

Editorial

Participation: A Disciplinary Border for Architectural Research and Practice

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Abstract: This editorial note provides an extended summary and transversal analysis of ten articles gathered for the 2022 Special Issue on participation in contemporary architecture. The call for contribution circulated in June 2021 attracted papers from Central Europe (n = 8) and North America (n = 2), and presents an overview of ongoing practices and research in participatory architecture in these areas. The Special Issue aimed to study the connections between disciplines and gathered nine empirical cases and one literature review. In this editorial note, we first analyze these contributions to better understand the nature of architecture in participating in the profiles of end-users and project teams, and the scale of the projects. Secondly, we highlight four lessons taken from these practices and studies: we emphasize how participation in architecture (1) emerges and operates in interstitial spaces; (2) often deployed for and with “vulnerable” end-user groups, this “vulnerability” provides power and originality to processes and outcomes; (3) inspirational principles, guides, and frameworks are produced as outcomes; and finally, (4) social architectures are deployed beyond tangible concepts through a multilevel relationship to pedagogy. Finally, we observe that reflections on gender, politics, decoloniality, and disciplinary transfers remain underexplored and need to be explicitly studied and integrated.

Keywords: participation; participatory processes in architecture; collaboration; co-design; user involvement; architectural practice; architectural research

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1. Introduction

Participation can be metaphorically considered as a disciplinary border. A border, in the sense of Richard Sennett, is defined as: “a site of exchange where organisms become more interactive” [1] (p.227). As a site for such exchange, participation converts the disciplines’ sometimes strict boundaries into soft borders, where engagement towards the inside and the outside declines into exploratory and plural practices. Those borders are active, alive, dynamic, and creative ecologies. Participation thus generates opportunities for experimentation, enabling and creating new forms of engagement between parts. However, borders are also places of resistance and ambiguities, failures and tensions, repetitions and transformations [1], and from these social encounters new problems arise between humans and non-humans, thus questioning their ecological nature.

In this Special Issue, ten articles show how participation in architecture re-questions the disciplinary and spatial boundaries, and how to transform them into active interdisciplinary borders. They also reveal issues created by participative approaches (such as power relations between participants), or help identify the resistance still offered by normative structures and the limited impact participation might hold on architectural programming and design in the long run. Sennett reminds us of the incompatibility of normative structures when it comes to collaborating and co-creating [1]. In contemporary architecture, participation as a form of social process faces this dilemma: it evolves in and

generates unpredictable, organic, and transformative social encounters, while still operating (most of the time) with and within normative contexts.

As expressed in the call for papers, we wanted to shed light on recent research and practice in participatory architecture. In addition, we wanted to see whether there are disciplinary knowledge transfers towards architecture, from close and related (design) disciplines. Are there any adapted, renewed tools, methods, environments and models of interaction and participation tailored explicitly for, and transferred into, the architectural field? How is participation in architecture put into practice? Additionally, more broadly, what does participation in architecture mean, and what is the participatory space offered to the users in architecture today? Some of these questions find answers in this Special Issue, others remain to be explored. Beyond that, the ten selected contributions reveal new insights and raise new questions about participatory architecture today, while demonstrating the shifting nature of contemporary architectural research and practice.

This Special Issue gathers cases from urban planning, hospital management, cultural heritage policies, semi-private restrooms spaces, retirement homes, age-friendly neighborhoods, and social housing. Integrating participation, it expands the traditional understanding of architecture and covers other space–time forms. However, research on participatory architecture presented in this Special Issue only illustrates work carried out in countries from Central Europe (Belgium (3), France (3), and United Kingdom (2)) and North America (Canada (1) and the United States of America (1)), despite our efforts to collaborate with other areas of the world.

Nine research papers building on empirical studies and one review together offer a view of how participation is practiced and researched in architecture. All authors highlight the interdisciplinary or multi-actor nature of (more often than not) project-oriented research. All empirical contributions are exploratory by nature, either explicitly expressed as such or not. They present a limited physical impact on the long-term built environment, but rather yield transformative architectural experiences for individuals and communities, enabling real social and cultural changes. The papers gathered here show that participation remains a highly context-based experiment, trying to articulate a multi-actor set of complex, and sometimes irreconcilable, perspectives.

This editorial note offers both a global and transversal view of these contributions. After a crossed summary of articles, a transversal lecture allows us to extract four lessons learned from the documented practices: participation is (1) still maneuvering in interstices; (2) keeping vulnerabilities in good sight; (3) still looking for principles and guides; and (4) constantly nurturing a social stance on architecture.

