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Towards Inquiry-Based Learning in Spatial Development and Heritage Conservation: A Workshop at Corviale, Rome

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Abstract: Situated local knowledge and co-evolutionary processes overtake certitude and formal planning, challenging the way (cultural) heritage is produced in terms of both space and knowledge. This article contributes to the debate surrounding planning education and research by exploring the potential of inquiry-based learning (IBL) in spatial development and heritage conservation. The main argument is that the IBL format presented herein enables interaction and cooperation between various groups and their diverse sets of knowledge. To that end, the IBL approach was implemented both through project work and by creating a specific learning environment encompassing theory, exhibition, places, and people, and in which a research process was realised by students through iteration and reflection. The contribution systematises the results of a 2021 workshop held in Venice and Rome, including at the Corviale housing complex (Rome). In seeking to respond to the title-theme of the Venice Biennale, *How will we live together?*, initial evidence shows that educational activities stemming from clear research questions and "embedded" ways of inquiry-based learning present remarkable opportunities for participants to improve their ability to navigate into fragile and uncertain futures of the territory, engaging students in a wider process of knowledge-building.

Keywords: community-based practices; heritage; sets-of-knowledge; public housing; inquiry-based learning

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1. Introduction

In the 1990s, UNESCO asked the French philosopher Edgar Morin to determine the main fundaments in education for the third millennium [1,2]. Morin described a future in which education must deal with complexity and uncertainty and suggested open dialogical approaches for knowledge-gaining and learning processes. The author provided a clear approach to complexity. Firstly, complexity cannot be reduced to simple principles. Consequently, it cannot be understood by a single person. Tackling complex challenges requires, instead, a multi-voice approach, reciprocal communication, and must incorporate many forms of knowledge, including those of various communities and the sciences [1,2]. All in all, these issues align with the often-recalled planning dilemmas, namely, the increasing difficulty to provide unique and certain solutions to a society that is more and more plural [3].

Moreover, the conjunction of existential threats arising from climate change makes it essential to incorporate factors of complexity and uncertainty in order to develop appropriate preventative measures, ensure preparedness, and response mechanisms. In respect to such issues, the recent ICSM CHC White Paper I: *Intangible Cultural Heritage, Diverse Knowledge Systems, and Climate Change* [4], details the characteristics and complexity of knowledge systems in the context of climate change:—the inaction to date and predominant reliance on scientific knowledge—and demands collaboration between diverse knowledge systems and ways of knowing in order to adapt to and mitigate climate change. In so doing, traditional cultures and local knowledge are seen as highly relevant [5].

As is widely documented, heritage matters are increasingly intertwined with spatial planning and development, creating (or striving for create) an "effect" that transcends the object itself to reverberate on a larger urban scale [6–8]. This locates heritage-related processes within the debate on planetary urbanisation, posing new questions about the legitimacy and coherence of dominant (Western) and authorised (institutionalised) conservation approaches [9,10]. In other words, the explosion of the current urban condition [11] has influenced not only the kinds of places and objects to be preserved but also conservation modalities, thereby forcing an opening towards the inclusion of plural cultures and actors.

Considering this multiplication of voices and interests, the complexification of the heritage sector is self-evident. Citizens create diverse forms of community organisation with regard to both material and immaterial realities, and the resulting exposition of communities' specific positions, discussions, and argumentations reveal many-sided realities. These processes require specific skills and abilities in order to enable actors to exchange and interact with each other, thereby developing creative solutions to potential conflicts and clashes. Local knowledge and processes that are related to the situation in situ thereby overtake certitude and formal planning, challenging the way urban heritage is produced not only in physical terms but also in terms of knowledge. In other words, the involvement and engagement of communities enable collaboration and co-production of knowledge, a practice that is now at the forefront of both spatial development and heritage conservation [12–14].

On the other hand, in heritage development and management, uncertainty is a condition intimately connected to its processual nature, constantly in transition towards new significations and uses [15,16]. Moreover, as noted by Sarah May and Cornelius Holtorf [17], the capacity to grasp future ethical and practical implications and to manage uncertainty declines with increasing time frames (e.g., long-term implications for heritage or climate on the scale of millennia). In both cases, uncertainty also entails trajectories of creativity and innovation that require experimental and research-oriented approaches.

In this context, the field of education must also employ teaching processes that are able to deal with the presented issues, enabling researchers and practitioners to work with the challenges imposed by complexity and uncertainty. However, the introduction of such considerable complexity and uncertainty is likely to overwhelm individual actors, thus resulting in confusion rather than workable solutions. In our opinion, this undoubtedly requires the systematisation of such learning processes, in contrast to the types of project work commonly seen in heritage and planning education.

