

## CITY, UNEXPRESSED SPACES, SPORT. RESILIENCE IN THE DESIGN OF NEW PUBLIC SPACES

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### ABSTRACT

The city evolves and overwrites itself and this overwriting creates an overlap of the various plots that bring out unplanned parts of it. The contemporary city is therefore the result of design and incidental actions that have radically transformed it, leaving around it a "kind of space" of difficult interpretation because of the peculiarity that characterizes them. They are ambiguous, undetermined spaces, often resulting from the informal action of man or the result of stratifications within the urban dimension. This type of space is called "interstitial" because it is located between things. They can be elements in urban spaces, entire buildings, or only portions within their sphere. The aim of the present text is on the one hand to construct a definition of what an interstitial space is inside the contemporary city. On the other hand, thanks to the help of case studies, we can understand the most suitable functions for the reactivation and enhancement of these areas in the city. The need to reactivate existing city spaces has increased following the climate crisis and pandemic. It's appropriate to recognize the empty spaces of the city as a "new opportunities" ready to host new functions. Therefore, flexible strategies of action are necessary, which find in the void space of primary importance to realize adaptive devices capable of increasing "urban resilience" and that act as relief valves during extraordinary events. The picture that

emerges from studies and research related to the European and Italian panorama of sports infrastructure allows us to identify interesting and innovative trends that show, also in this sector, an increasing attention to issues of urban resilience, architectural and social. Based on this premise, the contribution aims to analyze the recent evolution of public space design modalities in sports practices as a field where resilience policies are applied.

### KEYWORDS

Sports infrastructure; urban regeneration; resilient design; public space; society.

### 1. INTRODUCTION

Resilience is the ability to react to external changes and events, returning to the original conditions.

This word is used in many fields and disciplines, including architecture. The resilience and its innate capacity, which allows a body to adapt to change due to external factors, which have changed its original use, it's a result of the current scenario of the protagonist in the projects of redevelopment and urban construction.

Resilience has also made its entry into the urban and architectural environment following climate change and recent environmental

issues. For this reason, it is also the task of architecture to make itself flexible in responding to changes in the context. Resilience adds a dynamic component to traditional design, allowing people, urban spaces and buildings to live with the changes that are affecting the entire planet.

Urban public spaces, essential components of the contemporary city, contribute to the cultural, social, economic and political functions of the city, moving more and more toward the physical well-being of the community. In fact, in recent decades the attention to health issues, also linked to the increase in leisure, has had significant consequences on the perception and configuration of the infrastructure system for motor activity in the city. Spaces for sport represent the fulcrum of the wider urban reflection on the roles and meanings of public space and how it is frequented.

The phenomenon of the reuse and enhancement of urban spaces is a phenomenon that is active starting from citizens seen as groups of "cultural and social innovators." The forms and types of reactivations take on different dimensions, while the vocation depends on the traditions of the community, the place, the environmental constraints of the context, and the level of innovation needed. To stimulate worldwide these regenerative processes were born many associations such as: the EU Working group sport & health, EU physical activity guidelines, Health in public space of Urbact, designed that identify the sport as a perfect subject promoter of resilience, regeneration and promotion of physical and mental well-being.

Research and experimentation place at the center of the debate the need to address at different scales and in different contexts the theme of the resilient project focused on the ability to give answers in terms of adaptability and flexibility within a vision Aimed at sustainable development (Leone, Tersigni, 2018), to transform the unexpressed places present in cities in new urbanity scenarios.

Climate change (ISPR, 2021), aggravated by the high rate of urban growth of the last

century and the consequent increase in greenhouse gas production, requires "resilient development" capabilities (Adams, Watson, 2010), that is, development based, as well as mitigation actions, adaptation strategies that can respond quickly and flexibly to actions arising from changing environmental, social and economic needs (Ahern, 2011; Madanipour et al, 2014; Ferrari, 2021). Transforming cities into resilient organisms, able to adapt to natural and anthropogenic pressures is a priority now recognized by International Bodies, Public Administrations, Research Bodies (Rockefeller Foundation, 2015) and stakeholders involved in the project process. The involvement of the company broadens the vision of the concept of resilience as it is no longer directed only to the design components but to everything that revolves around them as environment and inhabitants.

