

UNIVERCITY. The University as a Metaphor for the City. Processes, Methods, and Tools for Contemporary Design

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Abstract. The university has always been the highest and noblest form of educational institution. Likewise, the relationship between the university and the urban setting has characterised the debate on the management and development of city policies. Cities and universities have been involved in urban regeneration processes, leading to profound changes. The progressive physical development of anthropised areas has gradually reached and definitively incorporated the oldest universities originally built outside the urban setting. This paper analyses the case of the university institution as a promoter of regeneration, inclusion, and development. We shall consider the close relationship between university, campus, and city, paying close attention to the recent evolution of methods for the planning and design of public spaces. The above is becoming a total social fact, a large field of application in which urban regeneration policies are reflected and in which the design dynamics of a resilient, accessible, inclusive, and sustainable city of the future converge.

Keywords. Urban regeneration, city, universal design, public space, university

1. Introduction. (Urban Regeneration, University, Public Space)

The term "*regeneration*" has imposed itself in cities with great ease in recent years and now leads a profound new analysis not only as far as planning reflection but also of many institutional actions and some "bottom-up" practices that should not be overlooked. The regeneration processes of unused or badly used city areas involve a series of actions that contribute to the improvement, adaptation, and revitalisation of infrastructures, services, and public spaces, while limiting as much as possible land consumption. Universities and University Campuses, great condensers of culture and community, are undoubtedly a part of these regeneration processes. The University is a focal point for the collective needs of transformation; its role is by no means as reductive and simplistic as being just a cultural organization, but rather, it is that of a place dedicated to expressing the life,

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education, and preparation for the world of work of the people who will transform the world in which we live.

Italy's Polytechnic of Milan is moving towards dynamics of this type, for example, with the intent of catching up with international *benchmarking*, represented by cases such as the Campus of the University of Delft and the Amsterdam University College, designed by Mecanoo, of Ostfold University College, designed by Reiulf Ramstad Arkitekter or the new Campus of the University of Malaga designed by Urban Ecosystem. In these cases, the project triggered and guided large urban renewal processes.

It is no longer a matter of elaborating innovative redevelopment plans for city areas or filling in the blanks of abandoned industrial areas, obsolete technological installations, degraded residential areas, undeveloped spaces, inexplicably surviving agricultural spaces, and so on.

Now it is rather a matter of coming up with new approaches for developing projects that will solve emerging urban problems, such as how urban intervention is conceived, the relationship between sectoral plans and circumscribed projects, building networks of actors that would include unconventional roles, and introducing new ways of understanding living arrangements by means of accessible, resilient, and sustainable practices.

Universities should be viewed as important nerve centres and primary actors in the contemporary scenario of the city, and as developers of urban and social regeneration and renewal strategies. Universities are osmotically dependent on cities and the services they can offer; with a trend of broadening and more international student populations comes the need for more services in terms of infrastructures, environments, businesses, social assistance, accessibility, and leisure facilities. Thus, Universities should be seen not only as places where culture is propagated, but also as pieces of infrastructure offering a plethora of new public spaces and activities available not only to students, as was the case in the past, but the community at large. From this point of view, the function of public spaces is for individuals to be able to gather, aggregate, and relate with others and thus share needs, desires, and knowledge.

"Public space is an indispensable component of the public sphere, where the exchanges and relationships, discovery and knowledge, action and interaction of all the individuals that are part of the public can take place and become visible [...]. The public space is the symbol of the relational dimension of society, a shared value, beyond any nostalgia, any ideology, and any sense of belonging, whose project and care can really contribute to the enhancement of public life and, consequently, an improved quality of urban life for everyone." (Cicalò, 2010)

The purpose of our study is to investigate Campuses and Universities to show that they are indisputably an economic, cultural, and social driving force, all the more attractive today for their accessibility, visibility, and connectedness with other spaces. University facilities now provide physical public spaces for social interaction.