This article therefore explores inquiry-based learning (IBL), an important educational approach that takes into consideration the challenges of complexity and uncertainty as it shifts from teaching to learning [18]. In so doing, we applied IBL in an experimental way, during an educational experience held between September and December 2021 in Venice and Rome, including at the Corviale housing complex (Rome). Based on a collaboration between Roma Tre University (Rome) and Humboldt University (Berlin), the article thus reflects on the potential of community-based and inquiry-based learning (IBL) in spatial development and heritage conservation, while also concluding the educational "circle" suggested by IBL.

The following section defines the theoretical background, exploring on the one hand the linkages between complexity and uncertainty in the field of architecture and heritage, and on the other, the relevance of IBL to these sectors. Section 3 introduces the methodology applied in the workshop, highlighting the correspondences between the workshop process and theoretical considerations. Section 4 then describes the workshops held in Venice and Rome and their outputs. The concluding section highlights some of the factors that, in our opinion, make IBL a promising approach for tackling spaces and times of uncertainty, and thus a valuable means of revitalising teaching methods in schools of architecture and planning.

2. Theoretical Background

From Complexity and Uncertainty to Inquiry-Based Learning

As mentioned above, in recent years, the multiple perspectives of diverse actors have become increasingly relevant at the intersection between urban development, heritage, and landscape conservation. Considering the expansion of these professional disciplines to incorporate stakeholder involvement, the idea of a flat ontology for spatial planning proposes a means of transcending the dualism of top-down/bottom-up approaches, establishing the basis for a more horizontal approach to spatial issues. According to this notion, "knowledge is always situational, depending on time and place, fundamentally relational" [19]. The relational turn affecting the city thus requires the capacity to understand immaterial and volatile bonds, grounded in uncertain territorial configurations. In other words, no pure or generic understanding is conceived beyond objects and research (Ibid., p. 5).

Considering heritage as future-making practice, this goes beyond space to also incorporate temporal (present) factors [20,21]. Over time, the changing of meanings, (re)uses, and values reflect the complexity of "urban contingencies", underlining the urgency of an adaptive approach to heritage, planning, and management. Although the ascribing of "heritage" status results from selective and political deeds of recognitions concerning which stories to keep and what to discard [22], today, the over-production of buildings—and the vast array of assets that potentially merit preservation—requires advanced abilities to question, compare, select, and interact among plural bodies of knowledge and (urban) materiality, as it is no longer formalised heritage administrations alone that handle our built infrastructure as heritage [23]. All in all, the rise of complexity in heritage is strongly interlinked with planning-related issues, thereby requiring analytical tools and methods to understand interactive and co-evolving urban systems [24]. The implications of the horizontal approach call for changes in the heritage design and management of the different phases. The traditional "project" is thus transformed into a knowledge tool that represents the conditions and limitations of the extant while describing desired future outcomes.

Furthermore, the speed of change triggered by climate change necessitates dealing with (un)predictable loss of assets and/or landscapes [25,26]. Seemingly, in the field of spatial development and heritage conservation, change is the dominant factor, but with additional uncertainty concerning the types of change, when they will occur, and who will be involved. In spatial development, various concepts, including strategic planning, have been implemented to address the uncertainty of change. In heritage conservation, change-management is understood as managing the interrelationship of heritage values, fields of action, and measures of structural interventions. Decision making is based on the systematic recording of heritage values and significance. This approach to heritage management involves considering how the loss of a monument's significance can be minimised in the case of interventions while achieving the objectives of proposed architectural interventions [27]. It is clear that change and loss are indivisibly interwoven, and therefore the task of managing change is one of controlling such losses. However, how can we control for something that is inherently unpredictable?

Considering the processual nature of discourses based on change, active participation has increasingly emerged as a prerequisite of more just and co-operative processes of transformation, having the capacity to create new urban commons [28]. If architecture is not merely an object but rather "a creative process that gives rise to the environments we inhabit, and the way we perceive them" [29] (p. 10), then the acquisition of knowledge is a double process of studying and transforming objects. In Ingold's words, an "architecture of inquiry" [29] shares an anthropological approach to knowledge-building, due to its dynamic (and often unmeasurable) nature.

