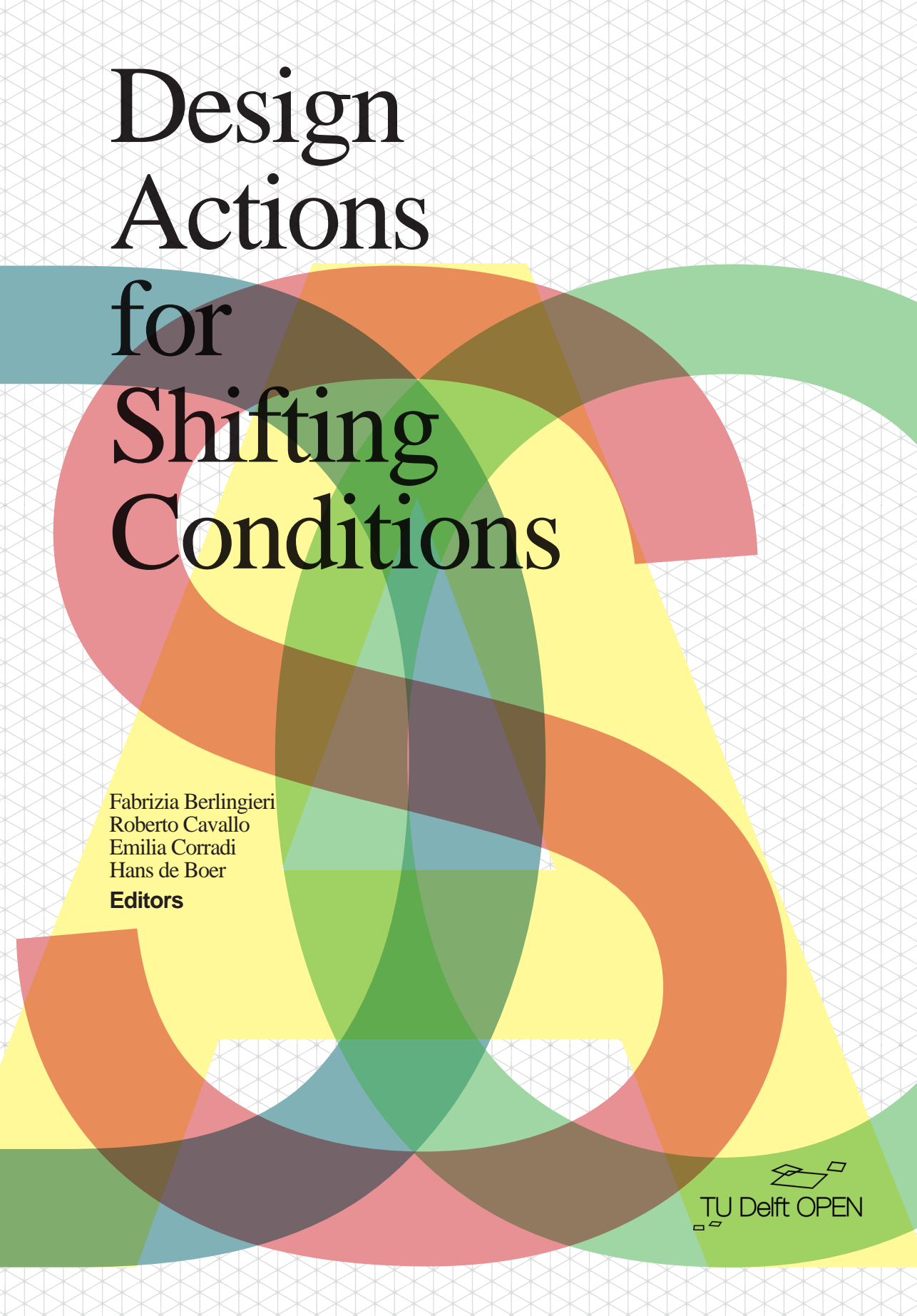


Design Actions for Shifting Conditions

The background features a light gray grid pattern. Overlaid on this are several large, overlapping, semi-transparent shapes in various colors: teal, orange, green, yellow, pink, and brown. These shapes are arranged in a way that they appear to be layered, creating a complex, abstract composition. The text is centered over these shapes.