"City" recalls "society," for this reason, we cannot think of the city and its parts except as an adaptive society, insofar as it can cope with a changing world. The spaces of the city are not aseptic but, places where communities are born, grow and die, leaving room for new living forms. The picture that emerges from studies and research related to the European and Italian panorama about sports infrastructure allows us to identify interesting and innovative trends that show greater attention to issues of urban resilience, architectural and social. Aware of the importance of sports venues in the city, the contribution aims to analyze the recent evolution of public space design for sports practices, born from unused areas of the city.

## **2. PUBLIC SPACE: REUSE OF INTERSTITIAL SPACES AND ENHANCEMENT TOOLS**

The 2007 Leipzig Charter on Sustainable European Cities broadens the concept of European historical heritage, including not only historic buildings but also public spaces. A well-designed, well-managed and properly used public space is essential for the vitality and liveliness

of urban environments: cities, neighborhoods, densely populated contexts, are characterized by a high quality of streets, squares, gardens, parks and paths, have a very high power of attraction towards different categories of users becoming a privileged destination for investments in residential, commercial, industrial, cultural and tourism. In addition, the Granada Convention recognizes the importance of promoting Europe's cultural heritage and stresses the need to develop new ways in which heritage can be reconciled with contemporary economic, social, and cultural activities.

Similarly, the Convention's guidelines on the Protection of Architectural Heritage recognize that "The preservation of buildings and places does not imply that structures should remain unchanged over time: good conservation practices enable these structures to evolve and adapt to meet the needs for change, maintaining its specific significance."

The recently issued directives and the European programs associated with them show a renewed interest in an integrated approach, capable on the one hand of preserving the historical character of urban contexts, and on the other hand outlining new paths of regeneration and development at different scales.

Traditionally it acted in the process of redevelopment of cities to preserve the built environment, aiming to protect the most significant buildings and monuments from the architectural point of view. The last indications of the approach instead focus on the adoption of measures aimed at enhancing the entire area, considering the historical importance not only of the architectural artifact but also of the places with which it interacts. About urban conservation, it is possible to identify specific measures through which societies have approached the issue of adaptive reuse of public space, conceptualizing the relationship between communities and the environment (Strange, 1996).

Historically, as mentioned, the public space coincided with the urban void, in which there

were one or more monumental buildings, which gave the public space the same characteristics of monumentality (Sassi, 2012). In the contemporary city this strong characterization is lost, that is the physical delimitation of the monumental area is no longer so evident, lacking compact and continuous curtains of historical buildings, sometimes losing the idea of identity space (Caputo, 1997).

Some cities have implemented transformations that in the coming decades could be decisive, as shown by the examples of Barcelona, Paris, and Hamburg, as well as those pioneers of Copenhagen, Rotterdam, with the Bentemplein Watersquare (Fig.1) (Fig. 2).

In the study on the effects of climate change, Barcelona is implementing the program "Resilience and adaptation of climate change for the Barcelona metropolitan area 2015-2020" developing climate projections to define the main risks and priority areas for action to increase climate resilience.

After the major interventions of the IBA and Hafen City, the city of Hamburg has activated a plan to drastically reduce the use of cars in 2034 through various measures, including the "Green Network of Hamburg," a system of green axes arranged in a radial model, integrated with two green rings consisting of urban parks and other green areas. The plan envisages a multi-scalar articulation of green areas from the landscape to urban parks and neighborhood parks: in addition to the 8 neighborhood parks, there are 30 neighborhood parks, integrated by micro-quarter parks, urban green areas, and green spaces with linear development. The resilience of the city of Hamburg is identifiable not only in the environmental quality of public spaces, but also in the multimodal permeability of the sustainable mobility network system. A resilient approach to reality must therefore aim to identify ways of managing change not an imbalance but as a manifestation of a "dynamic balance" without forgetting the character of permanence that every design action entails on the built environment.



Figures 1 and 2. Bentheimplein Watersquare during the day and night, 2014-2016, De Urbanisten, Rotterdam, Ph. De Urbanisten

### 3. SPORT PROMOTING WELL-BEING AND ENVIRONMENTAL QUALITY

“The urban space project today should deal more intensely with that set of characteristics of cities that can guarantee social quality, and greater collective well-being, paying attention to the corporal dimension of space, and the concrete possibilities of people to lead a life of safety and comfort” (Welfare space, 2011).