2. Anatomy of Papers

Beyond the abstract proposed by the authors, a short summary of each paper is presented here, shaped by the prism of questions that arose from our Call. This exercise helps to map these papers and understand the current nature of research on participatory architecture, as well as the current nature of participation in architectural practice. In each paper, we want to determine who is the end-user, what is the scale of the project, and the suggested vision of architecture and of participation. When possible, we situate papers in regard to their research strategy and to the relationship researchers hold with their empirical cases. This cross-analysis of papers reveals that some contributions are design-process-oriented, whereas others are design-outcome-oriented. Between the lines, we also point out the main original contribution(s) of each article, at least considered through the lens of participatory architecture.

The Challenges and Advantages of Implementing a Lean-Led Design Approach

In her paper, Chbaly [2] introduces Lean-led design as a strong participatory alternative, likely to fundamentally help re-shape complex design projects such as those implemented in healthcare-related fields. Lean principles adapted to healthcare ecosystems transcend beyond the hunt for unnecessary waste: although initially considered for the late operational phases of a project, the Lean-led design model suggested here is seen as

a patient-centered approach that aims to optimize architectural environments, understood as complex processes augmented by safe, empowering, and supportive spaces. Digging deeply into a large case study (The New Hospital in Quebec), Chbaly conducted archival analysis, interviews, and five “kaizen” workshops, nurturing a transparent, research-action-oriented analysis of the Lean-led design approach. Similarly to other participatory models, she lists five important advantages that tend to balance four recurrent limitations (including a lack of resources and time, lack of “know-how”, and turned-over or dominating actors); moreover, she delineates modifications of power balance likely to occur between architects and users in such complex paradigms.

Aspects of Designing Inclusively from Practitioner Perspectives

Lamirande’s [3] article begins with the observation that there is an increasing body of inclusive design theory, which reflects both a growing interest in integrating the diversity of end-users, but also some confusion about how to apply these multiple and sometimes contradictory definitions and concepts. Without attempting to unravel these theories, this exploratory research relies on the perspectives of practitioners and how they implement the participation of marginalized and disabled populations into concrete projects. To better understand how they design inclusively, semi-structured interviews were conducted with six practitioners (an architect, an industrial designer, a UXUI designer, an engineer, and two artists) who share their experience in advocating for the principles of inclusion in their design decision-making processes. Architecture is one of the disciplines studied here through the lens of inclusive design, and the scale of the projects described by the interviewees ranges from buildings and public spaces to mobile applications. The data collected enabled the author to highlight 24 “aspects” which are avenues to encourage the better uptake of inclusive design and to guide other designers and architects in their practice, whether in terms of general project development, interactions within the design team, or the active involvement of a variety of end users. The aspects corresponding to this last point are related to the necessary practitioners’ conviction and motivation to “actioning change” and to adopt a “logic of involvement”; the importance of moving beyond “presumptions and disability prejudice”; the ongoing nature of the inclusion process which is not an end in itself and requires “maintenance”; the benefits of the “earliest involvement” of users; the challenges of the “recruitment” process; the various levels of “participation”; and the “compensation” for participants. Those concerns illustrate the deep interweaving of inclusive design and participatory design, which both target a better public involvement in design processes and sometimes suffer from a lack of commitment from practitioners.

Promoting social interaction through participatory architecture: Experimentation, experience, evaluation in a social housing complex (Grand’Goule, Poitiers, 1974–2021)

In their retrospective analysis of the Grand’Goule social housing complex built in 1974 in eastern France, Loiseau, Safin, and Tufano [4] demonstrate the gap between architects’ participatory intentions and the real use of spaces designed with this aim. Through archive document analysis and a rich narrative, the authors reveal a detailed presentation of this specific social housing complex case, where explicit participatory issues were expressed and annotated in architectural plans. Moreover, the study holds a strategic, future-oriented relevance. Reaching its 50th year, the social housing complex is indeed entering a renovation process including new participatory intentions, although still inhabitant-oriented. This multi-sourced and “retrospective vs. present” methodology is refreshing and dynamic; its diversity contributes to exhibit the particularity and complexity of architectural research when investigating architectural situated issues. Loiseau, Safin, and Tufano thus highlight the lessons to learn from the past, and aim to transfer them to today’s practices, in order to slowly tighten the gap between design intentions and genuine participation. The case study reintroduces the concept and practice of “participation in use” originally imagined by the architects and renews this participatory debate, while revealing its limits. Even though the article holds to an extended traditional understanding

of architecture, i.e., the materialist link between spaces and social interactions, between the lines the authors also reveal that social interactions per se are architectural.