With regard to these dynamics, inquiry-based learning (IBL) offers a form of learning aimed not so much at providing the "correct" educational formula, but rather as a means of supporting a "learning to learn" approach, grounded in a process of self-discovery through a more embedded relationship with real situations. Learning is understood as a self-organised process that orientates along self-reflective and discursive inquiry

embedded in a field of actors and agency, and thus equips students to deal with real-world complexity. In contrast to project-based methods in planning education, the research stages to be navigated in IBL are therefore central. These can be grouped within three categories: (1) developing the question, reviewing the state of research, and defining the problem; (2) designing the research plan/clarifying the methods, conducting and evaluating the research, and classifying the results; and (3) evaluating, reflecting and presenting, explaining, and publishing the results [30] (p. 107). Within the IBL discussion on education, these formats are defined as community-based learning [31,32] and aim explicitly for collaboration between academia and local communities to co-produce knowledge—in our case, knowledge about using and living in a building that is a legacy of Modernism.

Overall, IBL has been increasingly discussed over the last 10–15 years as an idea for guiding didactics, and fundamentally refers to the unity of research and teaching in higher education. It builds on multiple didactic approaches, ranging from situational learning to project studies, but nevertheless differs from them [30,33]. "Research-based learning is distinguished from other forms of learning by the fact that learners design, experience and reflect on the process of a research project, which is aimed at gaining knowledge that is also of interest to third parties, in its essential phases—from the development of questions and hypotheses to the choice of methods and the inquiry to the presentation of results." [33] (p. 11).

In doing so, IBL aims to strengthen students' ability; by emphasising the research process, students learn in a systematic way to deal with complexity and uncertainty (of results)—a novel outcome in architectural and planning education.

As Albrecht [34] notes, IBL is uncommon in schools of architecture, due to their focus on project work. However, the author advances the idea that IBL could be concentrated in immersive and systematic teaching experiences, thereby benefiting students' methodological skills. Along with this, scholars agree on the capacity of IBL to foster so-called "21st-century skills", i.e., creativity, innovativeness, collaboration and communication, critical thinking, problem-solving, or decision making [35]. All in all, these capacities are depicted as increasingly important in the light of the pace of global change [36], and particularly with respect to the growing necessity for collaboration not only among diverse communities but also among human and non-human actants, to face the manifold challenges related to climate change. Beyond its applicability to studying technical fields such as energy [37], IBL is considered a promising approach to climate change education, impacting on students' feelings and potentially sustaining pro-environmental behaviours [38]. Similarly, greater awareness of climate-related issues is also needed in spatial development and heritage conservation.

3. Materials and Methods

The workshop resulted from a collaboration between Roma Tre and Humboldt Universities, within the context of a European project titled *OpenHeritage–Organizing, Promoting and ENabling HEritage Reusethrough Inclusion, Technology, Access, Governance and Empowerment*, exploring the (social, economic, territorial) potentials of community-driven heritage transformation [39]. Nine students were selected within the Department of Architecture at Roma Tre University through an open call launched in July 2021. The teaching team, formed of the three co-authors of this article, and supported by researchers at *Laboratorio Città Corviale*, included experts and researchers working at the intersection of spatial planning, architecture, and heritage.

Following our hypothesis, namely that IBL supports the education of students in heritage planning dealing with complexity and uncertainty, the workshop mirrored the IBL phases, to test its validity in this context. It therefore followed a three-step and objective-oriented methodology. While these moments are described in detail in the following section, it is worth noting that students were provided with some basic materials to facilitate the organisation and finalisation of their results. The most fruitful stage was a visit to the 17th Venice Architecture Biennale (2021), using the exhibition as a source of existing global knowledge on its main theme of: *How we will live together?* The Biennale

provided the first of various sets-of-knowledge (international case studies), mirrored in the students' work. The teaching team thus supported the study through a series of collective discussions (online and offline) throughout the duration of the workshop, from September to December 2021. Crucial to the workshop delivery is the role played by *Laboratorio Città Corviale* (hereafter, Corviale Lab), which has been operating in the Corviale neighbourhood since 2018, re-establishing here new levels of publicness [40]. The opening of this space corresponds to the necessary changes in supporting transformation, didactics, and research, given the changing context of inquiry. The approach mentioned above, of inquiry and immersion, requires proximity to contexts. This was one of the main drivers for establishing the Corviale Lab, bringing the university's activities into the neighbourhood where this approach can gain its full concreteness and empirical evidence [41]. Corviale and its lab constitute the second set-of-knowledge (people and place) that was part of this educational format. The Lab's location, near the market and a community of artists and craftspeople, also enabled direct relationships with inhabitants, facilitating exchanges with students and visitors. Aligning with other European experiences that operate in large scale social housing estate, it is not just a physical space but an "interstice" that works at the margin of the system it interacts with, activating relationships and connections [42]. In addition, in the context of the workshop, it has thus enabled students to move quickly from the experience of the Biennale to that of Corviale. Following the metaphor of a pilot book (*portolano*) and of its complex routes, it can be said that Corviale Lab was the landing place on a continent already equipped and organised for reception, exchange, and shared reflection.

