Original scientific paper

Another Chance: Adaptive reuse of the built heritage strategies for circular creativity

*1 Dr. **Francesco Chiacchiera** (ID), 2 Prof. Dr. **Gianluigo Mondaini** (ID)

1 & 2 Department of Civil and Building Engineering and Architecture, Marche Polytechnic University, Ancona.
1 E-mail: f.chiacchiera@staff.univpm.it, 2 E-mail: g.mondaini@univpm.it

ABSTRACT

The study delves into the realm of adaptive reuse, exploring its potential in sustainable urban development, particularly focusing on public buildings within the cultural and creative sectors. Through a multiple case study analysis, both qualitative and quantitative methods were employed to scrutinize design strategies and spatial transformations in recent adaptive reuse projects of existing structures. This research investigates the evolution of adaptive reuse, highlighting its historical and theoretical underpinnings, and subsequently examines contemporary approaches towards existing structures in cultural, creative, and public domains. The study findings reveal common characteristics and innovative design strategies employed in recent adaptive reuse projects, emphasizing the transformative potential of neglected or abandoned urban spaces. Utilizing a comprehensive methodology involving case study analyses and diverse data collection techniques, the research underscores the significance of adaptive reuse as an established practice in contemporary architectural and urban design. The article's contribution to the social and economic dimensions of urban development lies in understanding and promoting sustainable, resource-saving strategies. This work paves the way for future research, suggesting potential expansions in creating an 'atlas of adaptive reuse' and exploring comparative analyses between existing reuse and new construction, specifically focusing on public buildings with civic-cultural uses.

Highlights:	Contribution to the field statement:
- The paper raises critical inquiries about the defining traits and primary design strategies of 'adaptive reuse' as an architectural discipline. - It focuses on the adaptive reuse of public heritage buildings in Europe, exploring contemporary practices and approaches. - The study analyzes leading international case studies to identify common features and strategies in the reuse of existing structures for cultural, creative, and public functions. - The aim is to outline commonalities in reuse approaches and portray a snapshot of the recent architectural culture surrounding the adaptive reuse phenomenon.	The design strategies and functional-spatial transformation of the existing. The study, treating a brief historical and theoretical profile of adaptive reuse projects' evolution and interpretations, provides insights for future research on adaptive reuse strategies for the public and creative fields, and on innovative ways to transform the city's public unused or abandoned building stock.

*Corresponding Author:
Francesco Chiacchiera
Department of Civil and Building Engineering and Architecture, Marche Polytechnic University, Ancona
Email address: f.chiacchiera@staff.univpm.it

1. Introduction

Adaptive Reuse can be framed as a growing design approach in contemporary times (Stone, 2023), especially in European urban environments, as witnesses in the growing space and attention dedicated to this kind of design in architectural prizes (Blasi & Giralt, 2019, 2022), in professional practices and applied research (Lanz & Pendlebury, 2022; Mérai et al., 2022); that seems to outline common features and tools. The reuse of already existing buildings is 'as old as a man' and has existed since time immemorial (Wong, 2016), however, in recent decades adaptive reuse started to establish itself as a new approach towards building environment (Flores & Prats, 2016, 2019; Plevoets & Van Cleempoel, 2019). Given the recent pressing demand for sustainability and resource-saving issues, that require transformative and resilient strategies for the city, we can easily argue that the built cultural heritage plays a crucial role in these challenges (Chiacchiera, 2022).

The paper moves from the following premises and background remarks: the presence, especially in the European context, of a huge amount of unused or underused public existing stock, an issue regarding the development and the legacy of the contemporary city; the consequent questions regarding 'what to do with it' and its role as a potential accelerator for urban regeneration; the recent growing of knowledge economy and related forms of entrepreneurship that are radically transforming the urban habitat through the tools of creativity, of intellectual work, of technological innovation, that are strongly connected with the creative reuse of abandoned parts of the city (Baum, 2014; Baum & Christiaansee, 2012); the continuous and pressing demand of sustainable urban development and resource-saving in International and European level. This general framework, together with the observation of many successful international reuse projects and practices that work in the field of urban regeneration, allows us to hypothesize that cultural and creative-led adaptive reuse is an established practice in contemporary urban and architectural design.

From these considerations we can draw some key questions within the research: which are the main characteristics of this 'discipline of the existing' (Flores & Prats, 2016) and which are its main design strategies; is it possible to extract replicable data and characters from renowned contemporary examples? The research hereby presented – conducted within the activities of the Research Group 'Hub for Heritage and Habitat' from DICEA Department of Marche Polytechnic University – deals with the theme of adaptive reuse of public built heritage in the European context, and it aims to investigate, through the analysis of recent outstanding international case studies on the field, which are the main features of the contemporary approaches towards the existing related to cultural, creative and public uses, that can be helpful to extract commons characters, attitudes and reuse strategies, as well as provide to portray a panorama of the architectural culture of reuse of this recent years.