Contemporary territory appears in many cases as a reality with uncertain features, of which it is difficult to perceive the spatial characteristics and to understand the logic of operation. Settlement fragments follow each other with different frequencies, often homogenous and isotropic, without a substantial solution of continuity, the result of discontinuous processes of urbanization, but also the outcome of the phenomena of abandonment of obsolete and no longer functional parts of the compact city of tradition. From the latest strategies of urban regeneration, the places of sports practice are a tool able to fill these parts now in disuse and able to elevate the collective well-

being. “The initial idea is that sport is not only a complex of disciplines that develops in the modern era but also a specific form of social relations produced by modernity itself.” (Russo, 2004)

Sport seems to be able, in its sense of well-being, to cope with behaviors that are increasingly found in sedentary young people. Several urban-scale regeneration projects in Europe, in terms of social innovation and inclusion of the population in the decision-making and design process, show how the regeneration of many abandoned areas has promoted radical improvement (Fig. 3) (Fig. 4). In particular, careful use should be made to ensure diversified opportunities, moments of exchange and relationships between individuals and groups of users to promote the emergence, consolidation and development of social communities around sports practices. The role of communities in regeneration processes is increasingly central: it is recognized and facilitated by national policies. They encourage empowerment through community businesses that involve local actors to take charge of services and resources.



Figure 3. 4. Watersquare, Tiel, 2014-2016, De Urbanisten, Rotterdam. A project that borrows with a society workplan Ph. De Urbanisten.

"Can sports equipment be an instrument of urban planning?" Sport is to be understood as the right of all for a healthy lifestyle and a balanced psycho-physical development. Sport is a significant moment in the formation of everyone, especially for young people who, by practicing, learn civil dialogue and begin to establish the first interpersonal relationships, understanding the principles of commitment, respect and fair play. The European Commission, in February 2013, set out several objectives, including the removal of economic, physical and cultural obstacles to ensure that all children participate in recreational activities, The European Union has a special role to play. In the Italian situation, this directive refers directly to the subject of the renovation of installations. Considering the average age of European sports facilities, Italian stadiums, with those of the United Kingdom, are the most obsolete. The difference that is found with the English stadiums is, however, in the investments dedicated to this field in more recent years. In the United Kingdom, GBP 3 billion has been invested to build new stadiums or improve existing ones, and GBP 150 million a year has been invested to ensure continued upgrading and modernization. In Italy, minor investments have been dedicated to the safety of installations, which, however, remain unattractive due to the backwardness of the management approach.

In Italy prices are on average lower in the low-cost sectors such as curves, although they have fewer services than plants in the rest of Europe; while prices in the higher sectors are on average the highest, while providing a lesser quality of services and comfort. This outlines the shortcomings of plant management in Italy, mainly due to the lack of attention paid by social policies to this issue and therefore to a limited allocation of funds.

It is the mentality that influences everything: the management of the stadium should be interpreted as an opportunity for social, urban, economic regeneration: a positive investment. This would improve safety, reduce the cost of maintaining public housing assets, redevelop degraded areas often located in strategic urban and peri-urban locations, create new economic sectors and new jobs.

Architects who will have the task of carrying out projects in this field are called not only to devise suitable and as safe and functional spaces as possible for physical activity, but also to conceive spaces of social life. The space of sport and public space will no longer have such a clear distinction as in the collective imagination of the last century. Increasingly, the two spaces tend to coincide: the practice of social and collective functions is brought inside the buildings for sport, and at the same time, sport is brought outside, in squares, in streets, in urban interstices.

#### 4. PUBLIC SPACE: A PLACE FOR OUTDOOR SPORTS INFRASTRUCTURE

Within a cultural and scientific debate on the concept of resilience that is affecting different fields of knowledge, the development of resilience thinking on the built environment can find innovative ideas in the design of public space, field of privileged experimentation of planning that place the social and environmental well-being at the center of its work. Numerous studies and researchers are working to define new intervention strategies (Jha et al., 2013; Losasso, 2015; Leone, Tersigni, 2018), as well as for the system of that built, also for the system of the not built, That open connective tissue that structures the city that constitutes its public spaces (Gehl, 1971). Numerous programs, such as the Climate Change Adaptation Plan, planned by some cities (Barcelona, Copenhagen, Zurich, Paris) have chosen public space as a privileged field of intervention for the adoption of specific actions and resilient strategies.