4. Results of the Expanded Workshop

4.1. Pre-Workshop and the Biennale Exploration

The work was developed in two main phases that concluded with a third stage dedicated to dissemination, including both the oral presentation of results by students and the reflections presented in this paper. The work was thus structured into three object-oriented tasks that aimed, respectively, to set the theoretical ground and highlight cultural trajectories of design; analyse, test, and critically re-think Corviale; and to communicate the results.

An online preparatory phase anticipated the various associated activities. This ultimately consisted of recapping the common cultural background, built among almost all the participants during the Urban Studies course convened by Giovanni Caudo at the Architecture Department, Roma Tre University; and an initial collection of further texts, articles, and experiences related to the 2021 Biennale, thereby providing the third set-of-knowledge (theory). Identity and commonality are some key concepts that built the link between the theoretical basis for the collective reflection offered during the Urban Studies course and the possible keys to approach the Biennale.

The workshop *Common future: Glimpses on how we will live together* (Figure 1) provided the opportunity to experiment with IBL approaches by contributing responses to the (research) question posed by the Biennale's title, *How will we live together?*. The overarching objective was to contribute to the international debate on spatial development, using the exhibition as a source for various approaches, discussions, exhibits, and much more, on the overarching theme of the Biennale.

The visit focused on the construction of a personal path of inquiry, with students building their own set of references comprising books, images, and projects. Navigating the Biennale's numerous stimuli, students were asked to produce a conceptual map, namely a pilot book (*portolano* in Italian) in which they designed their own route of investigation (Figure 2).

The results were collected, shared, and systematised to explicit, recurrent design trajectories to be used as the theoretical basis for the second part of the workshop. Attending the exhibition offered the opportunity to address the initial phase of IBL (i.e., developing the question; reviewing the state of research; defining the problem), thereby orienting a common understanding of contemporary urban issues. Drawing on the various *portolano*,

the following theoretical categories were established, which served to critically investigate the complex reality of Corviale: adapt things; make knowledge; inhabit thresholds; engage the rural; place oneself in the flow; treat the soil; gather things and/or people; foster diversity; be open to the possibilities of play; recognise and harmonise different rhythms.

Considering the set of reflections presented hereafter, the exhibition also served to recreate teaching and professional tools, advancing their reorganisation through experimental educational activities.

Figure 1. Poster for the workshop, providing information about the workshop e.g., the topic, the first three meetings (online, in Venice and Rome), and how/by when to register.

