybrid practices combining dance, architecture, and multimedia design, as seen in the work of Daniel Belton [11]. The relationship between dance and architecture has also been studied by Sara and Littlefield [12,13], particularly in the context of the coexistence of dance and architecture as a dialogue between space and time. Many scholars, choreographers, and visual artists point out the similarity between dance and architecture: architecture, like dance, is a spatio-temporal art form; both are forms of communication that express ideas, reflect abstract concepts and emotions. They appear within cultural, social, and historical contexts. Dance is also intrinsically related to time and place, using a comparable language of form, shape, and rhythm [14]. Crawley, Rosamaria, and Kostic Cisneros, in their research, define the temporal relationship between dance and architecture as a continuum between place and event. Within the dance culture, there are forms, such as site-responsive dance or site-specific dance, which build a relationship between the experience of spatial form and the creation of movement space (e.g., the works of choreographer Carol Brown). Sometimes, the dimension of time is symbolic and nonlinear; in site-specific choreography related to a particular location, the experiment may also refer to the past or future of that place. However, the essential role of time in this form of movement is rooted in the fluidity and changeability of place, as it is confronted with its dynamical shifting conditions and participants in that space [15].

An interesting example of redefining spatial perception through a shift in the plane of dance is the activity of the BANDALOOP collective, which activates public space in a non-standard way, but above all transforms the perception of movement in space and plays with scale. Dance as a form of public art merges the intimacy of the human body with large-scale surfaces, and the reversal of perspective provokes a re-evaluation of spatial scale. It is also worth mentioning the #PublicCanvas initiative, within which BANDALOOP explores the social and cultural landscapes of communities, combining dance, music, spoken word and visual arts. The collective gathers stories, cultural elements, and traditions of a given community and reinterprets them within specific urban spaces, transforming them into choreographies and video projections. In doing so, performance sites undergo an artistic transformation [16].

One of the more intriguing discourses on the dialogue between architecture and dance/movement is the work of choreographer William Forsythe, who has repeatedly engaged the public in re-evaluating bodily movement in relation to spatial organization. His installation series City of Abstract is a choreographic object that functions within the urban environment. The movement of users in public space is recorded and processed on screens integrated in urban architecture, thus creating an impulse to observe movement and interaction, and introducing an element of integration among the observers of the installation through the use of movement [17]. In all installations, this movement—treated by Forsythe as a form of democratic dance—grants subjectivity to all participants in the installation [3]. Furthermore, research highlights the role of the senses in exploring space, as they activate the emotions of those moving through it. As part of an experiment located in the Raval district of Barcelona, the relationship between body and place was explored by identifying key urban artifacts, the sense of engagement and the feeling of belonging to space. This was achieved by mapping the emotional landscapes generated by participant' movement during the "Site, Dance, and Body" workshops [5]. Mapping urban space through movement allowed for the creation of a record of the participation of participants' in space through their feelings, emotions, rhythms, movements, intensities, memories, desires and visions. Importantly, in this experiment, the workshops fostered an interactive relationship with the urban environment: movement was linked to the tactile experience of textures, materials, and spatial dimensions of

place. The project confirms the importance of the relationship between the body and the urban landscape in creating social bonds with space and engaging its users in the *here and now*.

4. Transforming Urban Space through Movement and Dance

In studying the nature of connections between architecture and dance/movement, Heidegger's concept of being-in-the-world can be applied, linking content, content—that is, the presence of the human in dance—with the container—the building. This concept assumes that presence is a real engagement through various forms of action, interaction, and the making of choices that define an individual's existence in the world [18]. Moreover, the analysis of choreography in relation to the space in which it is performed identifies elements such as the line, higher or lower levels, and the dimensions of a room [19]. Choreography can also serve as a medium for shaping space; this approach is employed by a group of architectural designers (e.g., Eva Perez de Vega, Barry Yanku). For architect Eva Perez de Vega, the combination of artistic expression with an analysis of the structure of place is reflected in the concept of "Dance Design Space", which emerged from a series of architectural installations combined with dance performances as a form of post-pandemic revitalization and social activation of the 9/11 area in Lower Manhattan.