Citizen participation in architecture and urban planning confronted with Arnstein's ladder: four experiments into popular neighbourhoods of Hainaut demonstrate another hierarchy

In their contribution, Romariz Peixoto, Rectem, and Pouleur [5] discuss the well-known, but also much discussed and controversial, Arnstein ladder. They challenge its hierarchical nature and the power relations it illustrates, suggesting that those should not be seen as “top down” and unilateral anymore, but rather interlocking and multiple in nature. Four cases across the Belgian and French borders are studied in detail and enable comparisons of participation driven by the associative sector with participation driven by bureaucratic management. Here, the participatory process targets people with access to social services on both sides of the border. Following the authors, the “information level” of the ladder should no longer be stuck in the lower steps, but rather could constitute a transversal condition necessary to achieve participation. Likewise, the “manipulation” and “delegation” levels of the ladder are no longer considered as opposite extremes, but rather as conditions that can occur in any type of participation: higher levels of the ladder, long considered by Arnstein as the participatory ideal for which one should aim, are shown to be as potentially subjected to manipulation as any other levels. For example, the « delegation level » can lead to the exclusion of some citizens along the making process, whereas the « concertation level » more efficiently gathered profiles such as young couples than the « co-design level ». The authors eventually suggest a five-level ladder that clarifies how different approaches (“information”, “consultation”, “concertation”, “co-design”, and “co-management”) hold different added values considering the context. None of those five levels are more suitable than the other anymore, and all of them build on the assumption that citizen expertise should be considered on equal terms with any other form of expertise. This renewed ladder accommodates all types of initiatives (be they top-down or bottom-up), is more responsive to unexpected field events, and thus solves many of Arnstein's model limitations.

Here, the value of various participatory methods is revealed through each field's particularities and end-users' profiles. The architecture is addressed through the urban retrofitting of two social housing projects. In one case, these urban transformations impact neighborhood infrastructure and living conditions; in another, the collective spaces are at the heart of the design concerns.

What Participation Creates in Experimental Design Practices. The Case of a Mobile Third Place Built in a Retirement Home

In her paper, Royer [6] presents the case of an interdisciplinary project (architecture, design, and art) in the south of France that aims to create participatory design conditions for elderly people to explore new usages. The author shows how residents and workers of a retirement home can become active makers of their architectural space, which is no longer limited to retirement home buildings. Beyond those walls, the participatory process indeed enables investigation of a temporary and mobile extension. Maintaining permanence on the construction site allows daily participation and modifies the design process and outcome, which has to consider available resources on the field, and has to rely on simple techniques in a self-built dynamic. Day-to-day interactions and present-time-centered actions reveal potential and possible usages. Through their involvement, the residents build the “immaterial” side of architecture—time, dynamics, a temporary experience, and social encounters—all through this mobile space. Therefore, the architecture, as the outcome of the design project, also comes to life through the involvement of participants.

The paper thus proposes an extensive understanding of what architecture could mean, through the interdisciplinary and participative process that creates it. This project's interdisciplinary nature also allows users' physical states and needs to define the tools and participation protocols (e.g., daily equipment transformed into painting tools to

participate). In her paper, the author proposes shifts from participation to involvement, from intervention to permanency, and from future building to present-oriented design through self-building and event-oriented activities. “The action research through experimentation” is the assumed research strategy of this project; it aims to not only describe, but accompany, transformations. The author, a designer researcher, is actively involved in the project through a multidisciplinary team accompanying the participatory process, composed of “builders-architects”, an artist, a sociologist, students, elderly people, their caregivers, retirement home professionals, and residents of the local city.

Pizza and Poop: Using Playful Probes to Investigate Community in Semi-Public Restrooms on a University Campus

In their paper, Sanders, Murteza, and Sabatelli [7] raise the question of community in an uncommon semi-private space: semi-public restrooms on a university campus. They shift the way we see these transitional places, and the role they play in our daily life. Here, architecture is understood as an interior semi-public limited place, serving a specific purpose. By questioning the notion of the community through these spaces, they highlight the social role of architecture. To do so, the authors deployed different probes. Their results show that participation in these sensitive places requires adapted tools and strategies and reveals issues related to anonymity, gender, power relationships, and the necessity of participatory design of the methodology and data analysis. The authors highlight that participatory design in/about such a set-up is possible, but requires anonymity of the person to avoid inappropriate and insulting comments. It also requires playfulness; the probes need to be provocative and evocative.