Sports practice is an important tool of resilience and regeneration, able to activate new uses and meanings of places. The main issues that emerge as defining factors of a resilient project or initiative are identifiable in the concepts of flexibility, community and resource management.

The definition of factors flows, first, into the sphere of flexibility, understood as the ability to give adaptable answers to needs in constant evolution. This theme assumes a threefold value: flexibility of objectives in terms of vision and project drivers; flexibility over time through an ability to operate step by step of the design process; flexibility of the solutions in terms of multifunctionality and adaptability of the space in its life cycle. The speed of implementation and the flexibility of use are the main features of projects aimed at the redevelopment of degraded spaces. Significant in this sense some programs implemented in some

Spanish cities such as "Esto no es un solar" in Zaragoza or the "Device de la Cebada", born in Madrid in 2011 on the initiative of the association Todo Por La Praxis, place the synergy between different sporting activities and temporary cultural and social events at the heart of a principle of physical and social urban resilience. Thanks to these programs, which include sport in the design process, one wonders whether sport is an opportunity for urban resilience. The answer to this question must be found in the characteristics that the infrastructures dedicated to sports practice are assuming about the contexts that host them and the increasingly obvious need for healthy lifestyles for communities.

As reported in the CONI 2016 sustainability report, it is important to consider how much sport is a vehicle for inclusion, participation and social aggregation as well as a tool for psychophysical well-being and prevention. Moreover, it plays a fundamental social role as an instrument of education and training that allows the development of skills and abilities essential for the balanced growth of each individual.

Sport educates to be resilient, and resilience mobilizes the resources identified to find positive and flexible responses to adaptation. Sport and the places connected to it have witnessed a profound transformation. The uses, design and purpose of building sports facilities have changed. The trend is to create places that can accommodate not only athletes but the entire community, with services defined by the needs and demands of society. There are more and more examples of public spaces in synergy with other functions, informal sports practices taking inspiration, also from a morphological point of view, from the spatialities necessary for sport: the movement of the ground and the quotas, the alternation of permeable and waterproof materials, the coexistence between different categories of users, lead to a layered use of the spaces (sports, playground, relaxation areas) (Fig. 5).

Today physical activity is understood as a means to achieve conditions of psycho-physical well-being from expanded user groups: these changes are also reflected in the physical configuration of the spaces dedicated to sports in terms of type, features and functionality. Alongside structures aimed at competitive training or structured sports practice, today are emerging new configurations that intend the sport in a more informal and flexible. This trend leads to the creation of systems that integrate with the context, can redevelop degraded environments, rethink existing spaces implement and promote a concept of resilience which is the premise of the goal.

In this scenario, squares, boulevards, urban parks, also small residual spaces, Coverings and places of results assume physical configurations that can not only respond to a renewed concept of public space for sports practices but also configure possible solutions to combat the consequences of climate change and response to environmental issues.

The interventions carried out in Rotterdam within the program Stadvisie Rotterdam 2030 or the case of Promenada Velenje are successful examples given a space public space structured on several levels that adapts to climate change and rain very quickly.

Public space is a cultural reality in transformation, intimately related to the historicity of the culture of the population that hosts it. Despite the awareness of how unstructured sports is a determining factor in new public urban forms, Italy compared to Europe is still lagging in the design of these spaces, In the following chapter we will analyze some case studies related.