Contemporary European performative art engages, among other things, in experiments with participation in public life within post-industrial societies (e.g., elements present in the work of the previously mentioned William Forsythe, as well as Blast Theory, Space Hijackers, and Toushop Collective). Their actions are embedded in the context of contemporary social transformations and the movement within public space [20]. In this context, dance and movement become not only a pretext for engaging in collective physical activities, but also a means of creating active public zones and a platform for expression or protest, differing from traditional forms like demonstrations. Contemporary research in performance studies and dance studies emphasizes the social and political importance of participatory performative projects. Their aim is not only aesthetic intervention, but also the creation of alternative perspectives on urban life and the testing of new forms of social participation [20]. Moreover, daily urban activities can be analyzed, according to Hewitt's thesis, in the context of the aestheticization of society and the analogy between daily social practices and choreographic structures, as well as the political potential of choreography—changes in social choreography can open spaces for alternative forms of collective life, challenging existing modes of coexistence in social space [5, 21]. The concept of urban choreography shows that the city is not merely a physical space but a social system of movements and relations. It helps reveal how repetitive bodily movements can reinforce or resist social norms [15].

Tab. 1. Dimensions of dance and movement as potential in the transformation of urban space

Effect	Description of the nature of the activities
A tool for revitalizing public spaces and reclaiming degraded areas	Dance and movement allow dead or socially marginalised places to be transformed into spaces for cultural events and social integration; dance brings out the characteristics of a space as a medium for artistic creation, giving it new value, and also increases the attractiveness and value of the space
Building community	Integration of local communities, joint activities of various social groups; invitation of local residents and participants to performative interaction, which strengthens identification with the place and provides space for the expression of identity
Action aimed at redefining forms of social life	A tool for critical analysis of urban space design in terms of movement, defined not only as transportation but also as an expression of social order
Reinterpretation of space and cultural heritage	The choreographic-architectural approach embeds the artistic event in local culture and creates new connections between the characteristics of the place and the memories of its inhabitants; moreover, dance and movement create a new local narrative through the interpretation of the characteristics of the place through movement
New ecological practice	The form of human interaction with the environment, establishing direct contact with the characteristics and values of the environment, building a sense of deeper awareness and identity

Many years of experience in transforming urban areas through the introduction of cultural functions emphasize the importance of artistic activities, including dance, in building a new brand for a place. These are often innovative interventions in urban space that provoke unconventional activities that redefine the monotony of everyday urban life. The leading motif in this creation is fun and movement, engaging users to interact with the space and with other users. The scale and scope of these interventions vary: from small architectural elements (e.g. swings at bus stops) to squares and urban interiors equipped with elements for movement (e.g. urban skateparks such as Nike HomeCourt Skate Landscape, Vltavská Underground) to revitalized facilities (e.g., post-industrial buildings such as Dansehallerne National Center for Dance and Choreography) with a cultural function. In addition to investment activities, events and urban gatherings dedicated to movement and dance are becoming popular, deepening the meaning of space [22, 23,24]. The activities of French choreographer and dancer Alice Chauchat in the urban public spaces of Berlin and Copenhagen refer to the activation of human community and engagement.

Table 1 presents a general summary of the impact of dance and movement on the spatial and social transformations of urban space. It highlights the key effects of using performative activities in urban space in the context of the relationship between humans and the urban landscape, as well as in the context of using and creatively interpreting the characteristics of space as a motif for generating new forms of community.

5. Urban Health Path (UHP) – the importance of exercise for social integration and building ties with one's place of residence

An example of innovative integration of movement with space is the concept of the UHP, which originated from the idea of space therapy [25]. It uses a holistic approach to maintaining mental and physical fitness in terms of physical, intellectual, and social activation. It was created as an alternative to existing forms of physical therapy for older people. The architectural features of buildings, city squares, and elements of urban art were the impetus for physical exercise in the form of active walks in urban space. Architectural elements such as rhythm, the shape of portals, symmetry, the arrangement of pedestals, and the forms of urban sculptures are motifs used in the

development of physical exercises. Each of the paths also includes a component that engages short-term memory and mindfulness of sensory experiences. The key element in selecting the objects for the path was the most important cultural and historical values of the selected urban district, as indicated by seniors. Local identity was the basis for building this innovative tool in a participatory process with groups of older residents and local stakeholders (civic centers, non-governmental organizations). The main scientific goals of the project were focused strongly on innovative solutions and interdisciplinary cooperation in terms of [26]:

- the selection of urban space features (e.g., topography, building details, urban furniture) with a perspective of their suitability for the physical activity of older adults,
- the development of digital tools to activate and engage older adults in physical activity and cognitive functions,
- the selection of architectural objects with significant historical and monumental values as an element of user interest in urban architecture.