Fabrizia Berlingieri
Roberto Cavallo
Emilia Corradi
Hans de Boer
Editors

Design Actions for Shifting Conditions

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POLITECNICO
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DIPARTIMENTO DI ARCHITETTURA
E STUDI URBANI



DIPARTIMENTO
D'ECCELLENZA
FRAGILITA' TERRITORIALI
2018-2022

 **TU**Delft

 TU Delft

Deltas, Infrastructures &
Mobility Initiative

DESIGN ACTIONS FOR SHIFTING CONDITIONS

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ADAPTATION AND RESILIENCE. ARCHITECTURAL DESIGN TOOLS BETWEEN UNCERTAINTY AND TRANSITORY —

Giulia Setti

Uncertainty and *transitory* represent relevant conditions in contemporary phenomena. With increasing intensity, we are witnessing sudden changes linked to extreme climatic events, environmental and economic crises that strongly modify the consolidated certainties of design actions. Current scenarios are instable and, therefore, by the need to reflect on the relationship between architecture, environment and economic systems, opening an urgent debate in our disciplines¹. Unpredictable phenomena linked to climate change effects are affecting different European contexts, raising the necessity to investigate visions about a (possible) future for our cities, observing their peculiar characteristics: infrastructures, public spaces, residual and marginal areas (Guidoboni et. al 2015, Guidoboni and Valensise 2013). In the explorations of the European contexts, from Athens to Rotterdam and Ljubljana², there is an idea to build a *common ground* linked to sustainable and energy-efficient design experiments, which envision new scenarios to integrate design approach within natural and artificial landscape. It is a radical and continuous change, both in building and designing cities and architectural choices: urban contexts are changing very quickly, and they require the adequacy of design tools. This essay proposes a dual reflection: on the one hand, it investigates conditions that characterise the current scenario; on the other, it tries to build

and outline possible design solutions. *Uncertainty* and *transitory* represent detectable conditions resulting from increasing instability; instead, adaptation and resilience represent desirable design actions.

In this precarious and changing scenario, *adaptation* and *resilience* are possible and useful design actions for transition contexts; it is a matter of imagining projects and scenarios that work with fragments and minimal interventions according to different times and phases (Gunderson et. al. 2009, Ferlenga et. al. 2018). To adapt to new conditions, sudden events or shocks represents a transformative design attitude, capable of modifying any previous conditions. To adapt means to innovate through a change of state and establish, where possible, a new balance and new design solutions. To face the current conditions of transition and uncertainty typical of contemporary contexts, it is necessary to reflect on resilient and adaptive forms and processes capable of promoting the ability to recover and consolidate architectures, cities and territories. Therefore, new possibilities of design research are opening up: we live in an era, the one of the *Anthropocene*, marked by sudden climatic and environmental changes (Bonneuil and Frescoz 2016, Morton 2009). Calamitous events, often unexpected, are modifying the delicate balance between architecture and the environment.

An interesting debate has been opened by a recent photographic exhibition held at MAST in Bologna (Italy) entitled 'Anthropocene', with images by Edward Burtynsky, Jennifer Baichwal, and Nicholas de Pencier³. The radical changes that human intervention has generated in urban and natural environments were carefully documented and described in the photographic journey. An unprecedented transformation that, inexorably, has changed the territory and resources of the planet: transitional situations could only increase and this, therefore, requires a reflection on the role of architectural design downstream of these changes (Hackett et. al. 2018). Extreme phenomena continue to increase and highlight the lack of projects, processes and policies capable of mitigating their dramatic effects (Birrozzi and Ciorra 2018). The ability of a territory, an architecture or a landscape to adapt to new events or new conditions creates a space open to design actions, to the definition of strategies that could increase the resilience of a place and, therefore, could guarantee greater care for the safety of architectures, territories and citizens (Corradi and Gritti 2018). Adaptation requires, therefore, a radical design vision focused on protection and care actions through intervention strategies, aimed not only at the emergency and post-emergency period but also at offering preventive measures. To adapt or to be resilient does not mean to give up on the search for beauty in design processes, but to redefine a precious balance with urgent energetic and environmental issues. Some considerations emerged related to the current meaning of the word *resilience* and the role of *time* in architectural design. The word *transition* in itself, which identifies

a common condition of contemporary places, introduces the idea of time applied to design proposals. It is possible to observe how architecture is no longer linked to a state of permanence and immutability, but, on the contrary, it is an increasingly flexible discipline, open to continuous transformations. In transitional contexts, new design paradigms emerge that envision flexible projects, developed according to different times and phases and, above all, are capable of combining aspects of sustainability, specificity and beauty (Navarra 2017).

Nowadays, most contemporary cities and urban contexts have started to study and apply intervention strategies for infrastructures, residual areas, urban public spaces and coastal areas, and to modify the transitory concept in different ways and forms. In the Italian context, we have witnessed numerous and other uncertain situations; Italy is a country that has been able to rebuild itself many times, following natural or accidental calamitous events. The most recent of these was the collapse of the Morandi Bridge in Genoa, which took place on a day of heavy rain on 14 August 2018. It shows how the Italian infrastructural system represents a complex heritage, subject to low maintenance, which demonstrates all its latent fragilities.