2. EVOLUTION and CHANGE OF UNIVERSITIES

"Architects fulfil their mission when they create better living spaces, perpetuating the humanistic force which has fuelled European cities and which we must pass on to future generations. Beauty as an antidote to conflicts is a value that enlightens us and helps us

plan the post-industrial society in which knowledge is the real material we want to help spread." (M. Botta, 2015).

The history of some European universities is almost millenary, which includes their architecture, such as the universities of Milan, Bologna, Oxford, Padua, Paris. Many prominent universities, including on other continents, date back to at least the 19th century. In most cases, the history of a university institution does not correspond to that of its current architecture; over the centuries, or at least in recent decades, the most prestigious universities have undergone changes as far as departmental headquarters, expansions, destructions, reconstructions, all the phenomena that a "living" environment can experience, especially one that accommodates a plurality of functions, an extremely variable number of users, and needs, handling the pressure of present reality while looking to the future.

Contemporary university architects are usually confronted with the redevelopment of a historic building or at least a wing, department, or library. Opportunities to design a university complex from scratch are rare, especially in Europe. Whatever is being built, there are guidelines to be followed, where the pedagogical value takes precedence over the functional and aesthetic. University architecture participates in an educational project which should stimulate a desire for knowledge, expressing creativity, and the awareness of study and research as a value for society. As a place dedicated to the production and use of knowledge and culture, a university should promote the development of social skills and contribute to the psychophysical well-being of its denizens while establishing a new link with the city. As qualified human resources, ideas, and innovations converge in a university, there is generally a great international openness and exchange of information and knowledge.

2.1. University, city, cultural sector

"The city has become a land of investigation and research, a privileged place for the study of society and its movements, [...] creating a strong link between architecture, urban planning, and the social sciences." (B. Secchi, 2005)

The traditional model of a city fragmented into parts and functions is now joined by that of the *multiple city*, a complex and multifunctional node in which local and global networks are intertwined. Some places in the city are now able to respond, with variety and dynamism, to the evolution of user demand and expectation; we are referring to real *city users*, together with a series of actors co-starring in the management, creation, and use of city structures. At the same time, the consolidation of the environmental culture, the changing economic dynamics, and the recent socio-cultural transformations have pushed the centre of gravity of the project from the *centrality of function* to the *centrality of place*, engendering new lines of research endogenous to the action of urban organization and the role of its constituent elements.

As a part of the city, a university should be perceived as one of its most important strategic nodes, though which the city can open and expand its borders towards a global knowledge market. As universities are especially dedicated to producing and circulating knowledge and cultural and technical information, they are catalysts for human capital, actively involved in technology transfer policies, and at the crossroads of global research, innovation, and development networks. However, the history of the institution has been changing towards a restructuring of spaces more open to and in greater connection with the surrounding urban infrastructure.

We shall now look at how European universities have been dynamically linked with the urban fabric since the very beginning of their history and throughout their evolution. Universities and cities experience a continuous dialogue, often explicit and constant, sometimes shy, or unspoken. Academic institutions are forced to consider and interpret socio-cultural changes to make the best of them. Unlike the experiences of other countries, where self-sufficient campuses are far from large residential agglomerations, the European story is an evolving one, as we mentioned.

Universities attract younger generations who are seeking improvement and the acquisition of intellectual and motivational tools to lead society into the future. The twentieth-century idea of the university as an ivory tower of splendid isolation survives only in the now dusty mythologies of certain political views and information based on hearsay and clichés. Universities that are part of an urban setting are becoming more open to diversity, whose purpose it is to welcome and give new and temporary citizenship to that which society initially perceives with distrust, providing it with a new and clearly recognizable guise.

Universities and cities have a shared destiny of continuous and inevitable exchange of knowledge, resources, and human capital, like the two sides of a magnet.

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One of the objectives of this research is to promote greater clarity as far as the fields of action of university campuses connected to the city and the role they play in urban regeneration processes, to illustrate their meaning and define their strategies.