The selected area of intervention was the inner city of the Gliwice and Sarrià neighbourhood in Barcelona. The selection of exercise points in Gliwice was verified during research walks with older adults: three variant routes were selected (Gliwice Market Square route 700 m, Gliwice City Centre 2200 m, and Gliwice Inner City 3500 m). The route in the Sarrià neighbourhood traverses the central part of the neighbourhood and includes urban parks, city squares, and recreational green areas. Due to the specific nature of the user group and the guidelines developed, the area covered by the route was narrowed to achieve a loop length of no more than 4.5 - 5 km. Both locations were known for their notable architectural values and strong local identity, and in the Sarrià neighbourhood the active leisure habits among seniors were significant. The following elements of the space were used to develop a set of physical and relaxation exercises: historic buildings and their facade compositions, architectural details (e.g. arcades, pilasters) and elements of urban art (sculptures, street furniture). On each of the routes, the location of the exercise points was selected in the most characteristic places and buildings in the city space, which are also landmarks of the route or spatial dominants.

In line with the results of the research work and with previous assumptions regarding the health-promoting aspects of the UHP, the following solutions were implemented to emphasize the importance of movement and sensory experience of space for building an engaging connection with one's place of residence:

- physical exercises involving kinaesthetic elements (e.g. active observation and imitation of object features like arcades),
- relaxation exercises involving perception, attention to the environment (e.g. visual tracking of ledge lines), and sensory elements (e.g. feeling the texture of façade materials with the hand),
- use of history, local traditions, and famous persons to enhance the interactive nature of relations with urban space.

The structure of the Urban Health Path (UHP) also incorporates spatial features derived from Active Design strategies: the route includes distinctive locations, clearly defined spaces (e.g., public squares), elements of small-scale architecture, as well as good visibility and a richness of place (Fig. 1). The implementation of the routes first required a thorough analysis of the local heritage and architectural characteristics, followed by testing their perception by local community groups. This was essential to initiate a gradual process of opening up to the sensory experience of the cultural landscape of the neighborhood.

The purpose of the research walks was to test physical exercises and an urban game. During these walks, two groups of seniors participated (Gliwice: n=7 and n=11; Barcelona: n=4 and n=7) [24]. The research used research walks designed not only to verify the length and accessibility of the path and the intensity of physical activity, but also to encourage participants to share knowledge, memories, and observations about the historical and architectural value of sites along the route, according to the criteria presented in Table 2.

Tab. 2. Criteria for evaluating the prototype routes of the Urban Health Path [24]

Symbol	Criterion	Scope of Criterion Evaluation
K01	functionality of urban areas featured along the path route	- quality of urban green spaces - quality of squares and social plazas - uninterrupted pedestrian pathways in relation to vehicle traffic and high pedestrian flow
K02	accessibility of the path route for pedestrian movement	- condition of the sidewalk and plaza surfaces - longitudinal slope of sidewalks - attractiveness of local heritage, details and composition
K03	attractiveness of the path for physical activities	- length and intensity of the route - safety of exercise locations

As part of the path testing, the facilitators focused the seniors' attention on the information contained in the urban game and encouraged them to share their knowledge about the district. Among the participants in the focus groups, 66% rated the prototype solution as at least good. The importance of the urban game in fostering social integration among older adults (n=6) and in enhancing knowledge of the local history and architecture (n=11) was also emphasized [24]. Regarding the attractiveness of the proposed form of active leisure, participants highlighted the value of exercising together in a group. The research walks served as an impulse for sharing knowledge and interesting facts about architecture, and for expanding the content of the urban game. It was also noted that the UHP increases attention to distinctive features and architectural details. For many participants, the walk became a catalyst for sharing memories, historical facts, and previously unnoticed building features with the group. The collected information was then incorporated into the content of the urban game, while seniors stressed the integrative value of this element of the UHP. Moreover, focusing on architectural details or their composition served as an important introduction to exercises integrated with the architectural features of buildings. This involved a cognitive component, engaging seniors' attention, concentration, and short-term memory. The introduction of this new form of activity in both urban districts served primarily as an inspiration for active walking in the local neighborhood. At the same time, as demonstrated during the research walks and in reference to the "Site, Dance and Body" workshops it became a form of group integration for seniors, based on the relationship between the body and the urban landscape and, consequently, on building social bonds with space. Movement within the UHP program was connected both with recreating the structure and details of buildings and with the tactile experience of materials and textures (Fig. 2, Tab. 3). It should also be noted that the willingness to participate in this type of movement in public space was greater among older adults in the Sarrià district,

