



*Editorial*

## **Rehabilitation of existing building parks and its relationship with urban agglomerates—An urgent and demanding task for our common future**

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**Abstract:** Today there are new concerns that housing research seeks to anticipate: the relationship between housing and health, the definition of methodologies for assessing risks to occupants and the guarantee of indoor air quality, among other areas that increasingly require a transdisciplinary approach. Today's urban centers are made up of many current buildings that reveal constructive trends from various eras, the expression of aesthetic and cultural movements, economic and administrative policies, the evolution of empirical and scientific knowledge, the availability of local materials and geographical specifics, territorial and climatic. This implies a rehabilitation of buildings and urban centers with a clear commitment to respect for history, constructive tradition and heritage passed on to us by previous generations. A more promising and sustainable future requires it.

**Keywords:** buildings; rehabilitation; housing; housing stock; sustainability

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### **1. Introduction**

Buildings, which started as shelters and later became means of ostentation for some, evolved in the Middle Ages to ensure healthy conditions for all. Subsequently, minimum areas and conditions of habitability were required, and rules were established to guarantee structural safety. More recently, other regulatory requirements have emerged, such as thermal and acoustic comfort, fire safety, the guarantee of universal accessibility, energy efficiency and construction and demolition waste

management. Also, new challenges have arisen, such as contribution to the planet's sustainability. Today, there are new concerns that housing research seeks to anticipate: the relationship between housing and health, the definition of methodologies for assessing risks to occupants and the guarantee of indoor air quality, among other areas that increasingly require a transdisciplinary approach.

Current residential buildings are now a non-monumental heritage whose value is essential to know and preserve because they resulted from significant investments by families or local communities. Today's urban centers are made up of many of these current buildings that reveal constructive trends from various eras, the expression of aesthetic and cultural movements, economic and administrative policies, the evolution of empirical and scientific knowledge, the availability of local materials and geographical specifics, territorial and climatic. Some of these housing developments are even considered World Heritage Sites, not so much for their intrinsic value but due to the spirit of the place and time of their creation and the solid social and cultural identity that today makes them distinct in a globalized world.

Over the past thirty years, the author of this text has developed activity, fieldwork, teaching and research in the housing fields of conservation and rehabilitation of buildings. The author knows the statistics and the practical reality of the Portuguese-built parks' state of conservation well. He witnessed complex relations between landlords and tenants. He followed, like many, the desire to invest in new construction, with the idea that it would always be possible to extend cities and expand urban infrastructure without concern for its social, environmental and economic sustainability.

At the end of the 1990s in Portugal, at the height of investments in new construction, the author already affirmed his interest in reflecting on existing buildings and proposed, somewhat "against the current", the need to invest clearly in building rehabilitation. The statistics were known and showed that the degradation of the Portuguese housing stock was already an undisguised reality. The reduced expression of investments in building maintenance and rehabilitation works was a reality compared with the relative percentages of these investments in the rest of the European Union countries. We cannot ignore in this context the modernization effort of Portugal in the last 40 years. Today, Portugal has basic infrastructure; social, sports, school and health facilities; and very high-quality road, port and airport networks, serving the entire national territory. A real convergence with a more developed Europe was seen in the field of infrastructure, only possible thanks to the availability, excellent quality and knowledge of Portuguese engineering and architecture professionals and the operational efficiency of national construction companies.

Now that a level of quality and excellence has been reached, which places Portugal among more developed countries (although this is not always the feeling in Portugal), it is urgent to monitor investment trends in the construction sector in other European countries with more robust economies. Thus, this implies a rehabilitation of buildings and urban centers with a clear commitment to respect for history, constructive tradition and heritage passed on to us by previous generations. The reflection allowed by moments of economic crisis and the persistence of some researchers interested in this theme generated consensus in Portuguese society on the need to review priorities and strategies and invest in rehabilitating the existing building and monumental heritage. Today, everyone seems to agree, but some precautions are needed, such as analyzing and mitigating risks, avoiding mistakes and taking effective actions to improve the existing situation.

Some Portuguese construction companies, usually small or medium-sized, had a vision of the future and knew how to adapt and position themselves in advance in the rehabilitation market. They

contracted the scarce technical and operational resources available on the market and bet on an alternative market to the new construction that at the time was already beginning to decrease. They overcame the new challenges of organizing works and construction sites in urban centers. Despite carrying out work with a smaller volume of work, specialization and weak competition made it possible to obtain more orders and establish comparatively higher prices, providing better operational and economic results.

Concerning legislation and regulations, some simplification rules were applied in Portugal in the municipal licensing of projects for this work, which generally deserved a positive public assessment. To promote investment in the subsector and the use of community support, the simplification of licensing must not conflict with the imperative need to ensure the conditions of structural safety, comfort and safety of use, which require the best-qualified technicians. It is essential that this licensing “green way” does not become a “quick way” to weaken existing buildings further and create other problems in the future. The straightforward notion that technicians in the sector have about the complexity and dispersion of building legislation, which require the creation of exceptional and transitional regimes when the intention is to speed up municipal licensing and investment, is an excellent opportunity to finally organize a Rehabilitation National Technical Code. This code can compile and articulate, in a single document, all legislation, regulations, technical standards and good intervention practices associated with the rehabilitation of buildings, ensuring their adaptation to the reality and specifics of existing buildings in Portugal.

