Cities of the Future

On Nature and the Grammar of Design

Cannatella, D.

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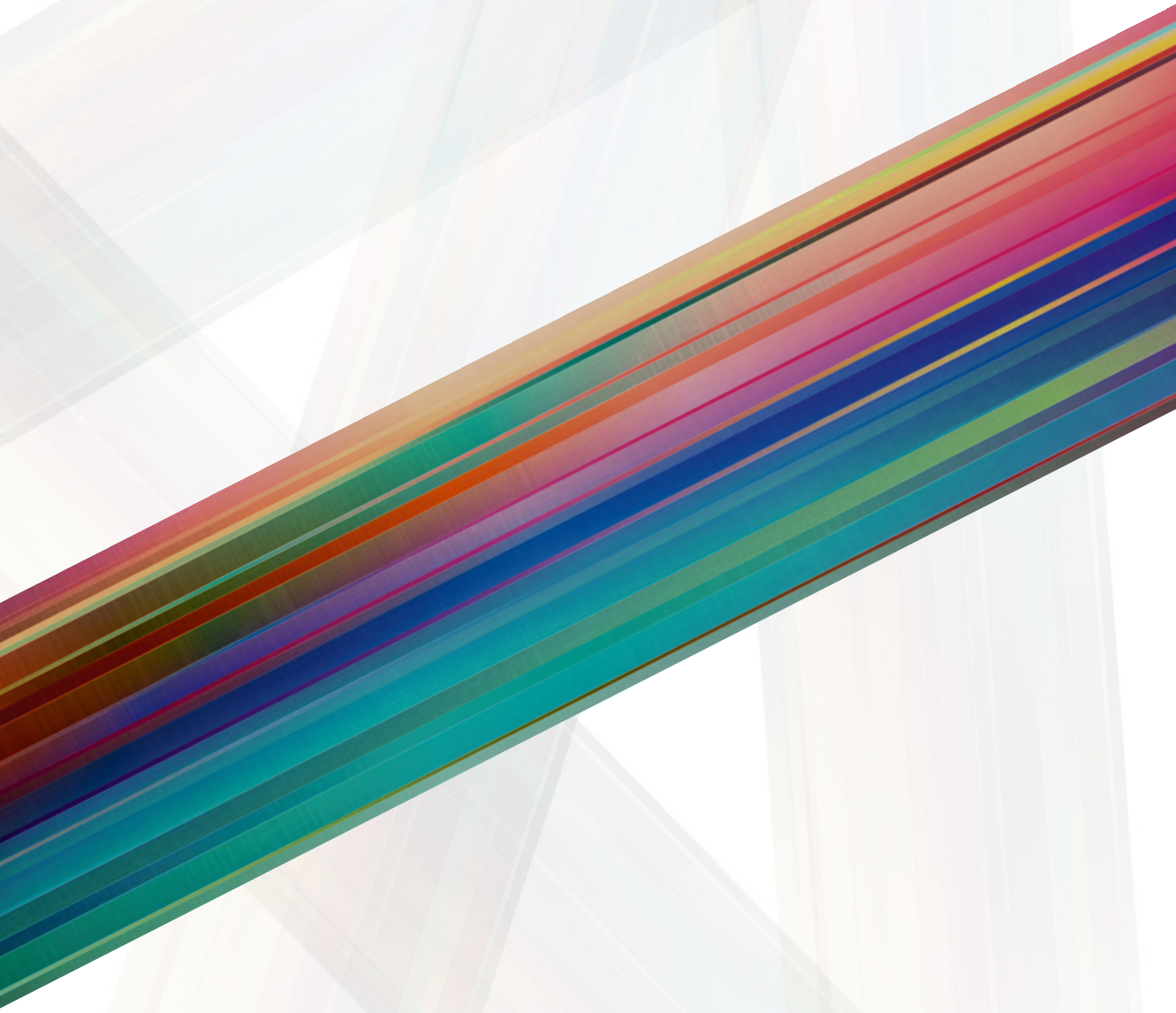

City of the Future Graduation Lab

Experiences in Multidisciplinary Education

Editors
Roberto Cavallo
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Sonja Drašković

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Colophon
City of the Future Graduation Lab: Experiences in Multidisciplinary Education

Editors
Roberto Cavallo[1]
Joran Kuijper[2]
Maurice Harteveld[3]
Marcelo Carreiro Matias[4]
Mesut Ulkü[5]
Sonja Drašković[6]

1 Delft University of Technology, Faculty of Architecture and the Built Environment, Department of Architecture, R.Cavallo@tudelft.nl, https://orcid.org/0000-0001-6534-120X
2 Delft University of Technology, Faculty of Architecture and the Built Environment, Department of Architecture, J.A.Kuijper@tudelft.nl, https://orcid.org/0000-0003-4323-5267
3 Delft University of Technology, Faculty of Architecture and the Built Environment, Department of Urban Design, M.G.A.D.Harteveld@tudelft.nl, https://orcid.org/0000-0001-7164-6165
4 Transport Engineer, marcelo.carreiro.matias@gmail.com
5 Social Architect, mail.mesutulku@gmail.com
6 Architectural Designer, sonjadraskovic24@gmail.com

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As part of their graduation projects, some parts of the texts written by the former students can be found in the repository of the TU Delft.