2.1 Materials and method: Outline and structure of the article

After explaining the background materials and the research methodology, the paper provides an insight into the context/exploratory phase of the research (Figure 1), treating the historical evolution of the concept of adaptive reuse, from a spontaneous to an aesthetic act; then, through the description of key and outstanding historical case studies – knowledge phase - it proposes categorisation of design strategies on the existing as actions, helpful to delineate common spatial actions of the case studies; finally it provides a discussion on how the multiple case study analysis were carried out and on how the reprocessing of data from various sources can be an effective tool to depict adaptive reuse projects, to compare one to another and to highlight helpful information about them.
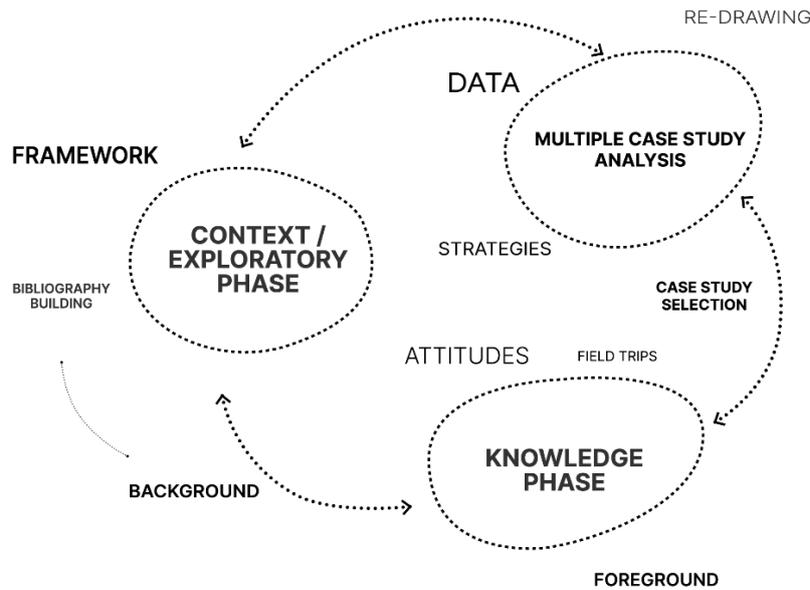
RE-DRAWING

DATA

FRAMEWORK

MULTIPLE CASE STUDY
ANALYSIS

CONTEXT /
EXPLORATORY
PHASE

STRATEGIES

BIBLIOGRAPHY
BUILDING

CASE STUDY
SELECTION

ATTITUDES   FIELD TRIPS

KNOWLEDGE
PHASE

BACKGROUND

FOREGROUND

Figure 1. Structure of the Study.

2.2 Methodology and data collection

The research methodology follows the model of the multiple case studies analysis (Aberdeen, 2013; Takahashi & Araujo, 2019; Walker, 1996; Yin, 1994) a typology generally established in the research and divulgative studies on the theme of adaptive reuse (Baum & Christiaansee, 2012; Bollack, 2013; Lang, 2023; Plevoets & Van Cleempoel, 2019; Wong, 2016, 2023). According to Yin, the analysis of multiple case studies guarantees a detailed and broad understanding of the topic, and the data collection and reprocessing of the data provide a scientific basis on which to compare and describe the chosen projects. The criteria on which the case studies were chosen was to choose recent projects - completed no more than ten years ago - of adaptive reuse in the European context, in the field of public uses for cultural and creative purposes, such as civic centres, media libraries, performance spaces, exhibition spaces, shared workspaces, of small-medium scale on the urban context (Lang, 2023; Lo Faro & Miceli, 2021; Plevoets & Van Cleempoel, 2019; Wong, 2016).