As a result of military actions, terrorist attacks and political, economic and social instability in other regions, especially in traditional tourist destinations, and the investments made by low-cost airlines, it was possible to successfully develop in Portugal the concept of “city tourism,” which greatly benefited real estate and the Portuguese economy. Investments in the transformation of residential buildings to create hotel infrastructure and tourist accommodations had great economic benefits in cities such as Lisbon and Porto. In this recent period, foreign investors could exploit national economic weaknesses and acquire old buildings and are today in the most dynamic markets, promoting their rehabilitation and subsequent sale. There is no point in demonizing these investments in local accommodations or tourist facilities, claiming that the urban spaces with the most significant potential will be for the almost exclusive enjoyment of visitors. However, there is an urgent need to create conditions for rehabilitation in urban centers to be carried out in a balanced way, ensuring, for example, that in the areas of urban rehabilitation, rates or quotas are established for the existence of housing, commerce, tourism, and services, among others. Healthy coexistence and balance between different functions will make urban areas more harmonious, liveable and used by residents and visitors.

In order to be better prepared for the challenges of building rehabilitation, there is also an urgent need to change the teaching and training paradigm, especially in the areas of architecture and engineering, which almost always favor new construction and do not prepare enough qualified technicians to intervene in existing buildings. Rehabilitation is recognized as being of greater complexity because it involves a pre-existing structure that is necessary to study and understand and implies the constitution of multidisciplinary teams with different knowledge to guarantee its success. The use of new materials may be prescribed, or new construction solutions applied, but technical knowledge is required; and their functioning, durability, compatibility, sustainability and suitability to the geographical context must be proven. In a new teaching and learning paradigm, it is essential to include the study and knowledge of constructive techniques applied at different times and in different

historical, social and political contexts. As if it were medicine, it is also essential to study the “anatomy of buildings,” thus developing complementary inspection and diagnosis techniques, especially non-intrusive ones, and to establish “therapies” that allow conservation and rehabilitation actions. These actions guarantee the building’s future use in conditions of safety and comfort, while allowing easy adaptation to the predictable climatic changes that will indeed cause waves of heat or cold, excessive precipitation, floods and other extreme events in different places on our planet.

Administrative stagnation of rents, inherited from the past in Portugal, prevented, in practice, most owners from having the means to ensure the conservation of their properties. Putting an end to that, new rules for urban leasing have recently been established, allowing for the taste of the market and the relations between the interested parties. Today, there is another extreme: the reduction of contract terms in Portugal and the consequent precariousness in housing lease contracts. The lack of stability for tenants distances families and young people from urban centers, preventing formation of young families, which will worsen the demographic problems that the country already suffers today. There is, of course, a concern about the situation of tenants over 65 years old, but the dramatic situation of younger families, who began to repopulate the urban centers that were almost deactivated, is forgotten, fostering the current coexistence and intergenerational solidarity. If nothing is done, this situation, associated with the lack of employment opportunities, will move the youngest to the periphery and favor social precariousness and marginality.

In the approximately 50 years of democratic local power in Portugal, after significant investments in solving the most fundamental problems of the population, some local authorities have invested in modernity and urban expansion, indirectly degrading existing buildings due to lack of conservation and, as a result, depopulating their historic centers. Other Portuguese local authorities clearly understood the value of their built heritage and implemented programs to preserve their historical centers, which gradually made their path of awareness and materialization nowadays examples of spaces of urban excellence. As local institutions with significant responsibilities and social concerns, municipalities today have great opportunities to use European funds, be decisive partners for urban development and rehabilitation actions, guarantee the maintenance of identity and quality urban spaces and repopulate these areas. They will undoubtedly be exemplary in the excellent rehabilitation of public buildings and municipal social housing buildings. However, it will be of the utmost importance to avoid the tendency to channel investments and community funds exclusively to rehabilitate public spaces and buildings. What is the use of rehabilitating these spaces and buildings if the population does not use the depopulated urban complexes in daily life? It will be of utmost importance for municipalities to create new partnerships with developers, financing entities, owners and communities and create incentives to boost the rehabilitation of unoccupied buildings in poor condition, helping to place currently vacant buildings on the housing market. With these objectives, municipalities will also be able to reallocate available human resources or create teams dedicated to technically supporting partnerships and those interested in the rehabilitation process.

Public support programs should also give importance to multi-family building condominiums, creating effective financial support to encourage the improvement of conservation and habitability, making the envelopes thermally efficient, and guaranteeing the internal conditions of comfort, air quality, accessibility and fire safety. Some questions can be asked in this regard. How many elderly or disabled residents are “stuck” in their fractions due to difficult access? How can the emergency and security services act with the necessary efficiency in case of an emergency? How is it possible to fight

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energy poverty? How can we help to better accommodate an increasingly aging and living-alone population?

The example of the Polis Program, successfully applied a few years ago in Portugal and which allowed the improvement and requalification of urban public spaces in several cities, could now serve as inspiration for the creation of a program applied to buildings: a Polis Housing Program, possibly also replicable in other countries.

It is now more and more urgent and necessary to involve all those interested in rehabilitating the existing parks in different countries and demanding the expected results. The current consensus and the excellent opportunity to maintain and rehabilitate the buildings that have been handed down to us by previous generations must not be lost. A more promising and sustainable future requires it.

### **Conflict of interest**

The author declares no conflict of interest.



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