The research strategy deployed in this paper reveals, once again, how participatory research and design are intertwined. Here, the research question is quite clear: «how a community is fostered in semi-public restrooms on a college campus». The research team used a participatory approach to collect and analyze the data to answer this question. Additionally, the outcomes are first discussed to reveal issues in the participatory design process and practice. The authors highlight the researchers’ biases and choices when designing and practicing “a participant-led approach.” This reflective practice is one of the main contributions of this paper. The other one is the six lessons revealed about participatory practices in sensitive places. Researchers and designers can easily take them into account and extend them to similar contexts to improve their participatory mindsets.

Assessing Participation: Towards Long-term Experiences, Trajectories and Maturity

In their paper, Schelings and Elsen [8] argue that time has now come to assess participation: after years of experimentations, evaluation is henceforth necessary, in order to build knowledge on successes and failures and to reach accountability. In that regard, they ask: how could the designers of participatory approaches conduct such assessment, while still taking into account unique participatory trajectories, both in regard to each participant’s background and each specific context? Could time play a role in participation maturity and, if so, how could assessment unfold in the long run? To answer those questions, the researchers designed a process to evaluate participation, building on both “on the spot” logbooks (allowing them to keep track of the participants’ profiles, their participatory background, and their participatory experience from one workshop to another), and on retrospective focus groups to integrate long-term experiences and expectations. They implemented their process through 12 participatory workshops organized in four cities, gathering 230 citizens. The participatory issues at stake here unfold in urban ecosystems and at a diversity of scales: co-designing a house for associations; reflecting on smart meters at home; solving traffic congestion around a school; or co-designing the program of a cultural center.

In this study, the co-authors acted as researchers/facilitators/participation professionals: they designed the protocols, facilitated the activities, designed the assessment tools, and managed interactions with the participants and cities’ stakeholders. By integrating participants into the assessment process, they position their approach towards

participatory action research: the participants moved away from being a simple “subject” of participation and became protagonists of the research and its assessment. The authors show that the overall quality of the participation process does not seem to be uniquely linked to the ultimate success of the design output, at least from the participants’ points of view. Their satisfaction and expectation levels are rather met when the participatory process adequately matches their participatory background, side-by-side with the cities’ participatory maturity. The researchers thus suggest an analytical tool to assess participation both “on the spot” and in the long run, which includes levels of satisfaction, levels of expectations (and their evolution through time), participatory backgrounds of the participants, and participatory maturity from the organizing agency.

Co-Designing Age-Friendly Neighborhood Spaces in Copenhagen: Starting with an Age-Friendly Co-Design Process

Given the growing aging population, Carroll and Nørtoft’s [9] paper focuses specifically on the active participation of senior users in the design process of environments adapted to their specific and various needs. Compared with the existing literature, this process-oriented study differs by focusing the research on the age-friendliness of the co-design process, rather than on the age-friendly solutions that result from it. The interdisciplinary team, composed of an architect and an anthropologist, plays the roles of researchers, facilitators, and practitioners. In a vulnerable neighborhood in Copenhagen, two parallel co-design processes were conducted with more than 100 low-income and elderly people from two public housing areas. After four workshops (immersion, ideation, prototyping, and presentation), implementation events took place in order to build urban facilities such as benches, bird boxes, or flowerpots in shared open spaces of the neighborhood. Through the exploration of different methods of participation (mapping, collages, models, prototypes, presentations, lectures, and events), several insights emerged to implement co-design processes that could also work with an older audience. First, communication towards non-designers should be as explicit as possible and the process should follow predictable steps even if the creative design process tends to be divergent and fuzzy. Clarity will save time and increase efficiency with older people who are easily distracted or become tired more quickly by this type of activity. For these same reasons, a second tip is to offer multiple and flexible participation options through the same co-design process. The level of involvement of participants can therefore vary greatly depending on their interest, experience, ability, or the effort required, but also on their availability for those activities. Third and finally, this study revealed the relevance of 1:1 scale prototyping with seniors, which enabled them to accelerate the development of ideas and to create a shared understanding, taking into account the different realities of all the participants in terms of health, mobility, language, etc.

2W + H systematic review to (re)draw Actors and Challenges of Participation(s): Focus on Cultural Heritage

In their review, Stiti and Ben Rajeb [10] delineate paths for further research in participation related to cultural heritage. The Council of Europe has addressed, through its Faro Convention, the importance and benefits of citizens’ involvement for the significance and future of our Cultural Heritage. However, despite this shared vision, the systematic literature review conducted by the authors demonstrates how challenging the implementation of participation in the heritage field still seems to be.