## 5. CITY, RESILIENCE, SPORT. CASE STUDIES

Public spaces today open and flexible places together with a culture of leisure, are based on the concept of a city that sees all its constituent

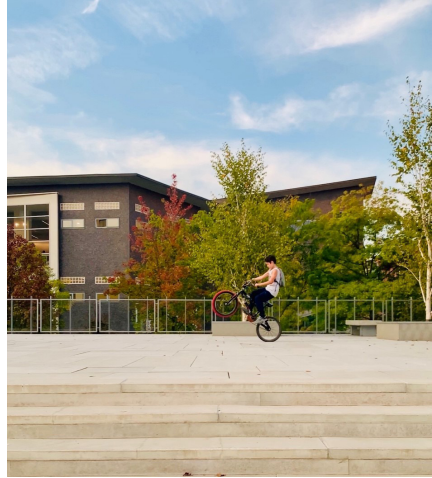


Figure 5. Campus Leonardo, Politecnico di Milano, 2022. Urban sport in the roof of the Renzo Piano's model building Ph. Marta Cognigni

elements oriented to the development of strategies and integrated planning programs that promote sport subject to regeneration. Sports facilities are inclusive and non-exclusive venues where sports and leisure activities are concentrated, as well as public services, support associations and social services that involve the whole of society. In this sense, the spaces for the practice of sport, both competitive and amateur, are increasingly characterized as an open urban place, both in architectural and management, multifunctional and multipurpose with the possibility of hosting sports activities of different types and levels, but also other non-sports activities of various kinds, according to the needs of the territory of reference. We analyze some case studies of absolute international relevance that can be taken as a virtuous example.

The Innsbruck InnMotion, located in the Austrian city of Innsbruck, is a track of 185km, developed within the urban fabric and in some

more peripheral areas, which can be covered in different stages and stages each of variable distance. Along the way there are various refreshment points and play areas in which to experience many sports: the entire project develops according to precise environmental sustainability parameters, for the purpose, among others, to encourage a high level of user awareness. In Dorset, England, Outdoor Education has been launched, a project that involves the use of some places where school students can carry out sports activities in productive contexts for their school education. You can practice rowing and other water activities at the coast, practice cross-country at archaeological sites, play orienteering, or do other outdoor disciplines near the Forest of Wareham.

The Municipality of Viborg, Denmark, thanks to the reuse of an abandoned industrial building has realized the StreetMekka. Building dedicated to sports practice. Someone organizes an after-school program, called After School Program, offering children a safe place to practice motor and sports activities, under the guidance of experienced instructors. Every afternoon children from 7-13 years can go to different areas within the building marked on the web, where they can enroll in various courses based on their specific interests. Other examples in Europe and around the world, aimed at sports, find space in dedicated structures and are often integrated into re-functional buildings. In Koprivnica, Croatia, we find the project of Studio UP of the new school center called Gymnasium 46o09'N-16o50E, through which the maximum integration between sports activities and teaching activities is promoted in an area located on the edge of two different districts for functions and urban morphology, between an industrial area and the bourgeois suburbs. The architectural project here takes on a strong political and cultural connotation, in the definition of spaces capable of encouraging integration and dialogue between different social classes

thanks to education and, above all, sport. In addition to the public-private partnership for the construction of the high school and the sports complex in Koprivnica, the idea of bringing two complementary urban structures within the same architectural body was applied. Hybrid structures are intended to juxtapose with the concept of public-private partnerships, as the hybrid complex is leased and managed independently of newly formed institutions. Studio UP intentionally used the hybridization of the sports complex, the high school, and other services as a basis for the organization of the entire building.

In Kazan in Russia, in 2020, Legato Sport Architecture created the URAM Extreme PARK, going to reactivate the long river in the section where it passes under one of the largest flyovers in the city. This turns out to be a perfect intervention in which the sport thanks to its relational value has managed to reactivate an area of the city in disuse. The park combines all the sports facilities needed to prepare athletes for high-level competitions, facilities for recreational athletes. It is both a place of professional training but also a new form of public space.

In Italy, as opposed to in Europe or the rest of the world, many so-called "minor" sports struggle to find adequate spaces in which to carry out their activities: this is mainly due to their lower media coverage. This implies, of course, fewer resources to invest in the construction of dedicated centers. So the interventions that are carried out are small cuts and promoted mostly by private individuals. Among those most prominent in Bologna is the redevelopment of the Dozza sports center by the Teco+ studio and the redevelopment of the sports center in Carugate. The Dozza sports center, located in a large park, is one of the main multi-purpose sports facilities in Bologna dedicated mainly to football, with 3 football fields at 11 and a synthetic field for football at seven. To these spaces, have been added areas for new activities for both the unstructured sport, for activities, not sports,



requested by the community resident in the area. The center contains different types of spas equipped for many sports activities: skatepark, archery field (indoor and outdoor), cricket court, playground for basketball, skating rink and/ or rollerblade, Car-model track, gym/ motor room, multipurpose rooms, dining room, children's playground, paintball field, bocciophla. Other examples in Italy that represent the union of these disciplines are: the Giacomini Park in Treviso built in 2020 by the group of architects MADE associates, the Kobe Memorial Park in Naples, Meet & (Gr)eat in Lecce, inaugurated in 2019.

