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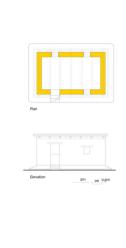
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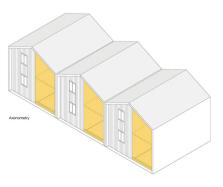
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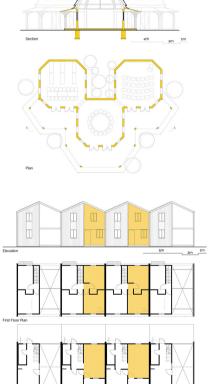
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# Every-Body.

Spatial education as a co-design strategy for risk reduction, mitigation and adaptation

# **Key Words**

Co-design; Anti-fragility; [Spatial] Education

No man is an Iland, intire of it selfe; every man is a peece of the Continent, a part of the maine; if a Clod bee washed away by the Sea, Europe is the lesse, as well as if a Promontorie were, as well as if a Mannor of thy friends or of thine owne were; any mans death diminishes me, because I am involved in Mankinde; And therefore, never send to know for whom the bell tolls; It tolls for thee [Donne 1624] [1].

Since ancient times, the starting point in the study and practice of architecture has been the space occupied by the human body, a very well-defined space between heaven and earth, between God and death. This space, which spans three dimensions, is ultimately the discipline's main object of study: it can be experienced, traversed, perceived, contemplated. It does not only passively undergo human action, but actively generates emotions and sensations: through the projection of these, translated into memories and future wills, the presence of the individual transforms a space or a set of them into a place. In many eras of History, from antiquity to the present, the space occupied by the human body has taken on the role of the very measure of architecture: just think about the Lecorbusian modulor and the Renaissance heritage. For this to be possible, the entire project must be conceived as an experiential object, a generating element of future sensations: every aspect of it, every existing binomial or dualism, must be interpreted according to a body-centered narrative.

However, investigating the topics of body and space also means considering the possible

relationships and actions of the environment on them. In this way, the pair is approached by a third narrative level: it invokes an important point of view that moves architectural design away from a purely anthropocentric conception, introducing a necessary sensitivity to contemporary issues of climate crisis, an urgency related to changing scenarios in increasingly contracted temporalities. Moreover, delving into the issues of architectural design in a condition of natural risks and from a perspective centered on the relationship between body and space, means, on the one hand, observing emergencies by understanding and interpreting the transformative phenomena affecting everyday life; on the other hand, embracing a communitarian conception of bodies by projecting those who inhabit fragile contexts into a condition of preparedness. Consequently, it means questioning current resilience practices and post-disaster actions. The present contribution draws on studies from a PhD research in progress [2], investigating co-design theories and practices for architecture to address place transformation, mitigation of risk and uncertainty, resilience and preparedness of affected communities and territories. It is a doctoral work involved in the PNRR Return program "multi-risk science for resilient communities under a changing climate", an extended partnership that aims to strengthen research chains on environmental, natural and man-made risks at the national level and promote their participation in European and global value chains. The goal of the program is to study community-based approaches to develop projects, plans and policies for disaster risk reduction (DRR), disaster risk mitigation (DRM) and climate change adaptation (CCA). Natural risks and environmental changes are thus key topics, related to violent events and transformations that are increasing for all of us, but affect the world's population differently, depending on location.

The role of a PhD research in architecture within a multidisciplinary project of this kind is to restore the spatial and architectural aspects of the issues analyzed and to connect them to the dimension of corporality. Shifting the focus from the individual to the communal sphere, one can speak here of a collective corporality, a group of bodies or a community. Considering users not only in an isolated way but also inside a plural dimension – seen in a huge non-anthropocentric way – the thesis aims to investigate effective co-design strategies for architecture in order to

reach anti-fragility conditions in at-risk contexts.

The proofs of concept chosen to test a design-driven methodology that addresses the above issues are marginal places and inner areas, with predominantly rural and mountainous landscapes, where problems of risk and uncertainty led to depopulation. These kinds of problems, when read through the lens of a community-based approach and a body-centered perspective, can be effectively addressed by architecture if we work in the direction of redefining the possible tools and methodologies of co-design. Alongside classical participatory practices related to decision-making meetings, there is a need to engage residents of at-risk contexts in spatial education processes through workshops, self-construction activities, and seminars related to community self-determination. These are project tools that have been poorly tested in Western contexts, which are still strongly tied to an ideological conception of participation indebted to the experiences of the 1970s. The community engagement that co-design processes related to spatial (body-centered) education generate can lead people to better understand the places where they live, increasing risk awareness and leading to a state of preparedness and DRR-DRM.