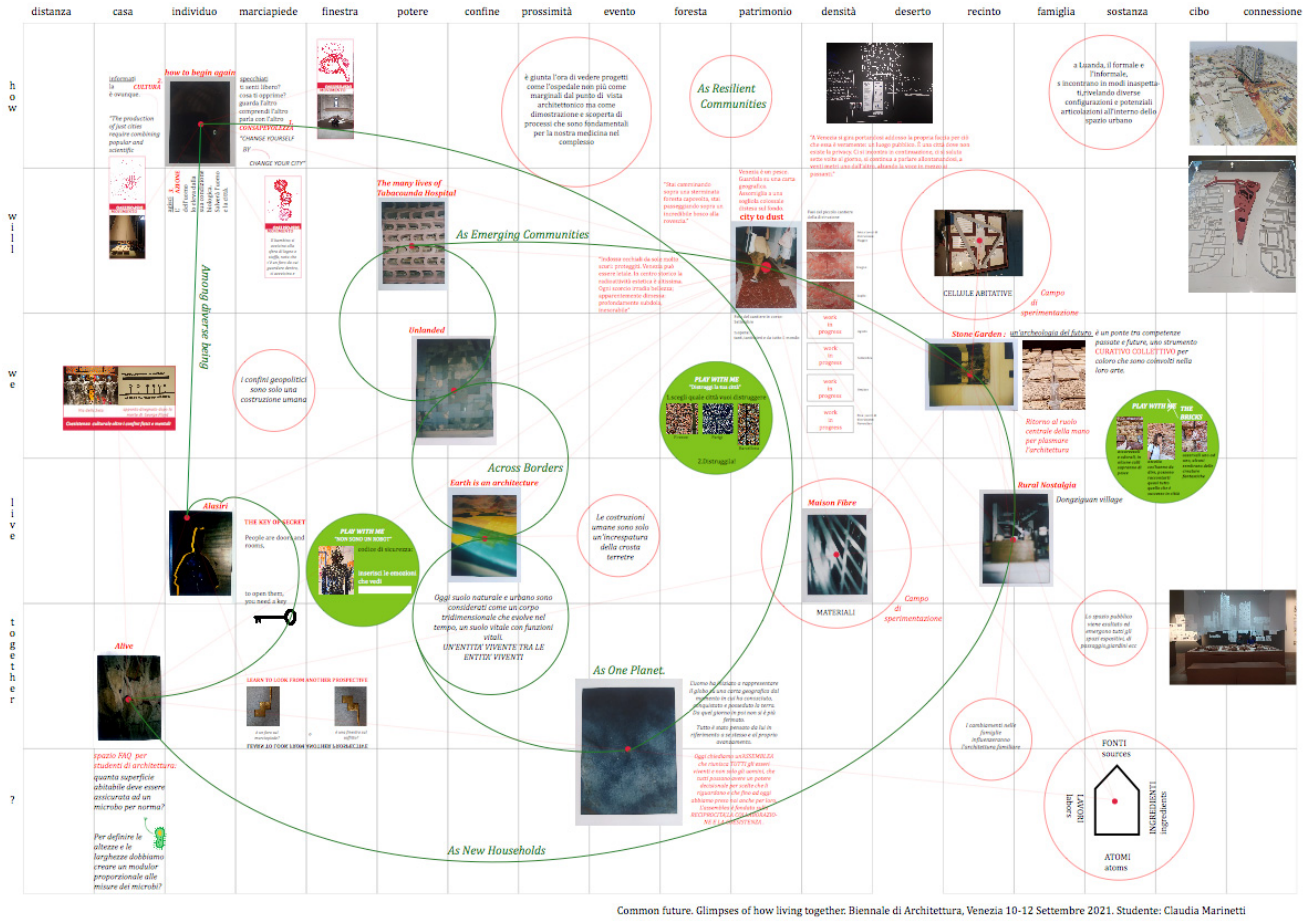

Figure 2. *Portolano* by Claudia Marinetti. The work presents a transcalar interpretation of contemporary urban and architectural issues, connecting different projects exhibited in the Biennale. The spaces of play become devices to reflect on spatial re-appropriation and ways of coexistence between human and non-human beings.

4.2. Rome: Exploring Corviale

In Rome, the workshop consisted of an on-site investigation of Corviale, a public housing complex located in the south-west periphery of the Italian capital. Corviale opened in 1983 and is one outcome of a national strategy launched in the 1960s that aimed to solve the housing shortage by constructing a new public district (Zone Plan no. 61, Law no. 167 of 18 April 1962, setting the rules for the public acquisition of areas to be developed through public housing projects). It is one of the most widely recognised symbols of the production of public cities in Rome and beyond. Corviale formed part of the first Plan for Economic and Social Housing in Rome (PEEP) and was designed for about 6800 inhabitants, with public facilities of 50 square meters per inhabitant, far above the legal minimum of 18 square meters. Of the 60 hectares of land, 36% is used for services and only 7% for buildings. This is the most striking feature of Corviale, a single urban building almost a kilometre long and nine storeys high, with a street of shops and public services, professional studios, and community spaces running through its interior. It acts as a barrier at the edge of the built-up city and faces west, towards the sea and the Roman landscape, the Valle dei Casali. This creates a scenario in which nature, agricultural, and urban activities merge, forming an entirely modern landscape with the Roman countryside. A neighbourhood characterised by an extreme duality between density and the rarefied has come to be seen as a radical architectural exercise [43].

The project, designed by a team led by Mario Fiorentino, develops at the margins of the existing urban tissue and unfolds within a ring that provides access to a complex distribution of streets and public spaces (Figure 3).

Figure 3. Corviale perspective view.

Conceived as a machine for living together, Corviale is composed of three main residential bodies and a nearby cooperative housing project. Crossing the area longitudinally, the first building is an 11-storey construction, well known for being almost 1 km long. It is accessed along five secondary axes that intersect the building transversally, defining residential management units (Figures 4 and 5).

However, the defining characteristic of this element is the fourth level, commonly known as the *piano libero* (free floor). Originally intended to host public and commercial functions and services, it never functioned as such and, consequently, was squatted soon after Corviale opened (around 1989).

