Inclusive Public Space as a Prerequisite for Urban Resilience. The New Dimension between Sustainability and Accessibility, Unexpressed Expectations and Necessity

Looking at the transformations taking place in cities through the lens of accessibility and sustainability can help in a more topical reinterpretation of the urban phenomenon. This may suggest different, and perhaps more suitable, design approaches that not only aim to transform the existing but also to make it more resilient. The paper aims to explore the new social demand for the expected requirements in relation to sustainable use and inclusion of the city. Reversing points of view, the city and urban connectives seen and experienced by its users and not (exclusively) by means of transport. Public space is a connective and essential environment for the city as well as for the citizen. In fact, through a network of daily routes, it allows the various stakeholders to reach all its nodal points and at the same time to experience its socialisation dimension. The pedestrianisation of the streets of the historic city, for example, could create new 'man-machine' shared spaces similar to the idea of a square, but developed in length, using the tried and tested Woonerf system. By transforming the limit of pedestrianisation from theoretical to tangible, motorised traffic can be restricted and the viability and liveability of the city can be enhanced through urban greenery and new paving. Emphasise the importance of the 'nature based solution' against increasing overbuilding, reversing the process, for a resilient and accessible city and especially for our health, safety and well-being.

Keywords: *woonerf, sustainability, accessibility, resilience.*

Introduction

Looking at the transformations taking place in cities through the lens of accessibility and sustainability can help for the re-reading in a more current key of the urban phenomenon, and in particular suggest different, and perhaps more appropriate, methods of design approach that not only aim to transform the existing but also to make it more resilient. The objective of the test is to explore the new social demand for the expected requirements in terms of sustainable use and inclusion of the city. Reversing the points of view, the city and the urban connections seen and experienced by its users and not (exclusively) by means of transport. The public space is a connective and essential environment for the city as for the citizen, through a network of daily routes, allows the various stakeholders to reach all the key points and at the same time to experience its dimension of socialization. The pedestrianization of the streets of the historic city, for example, could approach the creation of shared spaces "man-machine" similar to the idea of square, but developed in length, using the already tested system of Woonerf. By transforming the limit

1   of pedestrianization from theoretical to tangible, we can circumscribe the
2   motorized circulation through urban greenery and pavement to promote
3   pedestrian traffic and road access in the heart of the town and the city itself.
4   Underlining the importance of the "nature-based solution" against the growing
5   cementification, is a first step to reverse the involutional process for a resilient
6   and accessible city and especially for our health, safety and well-being.

Relationship Spaces and Contamination Spaces. Between needs and Expected Requirements

The city of the third millennium is the city that lives the great transformations ecological and digital transitions, in a borderline dimension that crosses the fuzzy limit of the "to and from" of the "before and after". Concepts such as: post-covid cities, smart cities etc. become paradigms of a new urbanity. In order to overcome certain critical environmental conditions and social segregation, a precise direction must be identified. The "da" is the starting point: it is the question that the city expresses in terms of environmental and social security, urban quality and connections. The changes taking place in cities do not necessarily correspond to social demand and quality requirements. Urban transformations can be the complex result of suffered dynamics and not adequately managed in advance. Analyzing the system of accessibility and the provision of urban services and facilities can help to understand social phenomena and spatial repercussions in a more modern way. How does social demand change, what are the new needs? Is the provision of services and infrastructure affected (or influenced) by new forms of relationships? How to ensure sustainable use and make cities inclusive? Is the city only a provider of services, or a place of contamination? What is the role of the streets and public spaces, the woonerf is always possible? Is it enough a new way to redesign the street as "people-friendly" as "Living Street" or should this approach accompany a redesign of the living spaces of the city?

From the static vision of the city and its homogeneous areas we have moved on to an approach aimed at emphasizing the spatial-temporal arrangement of the functions of the city and its uses.

Managing the flows and processes of use of public spaces becomes a priority. From the city of kilometer zero to the city of Carlos Moreno, the step is short.

Today the watchword is proximity services, accessibility, and journey times, connection, and more: optimize the locations of services, the quality of delivery and maximize customer satisfaction.

To be resilient the city must do more, much more and better. It must prove to be attractive, competitive and proactive by boosting mobility and tourism. It must activate the "resilience infrastructure" that each city possesses sometimes unknowingly. But above all, it must boost the circular economy. According to a new perspective of sustainable development, the circular economy, seen as a

1   solution "capable of regenerating natural systems and redistributing resources,
2   allowing everyone to live a dignified life in a safe and fair space" in the form
3   of a "donut" to use the term of Rawort (2017), in protecting social rights and
4   the carrying capacity of the environment in the path of economic development
5   undertaken, creates a kind of self-sustainable ring safe for the environment and
6   socially just for humanity.