In front of the lack of co-design experiences focused on community spatial education in Europe, exploring case studies in non-Western contexts becomes crucial, where the pressing challenges of climate change and environmental crises have accelerated the need of actions for resilience and preparedness. To grasp the potential coexistence of various participatory approaches within a project, examining recurring experiences in the works of certain architects proves invaluable over isolated instances. Yasmeen Lari's work can be a first example of architectural participatory practice against fragilities, a contemporary form of co-design blending traditional knowledge with spatial implications in DRR, DRM and CCA. She co-founded the Heritage Foundation of Pakistan in 1980, a non-profit organization dedicated to researching, publishing, and conserving cultural heritage, particularly focusing on humanitarian and lowcost architecture. Lari's thought revolves around the concept of "barefoot social architecture", emphasizing low environmental impact and community-built objects. One standout example of her work is Karavan Ghar, a project of self-built houses with traditional materials, codesigned with communities affected by the 2005 Kashmir earthquake. Lari's approach blends self-determination with appropriation, fostering a vision of resilience and community-driven development. Inspired by circular economy and zero carbon construction, the DRR-Compliant Sustainable [Lari 2012] is an illustrated manual that provides technical solutions to improve traditional building techniques, and to engage and train artisans for the reconstruction of disaster-affected settlements. Since spatial education and training are relevant parts of risk prevention, other tools developed by Lari are the Disaster Preparedness Manual and DVD [Lari

et al. 2013], edited both in English and Urdu for a widespread comprehension [Corradi 2021]. Alongside the quidelines for building efficiently and safely, the manual contains illustrations and photographs that describe actions to be taken before, during and after disasters, that could be easily understood and communicated by population. The second case study is Elemental S. A., coordinated by Alejandro Aravena with Andrés Iacobelli and Pablo Allard: a program with social aims that proposes solutions for fragile populations in South America. Often the projects promoted there must deal with contexts subject to risk and uncertainty of various types: this is the case of Villa Verde Housing in Constitución (Chile), a key neighborhood for post-éarthquake and tidal wave reconstruction of 2010, which is inspired by models of informal settlements spread across the continent and encourages residents to take an active role in reconstruction through seminars, workshops and incremental design. The owners were invited to participate in activities centered on how to realize the completions of their housing: the opportunity to customize buildings looks at the theme of appropriation of space through education, which is accompanied by an awareness of risk and projects reconstruction into future temporalities with the activation of bottom-up processes. «These workshops, given their technical nature [...], tend to be conducted by architects; however, it is essential that they are well-coordinated with the institution that is coordinating the community, [...] whoever is in charge of the on-site social work with families» [Aravena and Jacobelli 2016, p. 462].

In conclusion, this work of re-signifying co-design methodologies by looking at non-Western contexts can be an effective process for DRR, RRM and CCA if considered as a shared knowledge building with a bottom-up orientation around the themes of spatial education with a bodiescentered perspective. Because the awareness of one's body in the space and of belonging to a community of bodies coincides with the knowledge of being in a place [Bianchetti 2020, p. 8]: this calls into play the ability to recognize oneself in it, in a set of meanings that juxtapose the

identity of the place with the identity of man [Norberg-Schulz 1979].

## **ENDNOTES**

[1] "No man is an island entire of itself; Every man is a piece of the continent, a part of the main; if a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friends or of thine own were; Any man's death diminishes me, because I am involved in mankind. And therefore never send to know for whom the bell tolls; it tolls for thee" [Donne 1624].
[2] Co-design. Theories and practices for transformation, mitigation and resilience. PhD candidate:

Francesco Airoldi; supervisor: Prof. Emilia Corradi. Politecnico di Milano, AUID PhD program, Dipartimento di Architettura e Studi Urbani.

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## **FIGURES**

Fig. 1- Prototype of the self-built Karavan Ghar, developed by Yasmeen Lari (top left); the INTBAU Training and Resource Center in Makli (Pakistan), designed by Yasmeen Lari and built with a collective effort by residents in 2019 (top right); the incremental design of Villa Verde Housing project by Elemental S. A. in Constitución (Chile), 2010 (down). Graphic reworkings by the author.