## 6. CONCLUSIONS

In a perspective of uncertainty and unpredictability due to the qualification and quantification of the consequences of climate change on urban systems and the increase of world population in cities, the difficulty of references to address the urban project emerges. Above all, however, in all the cases mentioned is the open space, "the space between things" (Lanzani, 2003) assumes a particular relevance within the strategy of recompositing of the territory. This happens because the contemporary territories dominate "the open space, no longer dug into the fabric has dilated and largely residual" (Gabellini, 2010). In most cases, open spaces become the element on which to act to improve the habitability of each area and reorganize the relationships between parts of the settlement discontinuous, inhomogeneous, and unused. Multiple research projects has been conducted to define new indicators of urban resilience and technologies in mitigation and adaptation strategies (Doulos et al., 2004; Ahiablame et al., 2012; Santamouris, 2013) to evaluate with instrumental models and analyses the effects of resilient strategies (D'Ambrosio e Leone, 2015). Understanding how to increase resilience, simulate its effects and measure

the expected effects, is a commitment that cannot be delegated to the governance of the territory requiring a reflection on the scale of technological design, its methods, and tools able to build a resilient city as a place that does not put extemporaneous remedies to climate change and social issues but that adapts itself by building new opportunities at a social and environmental level. In this logic, the urban spaces of the community become places of change and not an only adaptation, with physical and social characteristics able to respond to transformations. The involvement of the community is the central element of activation of the projects promoting awareness of the need to address social, urban, and climate change, through an onscreen approach to needs, through a redesign of public space, understood as a barometer of the community and its aspirations.

## REFERENCES

- Ahern, J. 2011. "From fail-safe to safe-to-fail: Sustainability and resilience in the new urban world." *Landscape and Urban Planning* 100, no. 4: 341-343.
- Allegrì D., Vettori M.P. "Infrastrutture sportive complesse e resilienza urbana." *TECHNE-Journal of Technology for Architecture and Environment* 15 (2018): 165-174.
- Castelli C. *Resilienza e sport*, 2020.
- Cicalò R. *Spazi pubblici. Progettare la dimensione pubblica della città contemporanea*, 2009.
- Cognigni M., Vettori M.P. "Spazio, Sport, Società. La pratica sportiva nel Progetto dello spazio pubblico contemporaneo." *TECHNE-Journal of Technology for Architecture and Environment* 19 (2020): 142-152.
- D'Ambrosio V., Leone, M. F. "Controllo dei rischi del cambiamento climatico e progettazione ambientale per una rigenerazione urbana resiliente. Il caso applicativo di Napoli Est." *TECHNE-Journal of Technology for Architecture and Environment* 10 (2015): 130-140.
- Di Giovanni A. *Spazi comuni. Progetto urbanistico e vita in pubblico nella città contemporanea*, 2010.
- Faroldi E. *Architettura dello sport. Progettazione, costruzione gestione delle infrastrutture sportive*, 2019.
- Ferrari G. F. *Le smart city al tempo della resilienza*, 2021.
- Giles-Corti, B. et al. "The Influence of Urban Design and Planning on Physical Activity, in Barton." In *The Routledge Handbook of Planning for Health and Well-Being. Shaping a sustainable and healthy future the Built Environment*, H., Thompson, S. (eds) (London, 2015).
- Leone M., Tersigni E. *Progetto resiliente e adattamento climatico. Metodologie, soluzioni progettuali e tecnologie digitali*, 2022.
- Machemehl C. "Urban skating sport: Current research on sports-related urbanity." *Society and Leisure* 42 (2019).
- Paramio Salcines J.L. *Sport and Urban Regeneration*, in Henry I., and ko L.M. (a cura di), *Routledge Handbook of Sport Policy*, Routledge, London, 2013.