Running parallel to the main body, the second body (shorter and smaller) includes different typologies of apartments and a sequence of public spaces and services oriented toward the countryside. Finally, a diagonal building was originally intended to connect the complex to the closest neighbourhood; the triangular shape, a supermarket positioned at the end of this building, was designed in continuity with the rest of the complex, hosting one of Corviale's service corridors, ideally opened to the rest of the city. Although the supermarket was built and is still operational, this connection was never realised; on the contrary, the supermarket is an autonomous structure, intentionally detached from the housing complex, tracing a sharp division with the rest of the territory.

Embodying principles of the Modernist movement in architecture and thus following the fate of its contemporary oeuvres, Corviale is reckoned as a post-WWII monument. Today it is shortlisted in the Italian Architecture Census of the second half of the 20th century, which collects contemporary architecture considered of historic and artistic value [44]. However, the complex remains unfinished and has become a symbol of public failure, criminality, and growing despair. Since the 1990s, Corviale became a major field of political confrontation. Depicted as a modern monster, right-wing narratives oriented the public debate towards demolishing Corviale, presenting it as symbolising a failed leftist vision of architecture and urbanism [45].

Figure 4. Corviale construction site. Photo: Aldo Feroce.

Figure 5. Corviale main building. Photo: Giulia Tomassetti.

Although the "Corviale problem" (Ibid.) was eventually tackled through diverse regeneration projects (the Green Kilometre but also "*Regenerare Corviale*" by Laura Peretti Architects [46]), the complex still poses open questions. Nowadays, Corviale's reality is also characterised by its aging population and underuse of both its public spaces and residential units. On the other hand, the complex's extreme architecture has gained growing popularity, enhanced through a body of both bottom-up and professional artistic productions. How can a new residential project be pursued along with an up-to-date social project? How does this fixed and enormous structure (self)respond to contingencies and needs in times of uncertainty? Which instruments or trajectories might be followed in order to make its idea of "living together" more open and sustainable?

4.3. Studying at and with Corviale

At Corviale, the group of students was hosted by the *Laboratorio Città Corviale*, a research laboratory promoted by the Department of Architecture at Roma Tre University together with the Lazio Region Department of Social Policy (coordinated by G. Caudo and F. Careri, see project website for further details [47]). Whilst it aligns with other pedagogical and research environments developed in Italian public housing districts such as San Siro (Milan) [48] and Villa Mirafiori (Turin), it primarily has an operative role in the heritage regeneration. The Corviale Lab was established in 2018 to support the process of regularising and transforming the fourth floor, which was initiated the following year according to the Green Kilometre (GK) project. Designed by Guendalina Salimei, the GK is part of a wider regeneration programme (i.e., *contratto di quartiere*) that has foreseen the reuse of the fourth floor through a combination of regular housing units and public spaces. Considering the peculiarity of the situation, difficulties associated with resident relocation were exacerbated by conflicts between regular and irregular inhabitants, likewise by various forms of criminal activity. For the transformation to happen in a sustainable and peaceful way, therefore, the restoration plan was conceived as a process per block, temporarily relocating the residents and resettling them once the restored dwellings are completed, and was accompanied through the social work of the Lab (only persons whose circumstances – e.g., low income – qualify them for public housing are reallocated at Corviale); its main aim is indeed to establish a dialogue with "displaced" residents, and to mitigate the trauma of the overall operation by connecting the many territorial actors around Corviale towards further trajectories of development. The Lab functions as a mediator between social and public parties, developing a multiplicity of projects across the cultural, educational, and social innovation sectors. Corviale Lab has thus emerged as an indispensable tool for implementing urban renewal. About half of the planned houses have been built and 70 families moved, involving three main steps: a thorough and direct knowledge of the inhabitants of the houses, including identifying community leaders; person-to-person dialogue to explain the project, its timetable, and the modalities of moving to other homes, to allow demolition and reconstruction; and finally, these actions were complemented over time by cultural initiatives, book presentations, and performances that involved residents and the community in moments that had a distinctly playful character.

The Corviale Lab therefore offered an urban *dispositif* to dive deep into the context, tailoring the definition of the research plan and methods of the workshop on one side, and conducting, evaluating, and then classifying the research results on the basis of its real-time experience.