One of the main challenges to be addressed (in research and on the field) resonates with others discussed elsewhere in this Special Issue, namely, the articulation and (non)inclusivity of actors maintaining various agendas, specifically in regard to cultural heritage. Thus, social, political, and financial actors navigate the blurry borders between political and social participation and sometimes struggle to hear each other’s voice. Stiti and Ben Rajeb suggest overcoming this difficulty by recognizing each stakeholder’s legitimacy (instead of organizing their actions given their “individual label”). They thus delineate three profiles of actors: Actors by Knowledge (e.g., experts, be they technical or scientific), Actors by Action (e.g., financial and political actors), and Actors by Knowing (e.g., social

actors, inhabitants, people knowledgeable about the immediate context). According to the authors, today's most crucial challenge when it comes to participation in cultural heritage is both democratic and scientific in nature, and consists of acknowledging "Actors by Knowing" role, and considering their "non-institutional knowledge" as significant as other forms of knowledge.

Architect Collectives and the Coproduction of Places in the "Grey Zones" of Urban Development Planning: The Educational Institution as a Mediation Framework

This paper [11] focuses on the coproduction of urban spaces with inhabitants and presents two French experiments conducted by two architect collectives in partnership with researchers. The three authors are (1) a researcher, (2) an architect practitioner and member of the first collective, and (3) a researcher and member of the second collective. In contrast with the traditional figure of the architect as the sole master of design, Zetlaoui-Léger, Macaire, and Tcherkassky emphasize how architect collectives advocate a horizontal relationship with users in design and programming and a general awareness of architectural culture in a pedagogical perspective. This social and democratic vision of architecture usually leads to participatory processes that aim to reuse and appropriate in-between spaces, third places, and abandoned but meaningful areas on the fringe of more strategic official projects. The two experiments took place in the educational sphere; pupils and local children were involved in a participatory process to reinvent spaces in their school under renovation (courtyard, library, entry, and garden), and to imagine the school entrance and transitional use of vacant lots surrounding an urban tramway project. Children were involved as apprentices, making, learning, and familiarizing themselves with various roles (investigators, surveyors, builders, architects, urban planners, and designers). These participatory initiatives and the presence of "educational architects" improved communication among stakeholders and raised awareness about everyday uses and needs. The establishment of a learning process in which uncertainty and temporary are allowed challenged the normative, sequential, and functionalist approaches adopted by educational institutions and technical operators. For this reason, this type of project requires "allies" or "boundary spanners" who are willing to take risks and responsibilities to ensure the commitment of the different actors. In these process-based and practice-oriented cases, efforts are still needed to ensure the legitimacy of the solutions and their follow-up over time. For the inhabitants, the process became as important as the object left and the storytelling continued, creating a new communal culture and improving the school's reputation.

3. Four Lessons Learned from Participation in Architecture

The anatomy of papers proposed in the previous section teaches us several lessons about participatory practices deployed in architecture today. First, participation might take place in undefined and unexpected spaces: abandoned areas, third places, and in-between spaces. The particularity of these places stands in their openness to welcome the unpredictable [12,13]. Therefore, they escape normativity and enable the hosting of peculiar participatory approaches. Their unachieved nature calls for a "natality", as termed by Hannah Arendt [14].

Second, participatory practices and research are often deployed for and with vulnerable end-user groups, such as working-class citizens, children, immigrant communities, elderly people, and hospital patients. Their vulnerability mobilizes creative and dynamic methodological and conceptual participatory approaches. Their vulnerabilities moreover give them the willpower to experiment in order to improve their environment [15].

Third, the practice and research on participation increasingly tend to produce knowledge to iteratively guide and enhance these practices. Those practices are intimately linked to research fields and researchers, multidisciplinary teams, and interdisciplinary approaches. These are "reflective practitioners", who generate verbal and non-verbal knowledge through participatory actions [16].

The fourth and final lesson from participation is its intrinsic connection with pedagogy. Beyond the material dimension, the participatory process nurtures social architectures. It builds communities and networks, reveals stories and experiences, accompanies transformations, and improves awareness by relying on a pedagogical dimension. Beyond the possible satisfaction of collaboratively succeeding in reaching a shared goal, participation indeed creates satisfaction through engaging with a process, through the very act of sharing and co-designing and through empowerment.