The data collection (Figure 2) was conducted by searching for quantitative information on the projects – such as dimensional values and costs of the reuse operations - descriptive sources - from the historical 'life' of the building to information about the processes of transformation, clients, management and financing, functional programmes – but also through in-site visits and photographic selection (Acar, 2018; Fitz & Lenz, 2015; Pelizzari & Scrivano, 2011). Data analysis consisted of the analysis of reuse strategies and actions conducted through 'transformative attitudes schemes' with schematic figures elaborated to synthesize the design actions on the existing – internal and external demolitions, new internal and external volumes, interior refurbishment and action on public spaces – helps to categorise the interventions; from this data analysis, a 'reuse identity figure' in the shape of radar graphs (Kaczynski et al., 2008) is proposed as comparative and analysis tool based on qualitative interpretation of various degrees of 'intensity' of the reuse actions (demolitions, internal reorganisations, new internal volumes, new external volumes, public spaces) that allows quick and easy images that characterise the various interventions. Morphological analyses were conducted through re-drawing of the case studies (Lima & Vieira, 2017; Unwin, 2007) used as knowledge, analysis, and dissemination tools. All these data collection, analysis and reprocessing constitute a corpus that allows the depiction of a 'portrait' of the case study to make it easily understandable and divulgative, as well as comparable quantitative and qualitatively (Guidetti & Robiglio, 2021).
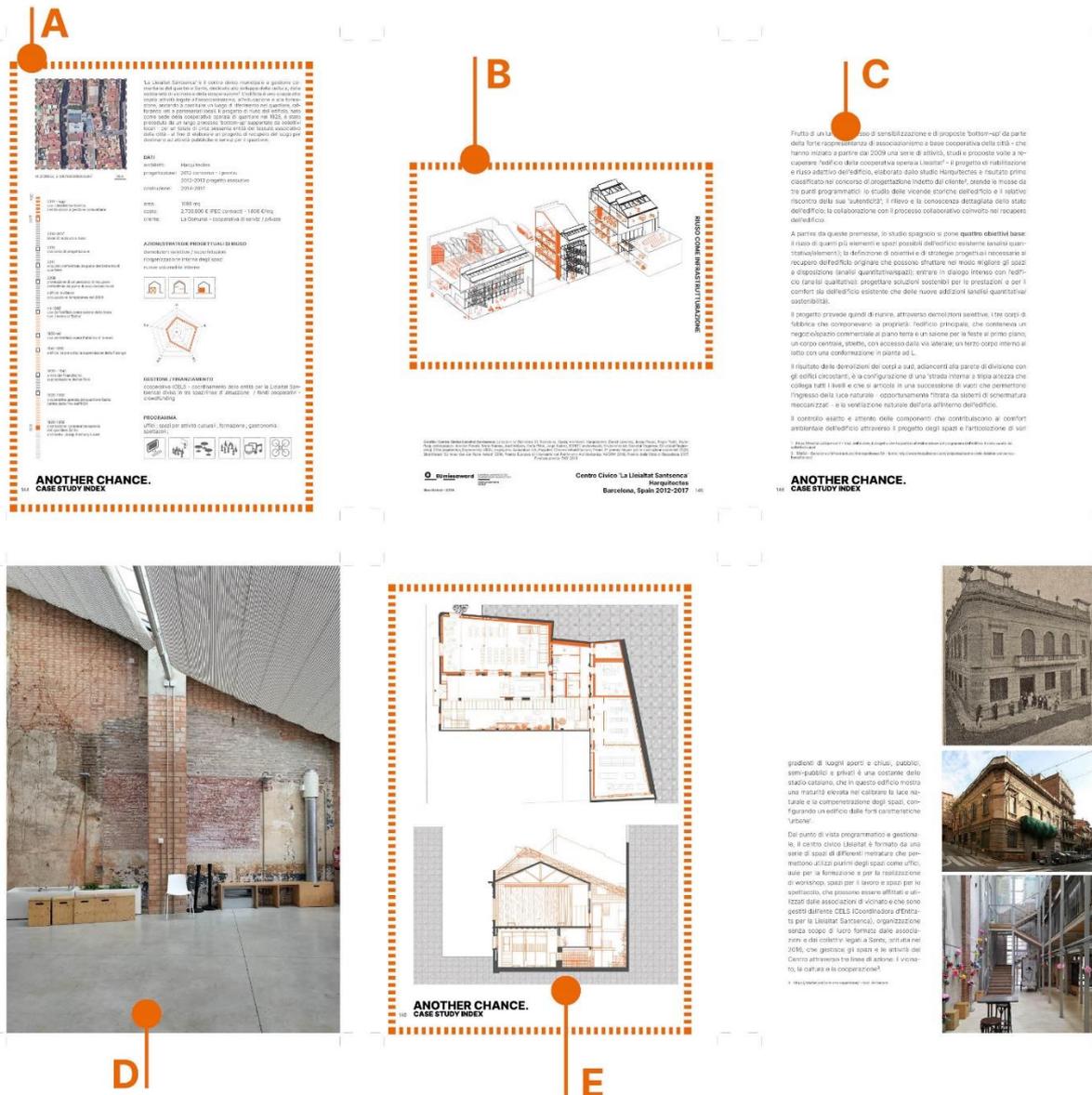
Figure 2. Structure of the Case Study Analysis: A. analytical summary board; B. tri-dimensional re-drawing with highlights on the re-use actions; C. critical text; D. selection of authorial and historical pictures; E. two-dimensional re-drawing (plan-section).

3.1 Discussion. Context-exploratory phase. Historical evolution of adaptive reuse.

The interest in the study of the problem of inserting contemporary actions into the existing cannot be separated from the recognition of the historical events that have characterised its development. The adaptation, transformation, reconversion and variation of existing buildings and structures to accommodate within them functions other than the initial or previous ones, is not a new phenomenon, nor is it a recent one. Looking at our cities and territories we can easily see how the act of building on the existing, of exploiting the ruins of the past for new constructions and the adaptation of old buildings to new uses, is at least as old as human history, and started as a spontaneous act. Building "on" or "over" the built is thus an ancient operation, responding to instances of saving material for construction effort, for individual or collective symbolic exploitation, or economic needs (Posocco, 2016) and the city in its history can be understood as a landscape that the older it gets, the more it continues to rewrite its own memories, as a palimpsest (Corboz, 1983; Machado, 1976).

The continuous and systematic practice of reuse in antiquity represented an important aspect in the development of the city as we know it, contributing to the creation of the sense of 'place', the 'genius loci' from which derives the complexity and spatial richness that only the palimpsest of the city's stratification on itself can offer. From the 19th century onwards, with the introduction of the concepts of conservation,

interventions on the built environments started to become an 'aesthetic' and theorised practice, firstly in restoration as opposed to the modern construction of the new. The broadening of the concept of heritage initiated a process of 'mixing' and 'hybridisation' between more conservative ideas on the one hand, and more 'transformative' and 'interventionist' ones on the other, especially in the cultural context of the 1960s and 1970s (Plevoets & Van Cleempoel, 2019).

Artists, architects, critics and intellectuals, in the wake of significant changes in Western society, began in those years to question established theories about the past, the concept of heritage and the relationship with history (Bollack, 2016). The post-war intellectual and artistic evolution, therefore, profoundly influences society's attitude towards the existing heritage. For the architectural project, we go beyond the ruin in an aesthetic sense to find in the assemblage techniques of certain artistic and literary avant-gardes of the 20th century the fertile ground on which techniques of recuperation, assemblage and invention used by modern and contemporary architects are founded (Massarente, 2016).