7   What can you do, how to improve?

8   Some virtuous cities, such as Trento, Turin, Milan, Mantua, Cagliari,
9   Reggio Emilia, Bologna, Padua, Venice, have joined the goals of mitigation
10   with those of climate adaptation by increasing "the level of relationship
11   between voluntary paths and ordinary planning" towards a "climate proof
12   urban dimension" (Magni, 2019) and addressing it to resilience.

13   Some regions, with more consistency and greater results, have finalized their
14   policies towards climate innovation: among these, Lombardy, Sardinia and
15   Emilia Romagna.

16   Interesting results can also be achieved through specific rules, such as those
17   aimed at regulating land use.

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Towards an Inclusive Design without "Special" Solutions

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22   Universal design, a very current design methodology that reflects the
23   canons of Design for all, has been the subject of study conducted since 1995 by
24   the research center The Center for Universal Design (CUD) of North Carolina
25   State University.

26   Its aim is to simplify, creating spaces for a wide range of users, in different
27   contexts and situations, without the need to resort to special design solutions.

28   At the basis of the "Designing for All" there is, in fact, the idea of
29   promoting social relations in a context developed and studied in the name of
30   inclusivity, whose places will have to reflect specific characteristics (which
31   will be discussed more later) to allow all users to enjoy it regardless of their
32   functional abilities.

33   Essential tool for a design that respects the canons of Universal Design is
34   the ICF (International Classification of Functioning, Disability and Health)
35   through which it is possible to identify the "facilitators" of the built context (for
36   example, ramps to overcome differences in level, orientation and wayfinding
37   systems, ...) able to satisfy the needs of all in respect of individual experiences
38   and capabilities, in a space free from "architectural barriers". It is also true,
39   however, that if one simply considered the problem of "barriers", one would
40   end up diverting the design concept on an area detached from reality, thus
41   denying the generation of social relations and, At the same time, foster the
42   image of public space as an effective network composed of a series of
43   interchange nodes.

44   Therefore, the removal of architectural barriers is often the result of timely
45   actions that have an incomplete, unsuitable or often non-existent programming

1 process behind them.

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3 **Figure 1.** *Redevelopment of an area of over 8,000 square meters in Aprilia, Italy*

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5 Source:https://www.domusweb.it/en/architecture/gallery/2021/07/06/prossima-apertura-public-
6 space-is-a-never-ending-construction-site.html

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8   Another aspect to be considered is the concept of "inclusion". This term,
9 often used in a charitable sense referring to the most fragile users and their
10 impossibility of access to spaces, must not be reduced to the sole purpose of
11 making places accessible to fragile users, but tend to create a harmonious
12 context in which people with different needs can live together.
13   Therefore, referring to this type of design, the user assumes a significant
14 role in the design process in order to validate the final result.
15   In reference to this thought, the American sociologist Richard Sennett
16 shows how the concept of city, and therefore of public space, must be
17 understood as an "open design" where a fundamental aspect must be the
18 dialogue with the people who live the place. A dialogue that, however, must
19 not be aimed either to generate consensus in favour of a project already
20 approved, or to collect feedback once the project is completed. The ability of
21 the user to influence with his needs and ideas, must be brought within the time
22 of design, also generating a mutation in the role of the expert designer. The
23 model aims to be that of co-production in which the technical and professional
24 experience of the designer is put at the service of the needs and ideas of the
25 community that will then have to live the project that is developing.[1]

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[1]R. Sennett (2018), *Costruire e Abitare. Etica per la città,* Campi del sapere, Feltrinelli.