These four lessons offer us some courses of action to transform disciplinary “boundaries” of architecture into “borders” toward transdisciplinarity [1]. We aim to highlight these characteristics of participation in architecture that allow new “narratives” and “assemblages” between humans, and between humans and nonhumans, as described by Tsing’s work on ecology, understood here as a system where “open and dynamic multi-species” life exists [15]. We believe that participatory initiatives create such systems in contemporary architecture today. By doing so, they tend to improve the ecological nature of architectural practice and research. Interstices, vulnerabilities, principles, and guides, and finally, social architecture through pedagogy, are believed to be key elements of this participatory architecture ecology.

3.1. Interstices

Whether explicitly or not, the contributions revealed that participation may take place outside the traditional boundaries and categories of architecture (as a discipline, as a participatory environment), thus creating unusual uses of space and time. Zetlaoui-Léger, Macaire, and Tcherkassky, for instance, focus on participatory approaches that are developed by collectives of architects [11]. Citizen participation takes place in two “grey areas”, i.e., neglected spaces emerging at the interstices of different urban development projects driven by authorities. The participation process implemented in this case instilled a culture of architecture and urbanism in children, and included participation in the architecture of everyday life.

Royer’s analysis of a mobile-home project connected to a retirement home shows that architecture is not limited to the building of the retirement home itself, but may expand beyond it in time and space through a third place [6]. The mobile home’s design, production, and uses became a participatory project between the residents; this alternative, temporary architecture thus crystallizes participation. This interdisciplinary process, positioned at the interstice between art, architecture, and design, as well as the dialectic between the permanence of the retirement home building and its ephemeral mobile extension, fostered the retirement home community.

This in-between situation strongly resonates with the “undesigned spaces” highlighted in Loiseau, Tufano, and Safin’s [4] paper. The case focuses on a social housing complex, and the authors analyze participation in architecture through the lens of communal areas intended to be designed by residents throughout their use. Architects created these spaces for «participation in use»; in other words, residents were invited to appropriate and use these shared areas to define their futures once they had already moved into the complex. In this case, participation itself is occurring “in between”, i.e., not during, a predetermined time-frame nor activity, but beyond: on the long haul of design in use.

These papers show that participation may occur in interstitial spaces and times of architecture, and not always in the main spaces and moments of pre-programmed activities. In these contributions, participation generally unfolds in collective spaces, be they institutionalized or unexpected (grey areas, third places, undesigned communal spaces, and semi-public restrooms). On the other hand, they rarely take root in regard to the individual and intimate dimensions of architecture.

These papers thus reveal a possible characteristic of participation: its relationship with interstices. They question the capacity of participation to operate in other dimensions of architecture, and their added-value when operating as such. In that regard, we keep wondering: can participation open doors of intimacy and individuality in architecture?

What different added-values does participation bring, when thought inside the traditional divisions of architectural spaces vs. thought outside, in and about the unexpected interstices?

3.2. Vulnerabilities

Vulnerability is another lesson extracted from the contributions. Different participatory issues studied in these papers are indeed closely associated with vulnerable situations, communities, spaces, or methodologies. In their review, Stiti and Ben Rajeb identified “older people”, “adults”, “citizens”, and “children” as the most frequently involved participants in multidisciplinary social participation projects. “Students”, “Individuals or groups based on their sexual life”, “households and parents”, and “patients” appear much less frequently [10]. This analysis demonstrates that some communities are solicited more than others when it comes to participatory projects; it also reveals that studies sometimes define their users’ groups very loosely.

Romariz Peixoto, Rectem, and Pouleur, aiming to renew Arnstein’s ladder of participation, utilized field material involving socially disadvantaged people [5]. In the *Épinlieu “Pallets” Project*, the bottom-up, intergenerational participatory process of co-designing public furniture met multiple obstacles. However, the inhabitants’ solidarity enabled alternative solutions to be built again and again, overcoming the fact that authorities kept requiring modifications to the successive iterations. This observation is consistent with socially disadvantaged communities active in the social housing complex, as documented by Loiseau, Tufano, and Safin [4]: in the interweaving of their daily activities, they need extra energy to be able to find and invest time and engagement into the participatory process. This observation reveals the double weight that participation might have on these communities: on the one hand, they are the ones engaging energy and creativity; on the other hand, they are the ones resisting and developing coping strategies.

In his study, Lamirande argues that the participatory design is seeking democratic consensus among as many people as possible, and inclusive design focuses on the needs of a small, marginalized group [3]. In this second case, the issue of recruitment is particularly sensitive, because it can highlight differences and create discomfort among participants who do not necessarily wish to share what usually makes them the “oppressed” or “unheard”.