3.2 'Reuse pioneers' – outstanding examples exemplary of reuse attitudes towards the existing

Starting from the 1960s and 1970s, architects began to apply innovative concepts of reuse of urban public heritage for social, public, and creative purposes and intellectual production: such as Giancarlo De Carlo's decades-long work for the recovery and urban regeneration of Urbino, at the behest of the then rector of the nascent Carlo Bo university; or, in 'other' latitudes, Lina Bo Bardi, that in the South American and Brazilian context 'dominated' by the great modernist architectural and urban planning operations, began to develop a series of reuse projects that would anticipate contemporary attitudes towards the existing; or like the highly sophisticated and precious museographic interventions of Carlo Scarpa in Castelvecchio in Verona and Palazzo Abatellis in Palermo; or the one in Hamar by Sverre Fehn. At the beginning of the millennium, some reuse projects of former industrial areas and buildings opened the way for the creative reuse of the existing in the contemporary sphere, such as Zollverein industrial park at landscape and territorial scale, now UNESCO World Heritage Site, or Herzog & De Meuron's reuse of the Turbine Hall of the Battersea Power station at the beginning of the new millennium to host Tate Modern Gallery, profoundly marks the international architectural culture, for which the Bilbao effect is not only sought through the heroic construction of the new but through the recovery and creative reuse of the existing. We can see how this attitude in recent times has developed and spread in the continental and international context, for example in the recent and 'game-changing' projects by Lacaton & Vassal's Palais de Tokyo and David Chipperfield's Neues Museum, that paved the way to establish adaptive reuse projects also at institutional level.

It is from this evolution, in correspondence with exemplary and pioneering projects that the concept of heritage has expanded to include a large number of building typologies, disused industrial heritage and landscapes, comprehending what developed from time, experience and the collective: a condition present in ordinary buildings, of which our cities are full, and that represents a great potential for physical and social reactivation, in which designers can move between various degrees of interventions in a fluid and hybrid complex cultural panorama, that goes from housing to performative and exhibition spaces, to civic centre and collective activities, to new forms of work. The identification, analysis and re-elaboration of those attitudes of pioneering design strategies allow us to identify those reuse 'attitudes' as a conceptual framework that guided the following case study analysis and selection.

3.3 Adaptive Reuse attitudes – knowledge phase and Case Study selection

The theme of how to approach, of how to act in the relationship with the built heritage constitutes one of the central nodes of the treatment proposed here for the research: as highlighted above these practices of reuse of an existing endowed with a certain system of 'values', and with characteristics of 'openness' and 'stability' (Baum & Christiaansee, 2012), working and operating on the concept of 'distance' (Caliari, 2010), allows the city to be reorganised from within according to various strategies of action, which can be interpreted more appropriately as 'design attitudes' (Figure 3), useful to understand and to briefly categorise the case studies. Following a 'tradition' of reinterpretations of various design strategies in the literature on the subject (Lanz & Pendlebury, 2022) a series of 'reuse attitudes' are proposed: 'reuse as urban strategy', 'reuse as super-positioning', 'reuse as infrastructure', 'reuse as palimpsest', 'reuse as scenography'.
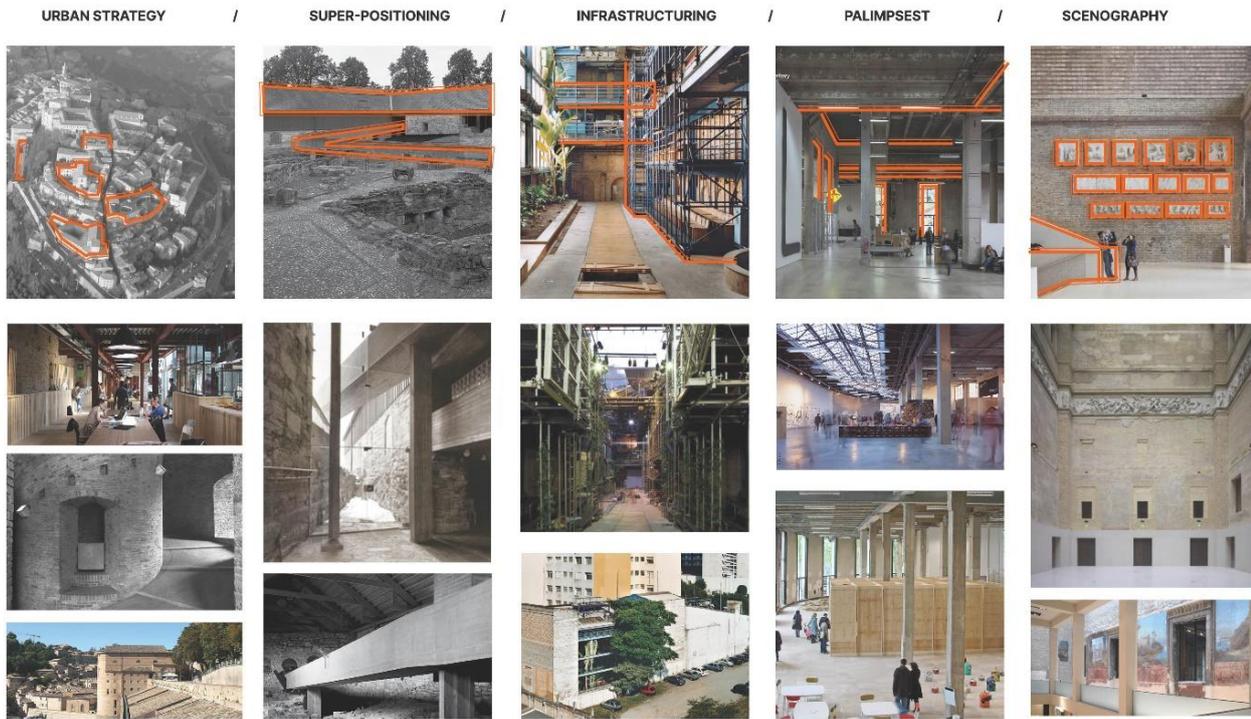
Figure 3. Reuse attitudes. Urban Strategy: G. De Carlo, projects for Urbino; super-positioning: Sverre Fehn, Hamar Museum; Infrastructuring: Lina Bo Bardi, Teatro Oficina; Palimpsest: Lacaton & Vassal, Palais de Tokyo; Scenography: David Chipperfield, Neues Museum.