3. UNIVERSAL DESIGN: A NEW WAY OF UNDERSTANDING URBAN QUALITY and ACCESSIBILITY

Accessibility is a transversal discipline with far-reaching human, social, and economic objectives. Improved accessibility corresponds to more widespread *urban comfort*, leading to fewer sources of danger and situations of discomfort and fatigue for anyone. To organize the mental processes that normally go into the preparation of any project, we should start by considering this qualitative aspect together with the other specific sectoral disciplines.

The concept of accessibility, a qualitative characteristic that allows people in general to use built spaces easily and to the fullest, along with the equipment they provide, includes the fundamental aspects of safety and comfort, as is the case in projects for the public spaces of universities and campuses. Italy's Ministerial Decree 236/89 established in 1989 the meaning of architectural barriers by describing technical accessibility, adaptability, and visitability requirements. Therefore, we can affirm that accessibility is a universal discipline with far-reaching human, social, and economic objectives, to be pursued gradually and consistently, at all levels, and by any means.

Thus, the goal of accessibility is to maximise autonomy, including in contemporary Campus projects, no matter the psycho-physical condition of a person, be it temporary

or permanent, for a daily use of all facilities as effortless as possible for everyone involved. Improved accessibility thus means more widespread urban comfort and fewer sources of danger and situations of discomfort and fatigue for anyone.

3.1 Environmental accessibility and inclusion in university campuses

Environmental design draws from knowledge in fields such as accessibility, reachability, usability, comfort, user safety, communicativeness, mobility, and so on. Legislation has been citing the terms accessibility and *inclusion* more and more and in various ways, and so have guidelines that affect all areas of society (UN, 2006, Preamble). Accessibility expresses the level with which places, goods, and services guarantee that each person will develop their life (Lauria, 2012). However, *accessible environments* are not only a tool for personal development, but also a collective resource that can raise the social capital of a community. While expanding individual freedoms, social opportunities, and knowledge, accessible environments encourage everybody to participate in the life of a community and contribute to the growth of a society, leading to greater social and economic development. (Touche Ross, 1993; Buhalis et al., 2005; Darcy and Dikson, 2009; SL&A, 2013).

As an example, let us take places of cultural interest such as universities, where accessible environments promote a higher presence of visitors and students together with visitability and therefore higher increased vitality and attractiveness for local societies (C.A.R.E., 2006; Arengi et al., 2015). The concept of accessibility has undergone a profound revision over time, mainly as a result of the evolution of the concept of disability, to which it is historically linked.

Nowadays, it is seen as the result of a complex interaction between "persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others" (UN, 2006, Preamble). Thus, we can see how, in contemporary campuses, accessibility went from being a technical-normative discipline to taking on the role of a planning discipline, expressing a plurality of civic values and cultural meanings.

Thus, from that of "place free of architectural barriers" or "in accordance with", the concept of "accessible place" takes on the broader meaning of *inclusive*, open, and sensitive to diversity, which can provide comfort and safety to people with different issues and differing degrees of freedom. According to this vision, removing architectural barriers is not enough to improve the degree of accessibility of a place, such as a university building, an adaptive process is required by which environmental qualities are introduced that may be lacking or absent, which may be contextual, social, spatial, functional, etc. An improvement in this direction would have to consider spatial and functional qualities that can guarantee a person's autonomy and well-being which did not come with the building and were not added later (Lauria, 2012). The concept of accessibility has evolved over the years, eventually including a greater number of users, largely based on requests from the community. This widening horizon has led to the superseding of the design approach based on special solutions—that is, creating environments with restricted accessibility and equipment intended for users with special needs—, by specific design methodologies of various types meant to make spaces accessible for a wide spectrum of population.

Among these methodologies is *Universal Design* (Mace, 1985; Mace et al., 1991), according to which products and environments should be "usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." (Center

for Universal Design, 1997), which definition has been adopted by the *UN Convention on the Rights of Persons with Disabilities* (UN, 2006, Art. 2).