Carroll and Nørtoft’s research, for its part, focuses on the age-friendliness of the co-design process [9]. The four-workshop participatory process implemented in two social housing units in a deprived area of Copenhagen demonstrates that some usual co-design practices and methods can also work with a vulnerable public. By focusing on a longitudinal age-friendly process rather than on an age-friendly design solution, this contribution provides some guiding principles for developing a co-design process that works with older people (although not exclusively).

This work resonates with Royer’s process-oriented outcomes instead of outcome-oriented design [6]. In her description, Royer reveals how the daily equipment in the retirement home was adapted and deviated from its usual use to serve the creative participation of aging residents. The residents’ vulnerabilities and physical limits in this case leveraged collective aesthetic decisions and actions. Sanders, Murteza, and Sabatelli also highlight methodological issues when it comes to participatory design and research in sensitive places [7]. For example, they reveal how some probes worked better than others in public restrooms, which are very intimate places, and how the relations to others are different depending on gender in these places.

These cases show that participation often carries different dimensions of vulnerability. On the one hand, a particular community can face new vulnerable issues when engaging in participatory contexts. On the other hand, vulnerabilities can become a tool to creatively participate in a project. Furthermore, the contexts, the profile of communities, and their specific vulnerabilities question the choices of methodologies and tools for

participation. The attention that we should pay to vulnerabilities in participatory research and architecture is the second lesson we care to highlight in this Special Issue.

3.3. Principles and Guides

Five of the ten selected papers tend to propose inspirational principles, guides, and frameworks both for participatory research and architecture practice. A five-level ladder suggested by Romariz Peixoto, Rectem, and Pouleur re-questions the different types of participation (information, consultation, or citizen control, for instance) and their perceived hierarchy, and rather offers to look at participation through the lens of citizen expertise, balanced with technical or political skills [5]. Sanders, Murteza, and Sabatelli, after analyzing the particularity of participatory actions in semi-public restrooms, propose six lessons to keep in mind when designing participation for/in sensitive spaces [7]. Royer draws a tripartite framework of participation in multidisciplinary projects [6]. She highlights how the use of permanence in the community, the process of self-construction of prototypes by these communities (together with interdisciplinary actors), and the conception of an ephemeral production are embodying participation. By doing so, she proposes action-driven participation instead of participation-driven action. Schelings and Elsen suggest a framework to re-think participatory assessment through the lenses of time, participatory background, and maturity [8]. Finally, Lamirande's [3] research proposes aspects of inclusive design that can inspire and guide practitioners in participation processes conducted with disabled users and marginalized groups.

This predominance illustrates the need for more framework and structure: after more than half a century since Scandinavian's Participatory Design revival, the field is still seeking recommendations and stabilized practices. However, will it ever achieve to do so? And should it?

3.4. Social Architecture through Pedagogy

Participatory architecture, as discussed in four articles [6,10,11], reveals the close and strong link between participatory science and education. From the projects studied by the authors, we emphasize three main observations:

1. Pedagogy could be embodied in participatory architecture, simply because of the choice of community with whom the participatory process is driven. Neighborhood schools, pupils, and teachers then become the participant groups. The participatory process integrates their pedagogical objectives and needs, in an attempt to co-design the participatory process itself.
2. In such inter-related contexts, teams who drive these approaches are often multidisciplinary, including researchers, architects, designers, and stakeholders from action-research strategies with strong connections with universities. Those teams undo the separation between academia and other worlds and improve hybridization between knowledge and people.
3. Participatory approaches in the architectural project are one way to reveal personal stories and experiences, an opportunity to enhance awareness of the built environment and its political impact on communities' daily lives; they play a pedagogical role for citizenship and the personal development of participants.

Architectural projects thus become a lever for raising awareness, community building, empowering, and creating connections; in other words, they are a way to produce social architecture and transformation beyond the material that drives the project.

In two articles [6,11], we highlight this social architecture through pedagogy in regard to the methodological outcome of the participatory approach by itself. This methodology creates permanency in the fieldwork, in addition to the community. The collective involvement builds immaterial manufacturing and a new storyline. To conclude, Stiti and Ben Rajeb, in their literature review, describe that in participation, when it comes to managing cultural heritage futures, the interactions between inhabitants, political and

financial actors, and technical and scientific actors are driven by one or both of these axes: democracy and science [10].

These pedagogical dimensions, as embodied in participatory practices in architecture, produce social architectures. In other words, beyond the built environment, they transform and create cultures, communities, narratives, usages, and relations to other beings. What are the natures and meanings of these social architectures produced by participatory practices and research? We need to study and better understand the latter's ecology to better align the participatory actions.