The categories presented here also correspond to differences in scale and the 'disciplinary approach' of intervention. Reuse projects presented as 'urban strategy' make the general programme and urban regeneration policies their central 'core' ; the projects presented here as a 'palimpsest' work on the theme of working with a profound balance between 'subtracting' and 'adding' with various gradients of intervention in the reuse project, from the almost entirely subtractive action of Lacaton and Vassal at the Palais de Tokyo to more complex and refined processes such as that of the Beckett Hall by the Catalan architects Flores & Prats; other projects focus, instead, on the 'superimposition' of a new layer on the existing datum without touching the building on which the project insists: as in the case of Sverre Fehn's project for the Hedmar Museum in Hamar in which the entire exhibition itinerary unravels and develops by detaching itself from the medieval ruins and establishing new contemporary signs that modify and enrich the spatial relationships that are established, or as in the case of de vylder vinck tailleu's 'PC Caritas' project that superimposes a new 'interior landscape' within the carcass of an old medical pavilion on the psychiatric campus of the city of Melle in Belgium; reuse as 'infrastructuring' acts with the insertion of new servant or technological spaces on the existing, making it respond to the required functions, like Harquitectes' project for the Lleialtat Santsenca Civic Centre in Barcelona, in which the design of the new hinges around a system of staircases and walkways structurally independent of the existing building constitute a public space inside the building for users; 'scenography' deals with re-use associated with museum, exhibition and performance operations, as for example in the emblematic case of David Chipperfield's Neues Museum , in which the project becomes a ground for architectural experimentation in the contemporary approach to reuse and restoration, integrating new and existing in an almost 'sartorial' manner.

The very same choice of the list of case studies is part of the research, with an iterative process of analysis and exploratory phase according to the expansion and contraction of the themes and of the 'area of interest' of the investigation. The case study selection, therefore, has developed choosing outstanding and recent projects from the European context, completed not more than 10 years ago, following the mentioned above subdivisions in 'design attitudes', in order to have the most comprehensive overview of adaptive reuse in contemporary European architecture (figure 4): for 're-use as Urban strategy' category were chosen the case of Barcelona's municipal civic centre network, Illa de la Pietat by Toni Girones and the complexes of public cloisters spaces in Reggio Emilia by Zamboni and associates; for 're-use as super-imposition' were analysed Lacol's La Comunal, a cooperative space in Batllo neighbourhood in Barcelona, and PC Caritas

by de vylder vinck tailleu in Melle, Belgium, together with Assemble's wintergarden in Liverpool; for 're-use as infrastructuring' were chosen the Lleialtat Santsenca civic centre by Harquitectes and Langarita-Navarro's Medialab Prado; as 'reuse as palimpsest' Sala Beckett by flores y Prats and the soon completed Wintergarden in Gent by Atelier Kempe Thill; for 're-use as scenography/montage were analysed BAAS's Oliva Artes in Barcelona and Alda Fendi Esperimenti Rhinoceros in Rome by Atelier Jean Nouvel.
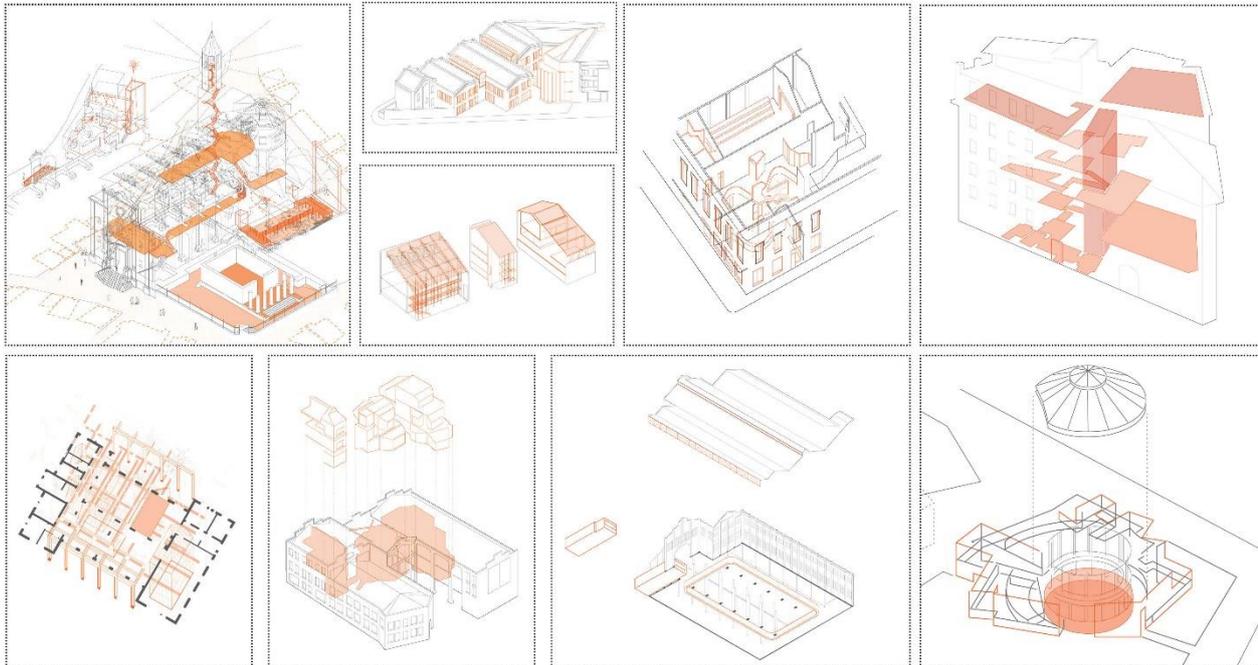