This definition shows that collective space projects are commonly based on generalisation, which amounts to trying to understand phenomena and trends in their entirety and to set measures and solutions that will prove to be valid for most people. This scenario, as reflected in the world of universities, implies that Universal Design represents the most suitable and reasonable methodology for use in the collective space.

Therefore, the application of Universal Design in the collective space project does not so much aspire to define perfect solutions for a particular individual, as it tries to define solutions that are as compatible as possible with everyone's needs (Lauria, 2012).

4. UNIVERSITY AS A CITY. The Milan Polytechnic case

"The city is the place dedicated to the production and use of knowledge and culture. The University is the place where qualified human resources, ideas and innovations converge, where there is generally a high international openness favouring the transit of information, and knowledge." (P. Dilorenzo, E. Stefani, 2015).

The Campus theme certainly falls within the interests of modern architectural design, both in its more sophisticated building type aspects, and in terms of its urban value, creating a system of multiple scenarios, societies, and cities united by the changing values and functions which the university establishment has experienced over the years. The concept of campus developed in the United States for the management of primary university spaces and cloned from that of the English college, has naturally and constantly evolved, taking on different aspects (M. Biraghi, I. Valente, 2015). The relationship between city and university has also evolved with the concept of campus. The progressive physical-material development of anthropised settings has gradually reached and definitively incorporated the oldest universities, originally outside the city. The case of the Milan Polytechnic is a manifestation of how a campus no longer represents a closed place dedicated exclusively to culture, but rather proposes itself as an integrated, flexible, comfortable, and interactive entity capable of implementing the degrees of freedom of public space use. The border between the university and the city must become porous, or rather, non-existent. In a healthy knowledge society, the university becomes the city, and the city becomes the university.

Therefore, today's universities are important *urban protagonists* and condition inclusive development processes, accessible and integrated with the city, stimulating urban development and transformation processes, and creating new productive centralities in step with the demands and needs of contemporaneity. The Milan Polytechnic paradigm highlights these dynamics.

Since 2017, the Politecnico has launched an investment policy to modernise and adapt its facilities to international quality standards which are now indispensable to compete with European and world universities.

To this end, the VIVI.POLIMI strategic project has been launched, which involves the rectorate, professors, research fellows and architects, in designing the *campus of the future* with particular attention to the quality of social, relational, and study life in everyday actions. Said quality involves confined spaces, open spaces, gardens, avenues, squares, and places of aggregation and study, within a spatial continuum that unfolds between full and empty spaces, and categories of users.

This is a strategic project that aims to update the quality of the work, research, and teaching areas of the Milan Polytechnic, as part of an international logic increasingly open to interaction between the University, the City and Inclusiveness. After years of precise implementations, the project has now achieved the goal of outlining the design of the Campus of the future. The project activity of the working groups led to the definition of Leonardo's strategic Masterplan parallel to a similar project in the Bovisa area, which proposes to update and enhance the quality of life in indoor and outdoor spaces in an attempt to plan ahead for the needs of the new generations. The operations that were carried or are now in progress are inspired by the logic of environmental compatibility and sustainability, which factors represent the connection of an overall narrative. The *Vivi.Polimi@green* and *Vivi.Polimi@health* programmes, launched from the very first ideational steps, constitute the backbone of the Masterplans under construction; a cultural approach to the project in full harmony with the consolidated demand for Sustainability and Health.

5. CONCLUSIONS

Expanded usability, porosity of spaces and functions between city and university, and enhancement of the *campus-city concept* are the types of knowledge involved in environmental design most likely to consider real inhabitant needs and expectations. As a resource or environment easily available to any type of user, accessibility introduces an element of pure realism in the discipline of planning, the Campus of the future project in this case, responding to a need for equity and social inclusion while fragmenting into a plurality of needs the model according to which the great process of anthropisation of the world took place.

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