4. Agenda for Future Research

These four lessons constitute what this Special Issue has to offer when it comes to participation and architecture, thanks to these circumscribed but rich ten contributions. This overview raises new questions, highlighting missing issues and unanswered questions that we still want to explore.

The scale of the projects studied through these contributions shows that architecture has to be understood as a wide range of spaces–times, of tangible and intangible structures, from urban spaces to restrooms, and mobile homes to heritage management. This movement between tangible and intangible is also visible within the contributions, their nature shifting from outcome-oriented approaches to process-oriented approaches. In that regard, the Special Issue reflects the nature of contemporary participatory architecture. However, we want to highlight here that all contributions consider participation in large-scale projects and public spaces, for groups or communities. In that regard, participation still seems unable to operate on intimate scales for individual architectural projects. We wonder: are the interactions between clients/end-users and their architects still too steeped in the model of the designer being seen as the sole master of the design process?

We also observe that the authors are often intimately connected and involved in the empirical cases discussed in this Special Issue, acting as designers, researchers, or both.

This questions the origin of participatory initiatives in architectural projects, either totally driven by the concerned communities (without the involvement of any researcher, architect or design professionals, or researchers. In that regard, we wonder: are we still aiming for 100% bottom-up participation? Or is targeting this ideal complete nonsense? Following Romariz Peixoto, Rectem, and Pouleur's paper, the participation ideals can no longer be realized through the higher levels of Arnstein's ladder [5]. Unattainable standards are rather translating into the implementation of purely bottom-up initiatives (be they consultative or co-creative in nature), which reveals some fragility in time and sometimes limits the number of people who can actually become involved in the long run. Considering what the authors call "counter-effects," those initiatives are still meaningful, responsive, and more adaptable regarding field uncertainties.

While writing the call for papers, we also wondered whether there are disciplinary knowledge and practice transfers toward architecture. Do participatory practices in architecture and research mobilize other disciplines' tools and methods when integrating end-users and stakeholders in their process? For instance, in her paper, Chbaly studies the value of Lean-led participatory processes and shows how a concept originally stemming from management and applied to manufacturing can relevantly shake the ways to participate in large and complex healthcare architectural projects [2]. When applied as soon as the project definition, the Lean approach expands into Lead-led design and enables transcending beyond the mere optimization of processes: although its historical roots in "reaching a waste-free process" might have reassured the skeptics, its patient-focused goals created commitment and common vision, both essential while pursuing participation throughout the long-term scale of building a hospital. Similarly, the teams presented in Royer's [6] paper and Zetlaoui-Léger, Macaire, and Tcherkassky's [11] paper show the interdisciplinary nature of the projects, and how stakeholders from different backgrounds can complement each other from the very beginning of the process onwards. Except for these papers, the knowledge transfers between disciplines are less visible or clearly named

in other contributions. Could these practices still exist, but remain less explicitly visualized or expressed? When relevant, we argue that it is now time for researchers to reveal those transdisciplinary transfers: building a better understanding of what “participatory architecture” entails more than ever necessitates clarifying those transfers towards architecture.

Only one paper (by Sanders et al.) discusses the question of gender in participatory architecture [7]. This issue remains insufficiently explored and developed in this Special Issue. There is an increasing body of work and knowledge about gender in architecture, design, and participation; however, this critical lens is absent from the research presented here. An explicit axis on gender-integrated processes in the call for contributions or a targeted command off the call might have strengthened this missing link. We clearly need to share more and transfer the knowledge, tools, and frameworks developed in gender studies to participatory architecture practitioners and researchers, and ask them to explicitly analyze their work through these issues. This analysis also applies to knowledge acquired in decolonial studies or emerging considerations about inclusion: participatory architecture needs to broaden its borders to become more participatory in nature.

In the same vein, we observe that contributions do not make strong political statements anymore when documenting participatory architecture practices and research. Historically, participatory approaches could be associated with “political arguments” [17]. However, this dimension is not explicitly developed nor mentioned through the contributions. Stiti and Ben Rajeb briefly emphasize how “social participation” and “political participation” currently articulate as two distinct dimensions in the literature they reviewed [10]. However, drawing a clear distinction between those is challenging, because political participation can be seen as a form of social participation. As the lines become blurry and the participants possibly become less prone to activism, we wonder whether dilution of the political argument might translate into a renewed model of participatory architecture?

To conclude, we observe that participatory practices permeabilize disciplinary boundaries. Those practices create borders that are undefined and fruitful buffer zones, prone to welcome experimentations. In these grey zones created by participation, we are pleased to note that architecture and research multiply their contemporary explorations.

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