Figure 4. Case Studies selection. from above-left: "Illa de la Pietat" by Toni Girones; "La Comunal" by Lacol; "Sala Beckett" by Flores & Prats; "Rhinoceros" by Jean Nouvel; "PC Caritas" by de vylder vinck tailleu; "Medialab Prado" by Langarita Navarro; "Oliva Artes" by BAAS Arquitectura; "Wintercircus" by Atelier Kempe Thill.

4. Results

The investigation proposed here moves from a multi-instrumental approach whose objective is to understand the dynamics, the intervention methods and the actions put in place in the process of reuse of the analysed buildings, through a case study analysis that utilises different sources and tools, as mentioned before. The results of the data collection and reprocessing is a summary sheet for each case study (Figure 5), that allows comparisons and cross-readings, composed of: projects' significant data such as location, timings and description of the design processes, dimensions, costs and funding methods; graphic synthesis of design strategies (external demolitions, internal demolitions, interior refurbishment, new internal/external volumes, creation of external public spaces) and the building's new functional programme (offices, library/media lab, education, commercial, food/restaurant, entertainment/shows, exhibition, cultural events, cooperative spaces).

Particularly useful to our purpose was the elaboration, for each case study, of an analytical board with graphical schematisation that serves as a 'project identity figure' (CFR 2.2 – methodology and data collection) that provides a visualisation of the main design strategies towards the existing, allowing qualitative comparisons between the various case studies.
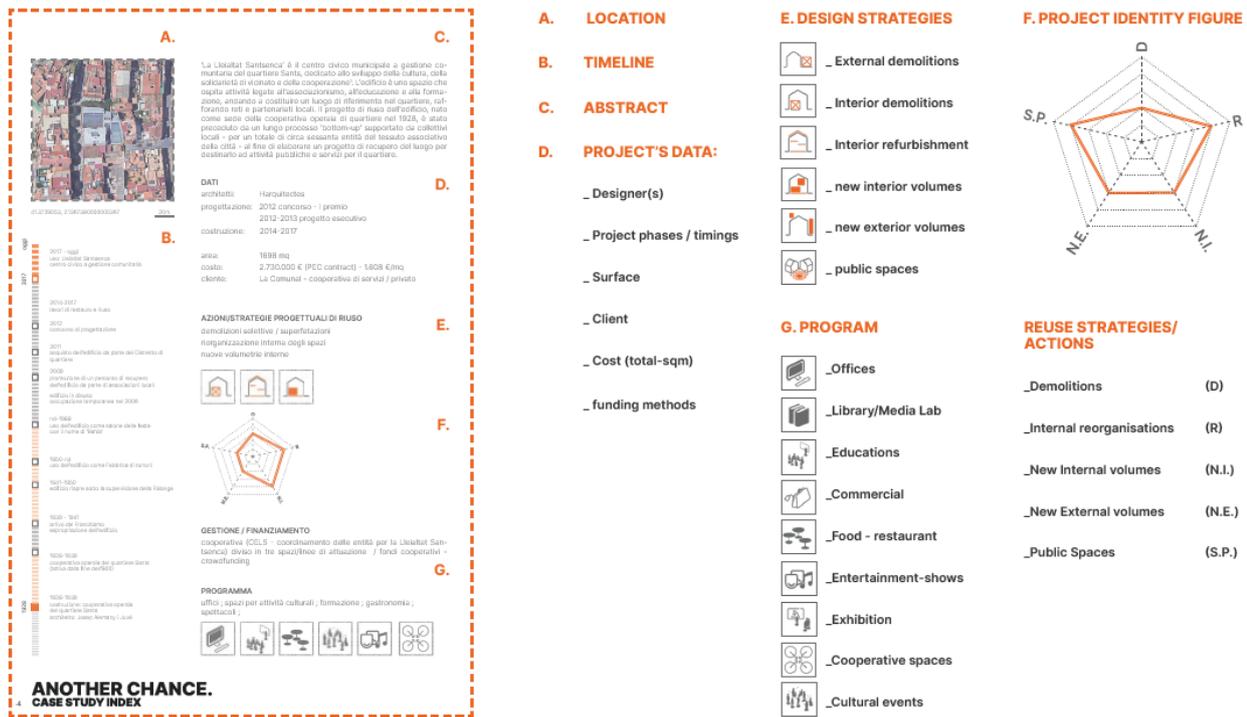
Figure 5. Summary board of the case study analysis.