What could be the role of architectural design? What role does it play in the definition of scenarios and tools to work in unstable contexts?

First of all, it is necessary to build *shared knowledge* of projects, processes and policies; a *common ground* that could help collect possible virtuous design solutions to be implemented and adopted to deal with unexpected events. In this framework, the objective could appear particularly ambitious, but also



Figure 1 – Shop in the historical city of Norcia closed after the earthquake, August 2019. (photo: G. Setti)



Figure 2 – Forms of protection in Norcia, after the earthquake, August 2019.
(photo: G. Setti)



Figure 3 – Temporary architecture for commercial activities in Norcia, August 2019.
(photo: G. Setti)



challenging and urgent: to try to relate different but comparable cases, contexts and design interventions because they are facing similar transitory conditions. The ability to assess the *risks* of places where we live is necessary for the design. It implies the possibility of punctual actions through the design of new public spaces that could mitigate difficult integration situations and could guarantee sharing spaces. Or, it means reflecting on the state of conservation of infrastructures and mobility networks to act, on a larger scale, on securing them. In this sense, the fragilities that the Italian territory shows represent a great challenge for architectural design for the possibility of overcoming and reducing them through interventions on existing buildings or infrastructures and, therefore, working on the resilience of architecture and inhabitants.

Fragilities shown by the Italian territory represent a challenge for architectural design, precisely for the opportunity to overcome or reduce them through interventions on the existing heritage and, therefore, working on architecture and inhabitants' resilience. It is a powerful and ambitious challenge: architecture could secure unstable places; it could act in delicate and uncertain situations, consolidating them. A set of design solutions seem to emerge, they focused on critical topics already described above: the temporality of design, the search for *beauty*, the role of nature and the increasingly daring forms of re-naturalisation. In the research field around architectural design, these topics show considerable relevance and importance. Nature and increasing forms of re-naturalisation represent a possible design response: nature could become a design tool that is useful for facing unstable contexts and searching for a better relationship

between environment and architecture. *Looking back to nature* means rebuilding a relationship between design and environment, enhancing the aesthetic and functional role it could bring to our cities. It is a matter of redefining a balance between nature and cities, no longer mystifying the use of natural elements but, on the contrary, enhancing its possible relationship with historical and urban contexts, increasingly seeking an improvement in living and environmental conditions. There are also interesting approaches to *flexibility* in architectural design and its capacity to adapt, as already described previously. In future (urban and architectural) scenarios for contemporary cities, it is crucial to observe how *design paradigms* change in both a European and international context. The concept of flexibility requires rethinking our way to design, renouncing extensive urban design projects in favour of punctual interventions, and partially reactivating places and communities. Due to social, economic, urban and environmental fragilities, the architectural design could work adaptively, capturing the significant and peculiar characteristics of different contexts where it is called upon to intervene.

At the same time, *instability*, denounced by contemporary contexts, requires redefining tools and design actions able to act quickly, favouring precise transformations, but not renouncing strategic projects on a larger scale, like territorial or landscape ones.

If we think of sudden and dramatic events that are affecting our territories more and more frequently, we could understand how a high adaptation and transformation capacity could drastically reduce the adverse effects on the affected territories. In this framework, architectural design, which

works in precarious places, is forced to choose and select and to understand what to support or sacrifice: it is a *project of compromises* necessary to define intervention priorities. To work in resilient ways means that the architectural project has to be developed in extended and differentiated timeframes, which would also support the survival of local and autonomous forms of resilience.

As a design action, *adaptation* changes the initial state of places, architectures or territories but compensates it by constructing a new and safer balance. Architectural design, therefore, works increasingly in conditions of uncertainty and instability, facing emergency and post-emergency situations, which, often, could not be imagined or planned. Tools described in this short essay talk about the possibility of transforming design methodologies, favouring the construction of new flexible, adaptable and fast action processes.

Notes

¹ The present essay has taken references, and suggestions from the contents discussed during the seminar 'Design Actions in Urban Transitions. Architectural and Urban Design for Shifting Conditions' held in Politecnico di Milano on 30 October 2019. The current essay deeply investigates some aspects and issues discussed in lectures and debates during the seminar.

² During the seminar 'Design Actions in Urban Transitions', some European case studies have been taken as reference according to specific projects or experimentations developed to control the effects of climate change in the urban scenario.

³ The exhibition, held at MAST in Bologna, from 16 May 2019 to 5 January 2020, has explored, through photographs of Edward Burtynsky, Jennifer Baichwal, and Nicholas de Pencier, the indelible footprint of man on Earth and their consequent risks.

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