CHANGING LIMITS INTO OPPORTUNITIES

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The third issue of the TECHNE Special Series is devoted to a selection of scholars, whose extended abstracts were accepted and published by DADI Press in the II Edition of "Beyond All Limits", the International Conference on Sustainability in Architecture, Planning and Design held at the Officina Vanvitelli, in San Leucio, on 11-12 May 2022 (under the patronage of SITdA, among others).

The interest for the initiative that guided the formulation of this reserved Call derives from the explicit intentionality to go *beyond all limits* in exploring the cross-border disciplinary territories generated by the bio-culture paradigm as a powerful generative lever to define new scenarios, approaches, methods and tools facing the challenges of the "post-Anthropocene".

In the age of complexity, the imperative of interdisciplinarity underlying the expression "Beyond all limits", rather than referring to the idea of an unlimited potential, looks at the need to explore border territories to integrate different perspectives and methodologies in a relationship of mutual cross-fertilisation. This is even more necessary considering the growing specialisation of knowledge and skills, within sectoral disciplinary paradigms, very often confined within rigid conceptual structures that may limit our ability to understand and address global challenges.

Thus, the studies and the design researches collected in this Special Issue bring out a plurality of approaches emerging in the field of architecture, planning and design, approaches that intersect contexts articulated at various scales of intervention with assessments referring to environmental resources, historical cultural heritage, and to the naturalistic values that characterise the local identities involved. Even with a critical look at improper – when not distorted – value enhancement processes determined by the globalised linguistic models of the real estate sector, often practiced in the European context.

A first thematic area concerns contributions that address the challenge of territorial reorganisation and development of fragile and internal areas, with examples related to the adaptive reuse of historical industrial heritage (the former SITOCO of Orbetello and the "internal area" of Matese, in the province of Caserta). These contexts, which are currently abandoned or in decline, are still endowed with a rich heritage of historical-cultural, environmental, technological, and social resources, which offer significant potential for the development of strategies aimed at the integrated enhancement of both natural and anthropic capital (circular use of resources, NetZero Soil-Energy-CO_2-Waste approach). The process is also supported by the local stakeholders and by the resident communities' commitment to co-creating knowledge and co-designing a new vision for the future development of their territories.

The conservation and reuse of landscape and architectural heritage is a strategic challenge both for urban and territorial regeneration, and for achieving sustainability and decarbonisation objectives. As highlighted by the contribution on evidence from 100 Resilient Cities, cultural heritage still plays a marginal role in resilience planning, with actions often limited only to the aspects of economic valorisation and promotion of tourism. There is little attention, for example, to respecting historical stratigraphies and the values of previously existing structures, which can conversely constitute an important lever for the activation of widespread regenerative dynamics (Doha case study).

The adaptive processes of rediscovery, conservation and reuse of historical heritage – articulated through territorial and "network-based" models – not only enables reactivation of spaces and buildings that have lost their original functions, but also triggers processes of collective reappropriation guided by the needs of local communities (which Zanuso called "design reappropriation"). This, in turn, can catalyse and generate new cultural, environmental and socioeconomic values (S. Maria in Grotta and S. Michele in Gualana, Sessa Aurunca, in the province of Caserta).

Shifting from the scale of adaptive reuse to that of urban regeneration opens up the prospect of design strategies oriented toward the transformation of the existing city, articulated through the application of urban planning instruments and the integration of nature-based solutions (Grupo de Viviendas Antonio Rueda in Valencia) to the notable theme of the landscape space of urban waterfronts, and to the redevelopment of informal/illegal settlements and residual spaces (overpasses), viewed in their fruitive and perceptive dimensions, also with methodological proposals focused on the user (human-centred design). Finally, with a critical analysis dedicated to the evaluation of the economic impacts of tactical urban planning (Milan case study).

Several studies focus on the role of participation and collaborative co-design experiences in urban regeneration processes, renewing and updating the methods developed by Giancarlo De Carlo, and also taking advantage of the potential offered by new digital technologies (BIM, ICT platforms, IoT, Digital Twin, etc.). The university facilities (student accommodation, research and training spaces) are – not by chance – a recurring field of research and experimentation. They are an effective engine not only for an eco-sustainable reuse of the building heritage, but also for urban revitalisation with the collaboration of composite and interdisciplinary research groups, and the creation of physical and virtual living labs that promote social inclusion, strengthening the identity of communities.

On the front of the ecological transition of cities and territories, the reconnection between city and nature ("From leaves we live" by Patrick Geddes) constitutes the field of reflection

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of studies focused on aspects such as digital representation for natural heritage (project "De+Humans"), Life-Centred Design, and the binomial "environmental quality/quality of life", in a perspective that tends to enhance the richness of interspecies ecosystemic interactions. By blurring the boundary between natural and artificial, technologies and digital environments can integrate with environmental components to form new landscape habitats featuring the One-Health dimension (Active Design for the healthy city).

Finally, the world of fashion design, invested by the challenges of the green and digital transition (biomaterials, digital manufacturing and transformation of production processes, etc.), registers the need to reconfigure itself according to processes of eco-systemic sustainability aimed at counteracting the rationale of fast fashion and the consumerist model of waste.

This is a warning also for so much *fast architecture* – homes, gardens and urban parks, squares, commercial and workplaces, etc. – conceived as consumer objects for the real estate market and, therefore, designed to be ready for use with a ready scenographic effect. Quite the reverse of what centuries-old history of European cities and the long-term formation and sedimentation of its landscapes should have taught us.