The development of this process for all the chosen case studies drove us to analytic grid-like comparison tables (Figure 6), that allowed us to establish differences and parallelism between the various characteristics of the projects, such as the design attitudes, in orange, and the uses after the transformations, in grey, together with a qualitative representation of costs and dimensions data of the various projects. These aspects are of important relevance in our study because show how in front of a rich program and the importance of the design project, the costs are relatively low, and augment the replicability of the design strategies, considering that all the selected projects, acting on existing context, as mentioned before, contributes to urban regeneration and on saving resources.

Figure 6. Comparative study analysis.

5. Conclusions

The research 'Another Chance', in the path addressed so far, has shown how the theme of the adaptive reuse of the existing heritage is currently a growing phenomenon in the continental sphere, outlining a general framework of reuse as a contemporary aesthetic practice, that act in complexes of rich 'biographical' histories, made up of uses, abandonments and reuses in the various decades of their life; this gives us an idea of the fact that even the contemporary reuse project is to be understood with a view to 'temporariness', as a moment in the course of very long events, which will hopefully undergo other processes of modification in the near future. The research acts mainly at a qualitative level, through schematisation, re-drawing and graphical interpretations of the projects which aim is to depict a description of the reuse design strategies and attitudes, following a bibliographical tradition on the theme (Baum & Christiaansee, 2012; Bollack, 2013; Lanz & Pendlebury, 2022; Wong, 2016).

The use of quantitative data – building dimensions, costs, etc. – allows effective comparisons between the various projects selected as case studies and other typologies of projects.

The categorisations of the projects presented here as 'attitudes' and the proposed summary boards are useful tools to analyse and compare the various projects, and the boards allow replicability to other case studies and expansions and enrichment of the boards itself, being somehow 'open structured'. The grid for evaluating the design strategies of the various case studies is a 'proactive' tool when applied to applicative cases, providing information, data and correlations that are useful for dealing with design processes of reuse of the existing heritage for creative purposes, both from the point of view of the tools proper to the design of space and on the functional and processual aspects of urban regeneration. The article's contribution to social and/or economic dimensions of contemporary urbanisation is based on the understanding of reuse processes and strategies in contemporary European architectural urban environments.

Like numerous other research and publications in the field of adaptive reuse, the present one, given the methodological structure of the analysis of case studies, allows an applicability and a widening in the direction of an expansion of the analysed examples, to potentially form an 'atlas of adaptive reuse' that can be a useful tool both for research and for those who work in the construction sector and in that of policies for the city. Even the survey methodology - project sheet with analytical data and personal re-readings - can represent a field of further research development, in the sense of a refinement of the analytical apparatus of the design strategies, especially in the direction of technical investigations on the design strategies faced by the designers on the one hand, or on the economic-processual one on the other, in particular in relation to the aspects of environmental sustainability, going to investigate the relationships between reuse of the existing building and saving the ecological footprint of the construction, compared to similar new construction interventions. An important future research outlook that can enrich the research process object of the paper is the quantitative and qualitative comparison between the existing reuse and new construction, in the same typology of buildings - public buildings with civic-cultural uses.

Conflicts of Interest
The authors declare no conflicts of interest.

Data availability statement
The data that support the findings of this study are available on request from the corresponding author, F.C.

Ethics statements
Studies involving animal subjects: No animal studies are presented in this manuscript.

Studies involving human subjects: No human studies are presented in this manuscript.

Institutional Review Board Statement
Not applicable.

CRediT author statement:
Articles 1., 2., 3.2, 3.3, 4., and 6. are sole elaboration of author 1; Articles 3.1, 5., are co-authorships of authors 1 and 2; All figures are edited and property of author 1.

References

Aberdeen, T. (2013). Yin, R. K. (2009). Case study research: Design and methods (4th Ed.). Thousand Oaks, CA: Sage. *The Canadian Journal of Action Research*, *14*(1), 69–71. https://doi.org/10.33524/cjar.v14i1.73

Acar, S. (2018). Photography as a means of architectural (re)presentation and (re)production. *New Trends and Issues Proceedings on Humanities and Social Sciences*, *5*(6), 24–33. https://doi.org/10.18844/prosoc.v5i6.3692

Baum, M. (2014). *Re-use : From Exception to Normality: Re-use in Urban Development* (T. Rieniets, N. Kretschmann, & C. Salewski, Eds.; p. 154). Jovis. http://hdl.handle.net/20.500.11850/93647

Baum, M., & Christiaansee, K. (2012). City as Loft. Adaptive Reuse as a resource for sustainable urban development. ETH, gta Verlag.

Blasi, I., & Giralt, A. S. (2019). *European Union Prize for Contemporary Architecture*. Mies van der Rohe Foundation.

Blasi, I., & Giralt, A. S. (2022). *Mies van der Rohe Award 2022. European Union Prize for Contemproary Architecture.* (I. Blasi & A. S. Giralt, Eds.). Mies van der Rohe Foundation.