indicating the importance of cultural factors in developing such activities. In both cases, the physical exercise proposals served as inspiration for a deeper understanding of selected buildings and the history of the places.

Fig. 1. The selected points at the Urban Health Path in Sarrià neighbourhood, Barcelona.
1a. Plaça de Sant Vicenc de Sarrià; 1b. Carrer de Rocabertí/ Capella d'Adoració Perpètua Reial Monestir Santa Isabel;
1c. Passatge de Senillosa; 1d. Jardins de Vil·la Cecília. By: A. Szewczenko

Participatory research used in the creation of the UHP concept has a positive impact on the importance of the UHP for cognitive well-being in later life, in relation to research on social ties and participation [27]. The goal of strengthening local identity can be further achieved by involving the seniors in the creation of the city game; they were very interested in sharing their knowledge about local memory, traditions and culture with the group, and their knowledge can be a source of information to expand the scope of the city game. The seniors suggested that we include other valuable objects and details in the city game and shared with us unknown facts about the history of the Sarria district. Therefore, our results allow us to conclude that this prototype project, which uses the knowledge, memories, and experiences of older residents of the neighborhood, may have the potential to strengthen or build local identity through movement. In addition, participatory research in the Sarria neighborhood suggested introducing an element of local dance into the program as an integrative form of identity strengthening.

Tab. 3. Exemplary exercises integrated with selected architectural elements

Selected architectural element	Brief description of a sample exercise
varied line of the cornices of the townhouses (Fig. 1a)	visual tracking of ledge lines and activation of the cervical spine when mimicking lines with head movement
characteristic details of the facade of the church building (Fig. 1b)	exercise hand-eye coordination; observation of the arrangement of the hands of the angel sculpture, concentration on the rhythmic arrangement of the detail in the church portal - their number determines the number of repetitions of the exercise
arcade arches in a historic building (Fig. 1c)	Imitating the arches of the arcade with circular hand and arm movements while walking along the building
rhythm and shape of window and door portals, symmetry as a principle of facade composition (Fig. 1d)	activation of body symmetry and of the shoulder girdle according to the shape of the portals, exercise in symmetry with respect to the compositional axis of the facade

Fig. 2. Testing workshop in Sarria neighbourhood. Photo: A. Szewczenko

6. Conclusion

Various forms of movement present in contemporary urban space can be an effective tool for activating local communities. This particularly applies to actions that serve as a form of social expression and refer to local cultural values. Importantly, this is connected to the symbolic reclaiming of urban spaces, including historic buildings with ambiguous significance or broadly understood cultural heritage. The phenomenological experience of place through creative interaction and corporeality constructs a new type of memory of place, understood as an emotional and meaningful urban landscape.

The results of participatory research involving older adults, focused on the specific solution of the Urban Health Path, enabled the development of guidelines identifying key elements for implementing such solutions in new locations. In addition to testing the experience of the city in a multisensory way, the conducted research walks activated the layer of place memory and personal

recollection. The developed guidelines included the following categories of spatial features as essential for creating engaging performative activities:

- In terms of spatial characteristics: flexibility of the solution, clear designation of exercise points and their distinct identity, and aspects of accessibility in urban space.
- In terms of building a relationship between the participant and the environment: stimulation of short-term memory and attentional focus on the surroundings, integration of movement and touch with the environment, and sensory stimulation.

Through the lens of performative activities involving movement and dance, it becomes possible to create alternative urban choreographies—choreographies that resist the logic of ordinary flow, commercialization, and control, and instead affirm presence, relationality, and sensory interaction with space.

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