1 Starting from this, within the inclusive design, you can refer to a new tool
2 that connects multiple subjects called labAc (Accessibility Laboratory) through
3 the participation and involvement of more knowledge and experience of
4 stakeholders, it aims to improve the accessibility of public space in relation to
5 private space and training in the culture of social inclusion, all by promoting
6 participation among stakeholders. This laboratory represents a procedural
7 model that collects, through an accurate analysis, the critical points about the
8 architectural barriers of urban spaces and develops different design or service
9 solutions, because the procedural solution is not always the best and
10 exhaustive.
11
12 *The Evolution of Public Space in the Contemporary City*
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14 The contemporary city has become the symbol of the dispersion of spatial
15 references, to the point that the user finds it difficult to orient himself in the
16 chaotic heterogeneity around the city.
17 There are numerous examples in the literature that indicate that the loss of
18 focal points is now a predominant aspect of the city of the 21st century, a
19 heterogeneous place whose spaces are disconnected from each other, a city
20 almost "exploded" in which the nodal centers are perceived as "islands" in
21 themselves, and in which interventions of public interest only accentuate the
22 lack of communication between the individual parts.
23 In view of this, the capacity of contemporary public space must be to link
24 public and private places in a context that transmits homogeneity and unity. In
25 fact, observing the outskirts of most cities, even an inexperienced eye can
26 easily grasp a fragmentation of interventions that make the structures
27 completely disconnected from each other, thus returning a sense of disorder.
28 And it is precisely on these aspects that we must focus to give meaning to
29 a wider hierarchical level, through the observation of users and their behaviors
30 within public spaces, in order to identify the distinctive features and possible
31 benefits that the user can derive from them. The habits of users, in their daily
32 lives, reflect the quality of the public space lived, surrounding, so as to have an
33 influence on their physical and mental well-being; specially designed paths or
34 nodes where you can come into contact with the green and other people
35 positively affect the quality of life.
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1 **Figure 2.** *Quality System: A Continuously Changing Exchange between the*
2 *Durable and the Ephemeral Superkilen Urban Park in Copenhagen*

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4 *Source: http://www.chora.me/architettura/per-fare-piazza/*
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6   The place, in principle, open to all must be understood as the theater of
7 everyday life allowing you to have contact with people of different culture,
8 attitudes and behaviors. Therefore, quality public space must, in fact, offer the
9 user benefits on several fronts.
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12 **"City" Solutions for a Versatile Response**
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14   Most European countries, in accordance with the new regenerative
15 climate, are providing pedestrian many streets of the historic center. Some
16 roads have been pedestrianised for a very long time, while others are built for
17 this purpose.
18   An example is via Maqueda in Palermo. One of the main axes of the
19 historic Palermo, weaves Via Vittorio Emanuele to create the most ancient and
20 famous intersection of the city: the "Quattro Canti di Città".
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1 **Figure 3.** *Via Vittorio Emanuele, Palermo (PA)*

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3 Source: Enrico Sortino
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5   The pedestrianization of Via Maqueda has allowed you to experience the
6 city in a completely different way, passing the "Teatro Massimo" you continue
7 on the street entering this walk of folklore and warmth. you meet stalls and
8 shops that enchant you with the smell of Street Food typical of the place, the
9 buildings complete and frame this colorful painting in the beating heart of the
10 historic center, the walk ends passing "Porta Felice" and being in front of the

1 boundless and beautiful deep blue sea.
2
3 **Figure 4.** *Porta Felice, Palermo (PA)*

4
5 *Source: Enrico Sortino*
6
7 It is increasingly common for people from Palermo to go down to the
8 centre and enjoy the long walk from Viale della Libertà, pedestrian only in
9 some temporary periods, gradually descends towards the sea, passing through
10 Via Ruggero Settimo, up to Via Maqueda.
11 This allows us to understand how the change of the city has influenced the

1 habits of citizens, returning part of the historic city to a livable, convivial and
2 joyful dimension no longer glimpsed distractedly from a window or a mirror.
3   Despite the reconversion of the spaces, however, the road remains road,
4 for conformation, material and perception, there are many advanced and
5 advantageous possibilities for a repair of the pedestrian-machine gap.
6
7 **Figure 5.** *Via Maqueda, Palermo (PA)*

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9 *Source: Enrico Sortino*
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1   A good example is the Rua Augusta in Lisbon, a historic pedestrian street
2   since the late 1980s. The different flooring helps us immediately to understand
3   the change of context, favors to create this "living room" in motion, which not
4   only gives you the opportunity to reach a place than another, but allows you to
5   live the space, stopping to enjoy the services in the area and the presence of
6   street artists who collaborate in the creation of this friendly and enjoyable, not
7   just being a street, but something more.

8   Despite the recontextualization given by the colored tiles, which
9   accompany the user throughout the length of the walk, we can not yet talk
10   about shared space in its most felt sense.

11   The Dutch term Woonerf means exactly "Living Street", and refers to a
12   new way of redesigning the street as "people-friendly".