Bollack, F. (2013). *Old buildings, New forms*. The Monacelli Press.

Bollack, F. (2016, September). Reflection on the art of incomplete. *Area*, 4–11.

Caliari, P. F. (2010). La forma nel tempo. In S. Cattiodoro (Ed.), *Il fondamento effimero dell'architettura* (pp. 7–14). Aracne.

Chiacchiera, F. (2022). Cultural-led Adaptive Reuse for development of consolidated urban spaces. *11th ACAU 2022: Proceedings of 11th International PhD Students Conference*, 98–105. https://doi.org/10.13164/phd.fa2022.12

Corboz, A. (1983). The Land as Palimpsest. *Diogenes*, *31*(121), 12–34. https://doi.org/10.1177/039219218303112102

Fitz, A., & Lenz, G. (2015). *Architectural Photography and Its Uses*. Birkhauser.

Flores, R., & Prats, E. (2016). La disciplina dell'esistente. In P. Posocco & M. Raitano (Eds.), *La seconda vita degli edifici* (pp. 115–125). Quodlibet. https://doi.org/10.2307/j.ctt1w2f2t5.10

Flores, R., & Prats, E. (2019, July). SECOND HAND. *IQD*, 58–64.

Guidetti, E., & Robiglio, M. (2021). The Transformative Potential of Ruins: A Tool for a Nonlinear Design Perspective in Adaptive Reuse. *Sustainability*, *13*(10), 5660. https://doi.org/10.3390/su13105660

Kaczynski, D., Wood, L., & Harding, A. (2008). Using radar charts with qualitative evaluation. *Active Learning in Higher Education*, *9*(1), 23–41. https://doi.org/10.1177/1469787407086743

Lang, R. (2023). *Building for Change. The architecture of creative reuse* (gestalten & Ruth Lang, Ed.). gestalten.

Lanz, F., & Pendlebury, J. (2022). Adaptive reuse: a critical review. *The Journal of Architecture*, *27*(2–3), 441–462. https://doi.org/10.1080/13602365.2022.2105381

Lima, A. G. G., & Vieira, J. L. (2017). The process of redrawing as an instrument of knowledge building in architecture. *Revista Thésis*, *2*(3). https://doi.org/10.51924/revthesis.2017.v2.164

Lo Faro, A., & Miceli, A. (2021). New Life for Disused Religious Heritage: A Sustainable Approach. *Sustainability*, *13*(15), 8187. https://doi.org/10.3390/su13158187

Machado, R. (1976). Old buildings as palimpsest: Toward a theory of remodeling. *Progressive Architecture*, 46–69. https://api.semanticscholar.org/CorpusID:115251754

Massarente, A. (2016, September). Fragments of antiquity in modern architecture. *Area*, 144–149.

Mérai, D., Veldpaus, L., Pendlebury, J., & Kip, M. (2022). The Governance Context for Adaptive Heritage Reuse: A Review and Typology of Fifteen European Countries. *The Historic Environment: Policy & Practice*, *13*(4), 526–546. https://doi.org/10.1080/17567505.2022.2153201

Pelizzari, M. A., & Scrivano, P. (2011). Intersection of Photography and Architecture—Introduction. *Visual Resources*, *27*(2), 107–112. https://doi.org/10.1080/01973762.2011.568142

Plevoets, B., & Van Cleempoel, K. (2019). *Adaptive Reuse of the Built Heritage*. Routledge. https://doi.org/10.4324/9781315161440

Posocco, P. (2016). Modificare per conservare. In *La seconda vita degli edifici* (pp. 47–76). Quodlibet. https://doi.org/10.2307/j.ctt1w2f2t5.5

Stone, S. (2023). Notes towards a Definition of Adaptive Reuse. *Architecture*, *3*(3), 477–489. https://doi.org/10.3390/architecture3030026

Takahashi, A. R. W., & Araujo, L. (2019). Case study research: opening up research opportunities. *RAUSP Management Journal*, *55*(1), 100–111. https://doi.org/10.1108/RAUSP-05-2019-0109

Unwin, S. (2007). Analysing architecture through drawing. *Building Research & Information*, *35*(1), 101–110. https://doi.org/10.1080/09613210600879881

Walker, R. (1996). Reviews : The Art of Case Study Research, Robert Stake. London: Sage, 1995. 208 pp. £29.50 (hbk); £12.95 (pbk). ISBN: 0-8039-5766-1 (hbk); 0-8039-5767-X (pbk. *Evaluation*, *2*(2), 231–235. https://doi.org/10.1177/135638909600200211

Wong, L. (2016). *Adaptive Reuse*. De Gruyter. https://doi.org/10.1515/9783038213130

Wong, L. (2023). *Adaptive Reuse in Architecture*. De Gruyter. https://doi.org/10.1515/9783035625646

Yin, R. K. (1994). Discovering the Future of the Case Study. Method in Evaluation Research. *Evaluation Practice*, *15*(3), 283–290. https://doi.org/10.1177/109821409401500309

How to cite this article:

Chiacchiera, F., & Mondaini, G. (2023). Another Chance: Adaptive reuse of the built heritage strategies for circular creativity. *Journal of Contemporary Urban Affairs*, 7(2), 74-84. https://doi.org/10.25034/ijcua.2023.v7n2-5