Students' observations were conducted through photographic investigation, drawings, texts, and by chatting with inhabitants, including a site visit to new dwellings and to the *Memories Exhibition*, one of the projects developed by the Corviale Lab aimed not only at documenting the dwellings' renovation, but also at creating a new common story, drawing on ordinary heritage materials and practices. The results were grouped around some key concepts that served to disassemble and reshape Corviale's figure, creating a new physical and theoretical unity that helps to show some alternative approaches to maintaining a thriving community within this remnant of the Modernist movement. As part of this

IBL, the local Corviale Lab team (Sara Braschi and Sofia Sebastianelli) supported students' discussions and self-reflection processes.

4.4. Outputs

The results were collected by means of two drawings. The first presented an initial analysis of the complex, illustrating the multiple dynamics, both formal and informal, occurring within Corviale. The second reassembled Corviale according to the categories that emerged from the Biennale, and thus depicted spontaneous or formal design approaches. Evidence repeatedly indicated that the complex functions as infrastructure, whereby different typologies of spatial surplus have served to provide space for testing unplanned solutions—whether in terms of housing, (cultural) production, public space, or the creation of heritage. Situated knowledge—created and recreated by the communities—was identified by the students, as well as the multi-realities created and recreated in social and spatial forms. According to different temporal factors, means, and human and non-human actants, the new assemblage proposed by the students illustrates that the "fragmented redundancy" of Corviale sets the scene for configurations grounded in more open and vital relationships between fellow inhabitants and spatialities, defining transitional spaces towards new forms of co-habitation and co-production (Figure 6). Students' investigations returned signs of change taking place in Corviale; these sometimes pertain to small details that act as a further stratification in the temporal process of the building-city, providing insights that are even more significant if considered in relation to the rigidity of the machine for living conceived by Fiorentino.