13   The woonerfs are shared spaces, where pedestrians, cyclists and users of
14   different kinds coexist within this shared space. Cars can pass under certain
15   measures and, sometimes, only in the case of prior authorization. They were
16   born in 1976 in the Netherlands, but today it is a solution widely used in
17   different countries and with solutions of space similar, but not equal.

18   These solutions are a great way to rethink the road as a "living space"
19   suitable for the reformulation of machine-pedestrian hierarchies.

20   Not intended as a punitive space for the car, but rather as a friendly place
21   for the pedestrian.

22   The very structure of the road is remodeled, the pavements are at street
23   height, there are no divisions or barriers, the pavement widens and sometimes
24   it fills with green. The concept of the road changes, passing from car lane to
25   walk.

26   An excellent solution for the streets of the historic center was presented by
27   the Dutch study "De Urbanisten", which propose a different sharing than the
28   woonerf, in this case the space is shared with green and water, changing the
29   thickets, but leaving the sense unchanged.

30   Talking about water management becomes almost essential when we talk
31   about the distribution of public space, especially in the new era of unpredictable
32   "cloudbrust" and floods, but also of periods of drought and water waste.

33   In the shared space designed today, water has a fundamental role. Its
34   management, disposal, reuse and consumption are today one of the
35   fundamental bases of our concept of green economy.

36   The Waterplan prepares the city to face climate change and its
37   consequences, especially the water bombs, which are becoming more frequent
38   for now and the rise of sea waters.

39   It divides the city into subgroups identifying three water cities:
40

41   • The city of artificial water, composed of the entire sewerage
42   infrastructure
43   • The hidden water city, based on the "historical" waterways,
44   • The city of natural water, the one hoped and expected, in a future
45   composed of suburban green, but especially urban.

1   The plan was approved in 2019, with the ambitious program of diverting
2   attention from the artificial water network in order to give the right importance
3   to the natural network, bringing back, where possible, traces of historic water.
4   "For the residential area 'Stuivenberg' in the dense city centre we studied
5   on how the water task can be solved as local as possible by rigourosely
6   greening streets and organizing space in squares to temporarily hold rainwater
7   when necessary. Also, we looked closer at the potential of the historical
8   structure of the 'Ruien'. This water structure could potentially be of more value
9   in the city centre."
10   This is how the ambitious project of the Antwerp Waterplan is described,
11   clarifying how it would be possible to dialogue the needs of the contemporary
12   city with the solid network of the urbanized city. Thus, creating the famous
13   shared spaces man-machine/ man-nature.
14   Emphasizing and celebrating intelligent urban design that opens the door
15   to a better future.
16   However impossible it is now to erase the mistakes of the past we are still
17   in time to mitigate them.
18   Recent studies point out that, now more than ever, we are at a crossroads:
19   a more optimistic view, according to which, if greenhouse gas emissions are
20   drastically reduced and we commit ourselves to a general improvement, despite
21   efforts, temperatures are set to rise by 0.7°C. A more catastrophic scenario,
22   instead, shows us how a constant increase, at current rates, of polluting
23   emissions and no effort to reverse the course temperatures are expected to
24   increase up to 10°C, Leading us to a slow and ruinous end within the next 85
25   years.
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28   **Conclusions**
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30   From the Antwerp Waterplan, clarifying how it would be possible to
31   dialogue the needs of the contemporary city with the solid network of the
32   urbanized city, we move to the concept of the city of dialogue (UN Resolution
33   2011 on the City Crisis). Moreover, the concept of city, and therefore of public
34   space, must be understood as an "open design" (Richard Sennett) where a
35   fundamental aspect must be the dialogue with the people who live the place.
36   These assumptions form the paradigm of the city of the third millennium, free
37   and open. Creating the shared spaces man-machine/ man-nature, according to
38   the logic of Woonerf -means exactly "Living Street"-, which evokes a new way
39   of redesigning the street as "people-friendly" by channeling flows and
40   optimising displacements, some principles of urban resilience are implemented.
41   And again, how to optimize the functioning of cities by reducing the time for
42   the use and accessibility of public spaces and services? What are the
43   hypotheses of the transferability of the models used by Carlos Moreno for the
44   Paris of the quarter-hour?
45   Another question concerns the management of flows and not only of

people and goods. Can water and energies be "controlled" and channeled into grids that have been prepared and evaluated in advance?

The answers that cities must provide are infinite and performing. They must be ready and timely and try not to suffer the changes of society and not to be unprepared for the great environmental, technological and social challenges.

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