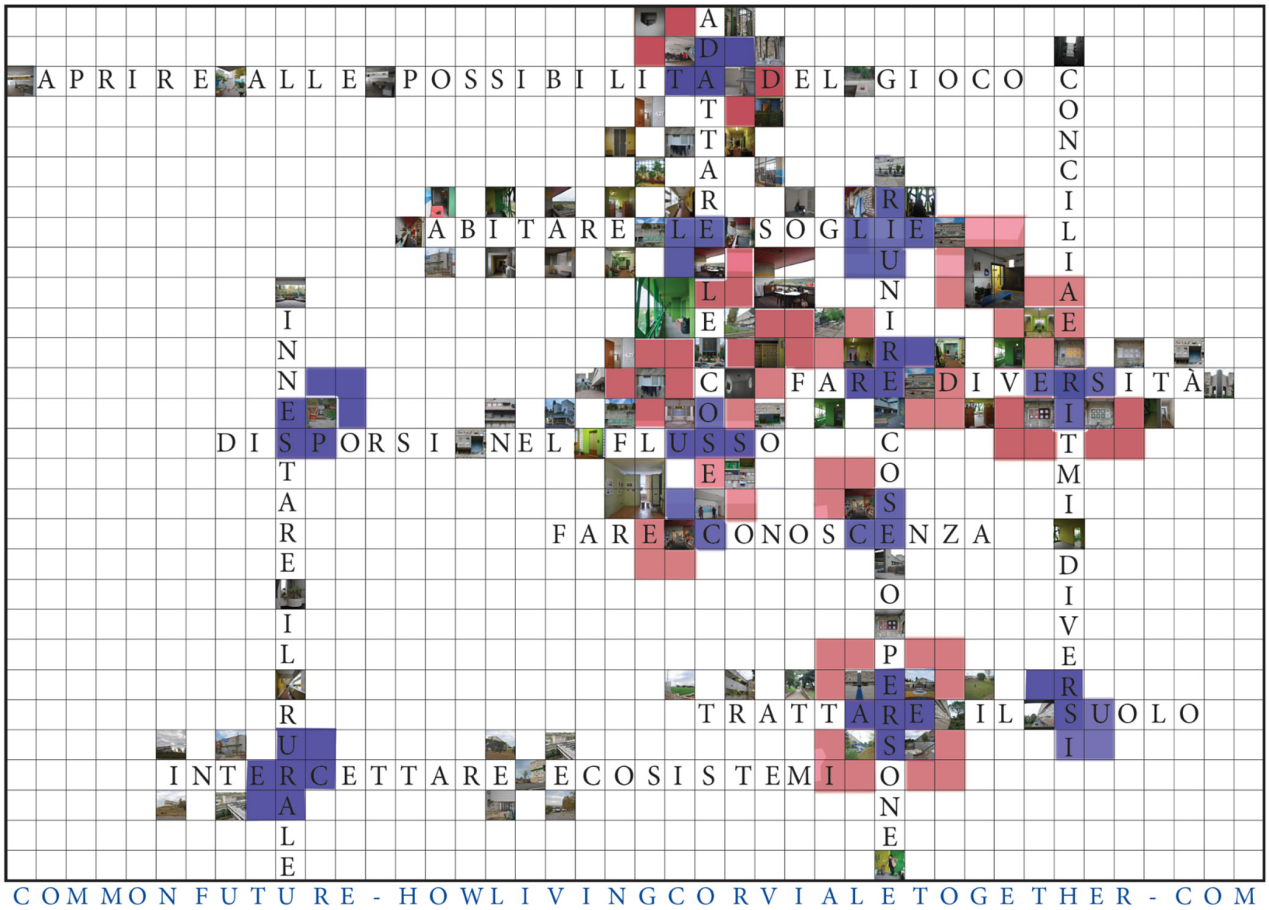

Figure 6. Final assemblage of Corviale, proposed by students, including a selection of the most significant photos took during the photographic campaign at Corviale and clustered according to emerging themes.

The final reflections of the workshop were thus presented via a seminar held in December 2021, organised by NABA (*Nuova Accademia delle belle Arti*) and the Department of Architecture at Roma Tre University. The workshop emerged from a wider experience, initiated in February 2021 through collaboration between these two institutions, that produced a video for the Italian Pavilion, presented during the 2021 Biennale. Although not fully independent, stage 3 of the IBL (i.e., presenting, discussing, and publishing the results) will thus conclude with the publication of this article summarising the process.

5. Discussion

This paper presents the IBL approach as a learning format and opportunity to follow individual research questions inspired by the Biennale and to learn from the exhibits, taking into consideration related theoretical discussions in the field. Corviale and the community orientation at the site allowed the co-production of empirical knowledge about how this architectural heritage, as an enormous, fixed structure, offers situated contingencies and fulfils people's needs in times of uncertainty. The students experienced a learning and research environment that itself is a co-evolutionary process.

In doing so, we posed ourselves some uncomfortable questions, focusing on why IBL and embeddedness is so important in teaching architecture, heritage, and planning in times of complexity and uncertainty. Furthermore, the article shows that IBL supports education in heritage and planning by systematising the process of collaborative action [28,29] and learning [16,27,30].

From this viewpoint, the three stages of IBL provide a way to establish a systematic correspondence between learners and the object of study (see for instance phase 1: formulation of personal research question, etc.), blending students' observations with their proactive participation. However, the adoption of the IBL approach presents opportunities to follow *trajectories* of design, uses, and reuses, and to take into consideration the complexity of our world both in terms of its "living aspects" (communities, but more generally actants) and emerging climate challenges. At the same time, this has contributed to opening up the academic discourse by presenting students as operative subjects of the international debate on *how will we live (learn?) together*, and also as co-makers of the future Corviale together with the community there.

Initial evidence collected during the workshop itself indeed confirms that educational activities stemming from clear research questions and "embedded" ways of inquiry-based learning present remarkable opportunities for students, as much as teachers, to increase their ability to navigate into fragile futures with flexibility and critical (self-) reflection.

The "double movement", in Rome and Venice, also serves as a *dispositif* to build knowledge-bridging theoretical (studying) and practical (transforming) domains by means of research. In this view, it is worth noting two aspects: firstly, the central role of international collaborations and/or linkages with institutions such as the Venice Biennale to advance "ready-for-use" results from educational activity; secondly, the presence of an on-site laboratory such as the Corviale Lab as a supportive tool for immersive educational and design experiences, both of which are increasingly in need of constant experimentation and presence in the territory. All in all, the research results also represent an important incentive for the Corviale Lab team to further develop the lab itself—both in terms of method and operational purpose—to support teaching in a systematic way. The integration of temporal aspects, tacit knowledge, and co-production of knowledge with communities as part of higher education curricula thus pairs with those requirements that are believed to be crucial in education not only for understanding the kinds of places and objects to be preserved but also to constantly update conservation practice, its values, and meaning. The contribution shows how this community-related IBL format allows researchers to consider what bonds together the residents of Corviale and forces an opening towards the inclusion of plural sets-of-knowledge, cultures, and actors in education processes. Indeed, this investigation is underpinned by assumptions that the built environment cannot be conceived of merely as an object or a composition of objects but rather as co-evolutionary phenomena to be

followed along real and imagined lifelines [49] and which, as such, displays the complexity that Edgar Morin addressed in his work [1,2].

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