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Cities of the Future: On nature and the grammar of design

Daniele Cannatella
Lecturer in Landscape Architecture, TU Delft

In his book, *The sense of style* [25], the cognitive scientist Steven Pinker argues that the categories of grammar reflect the four building blocks of thought: time, space, causality, and matter. Coincidentally, these building blocks are the same ones that dictate the grammar of spatial design. In them being absolute categories, they describe well the way architects, designers, planners and landscape architects perceive, investigate and intervene in the reality around them.

Nowadays, the degree of complexity of what is perhaps the greatest challenge of all time—the climate crisis we are currently enduring—implies a profound reflection on the conceptual and operational tools that designers and planners have at their disposal to turn a world-scale issue into an opportunity for local sustainable development. However, this is a cumbersome task, as it forces us to question a relationship that has roots in the deepest layers of human history: the one between man and nature. As a matter of fact, the climate crisis confronts humanity with two major revelations.

The first concerns the reconsideration of our position in relation to nature. We can no longer make the mistake of considering ourselves detached from natural processes; on the contrary, we are more than ever bound to the cycles and flows of water, soil, and vegetation. And this is even more true for our 'natural' habitats, cities.

The second revelation is that a perception of reality based on dualisms and opposition is no longer sufficient, if not dangerous, to effectively boost the resilience of urban systems.

The study of nature suggests many ways to unravel such complexity and rethink the way we design our cities. The urban project itself is no longer conceived as a mere blueprint, a fixed end point to aim for; rather, it is a point of convergence between the past and a desirable, open-ended future. Designing then is a multifaceted task that takes place at different scales in space and time. Looking at the past we can understand why and how certain areas are prone to flood, or how the hyper-engineering of the landscape led us to water scarcity and increasing droughts in the built environment. Interventions to mitigate flood risk or urban heat island effect look at different scales—from the water catchment to the single plot—and their impacts are explored on disparate systems and under different climatic circumstances.

In (re-)designing a piece of a city, questions are asked not only about what programmes and functions it can accommodate in the short term, but also to which extent it can be readapted to changing socio-economic conditions. Furthermore, they increasingly address the life cycle of its parts and the possibility to recycle, downcycle or upcycle them.

Creating new landscapes in the light of such complexity implies taking conscious and informed action to adjust flows by deliberately forming new space to speed up or slow down the paces of natural processes.[26] This integrated body of knowledge of natural processes into spatial design has accelerated the consolidation of an exquisitely cognitive landscape aesthetic.[27] At the same time, this drift is leading more and more towards another type of aesthetics, the performative one, which looks at the services that ecosystems provide to people.

However, if this is the first step towards reconciliation with nature, it is still not enough. The role of design then should also be to redefine new narratives into a novel, more balanced coexistence between nature and man.

To do so, it must propose spatial solutions that emphasise the cycles of nature, materialise them on a scale accessible to the individual, and suggest new programmes and uses for public space, laying the foundations for a new and more conscious landscape aesthetic.

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25. Pinker, 2015
26. Jackson, 1984
27. D'Angelo, 2009

The Cross Domain City of the Future Graduation Lab, situated in the Faculty of Architecture and the Built Environment at TU Delft, has been a pioneer in experimenting with a multidisciplinary approach to education on the built environment. Drawing upon this expertise over the past years, this book reflects on multidisciplinarity in the built environment and its implementation in education on the built environment. How should one approach multidisciplinarity in education and practice? What encompasses its core elements, benefits, and challenges?

By addressing these questions, the book aims to inform students and practitioners within the realm of the built environment by sharing insights from experiences in multidisciplinary education. It presents eight conclusions regarding the future of multidisciplinary education and, thereby, seeks to contribute to a more humane and sustainable future for cities:

I Process is central to multidisciplinary collaboration. Negotiating positions, ensuring an environment of respect, balance and open-mindedness, and setting a common vocabulary.

II Multidisciplinarity can be a way to foster innovation. It triggers complementarity and confrontation. As with any innovation, there is potential for greater outcomes, but, at the same time, extra risks emerge. These need to be managed.

III Multidisciplinarity could be better integrated into organisational structures.

IV Disciplinarity and multidisciplinarity are in mutual coexistence. They are inseparable. They can complement and contradict each other.

V Problem precedes solution, not the opposite. Framing the problem, or 'problematizing', is a considerable share of the actual solution. This is particularly applicable to multidisciplinarity.

VI Multidisciplinarity is by nature composed of fluid boundaries. Navigating through an enormous diversity of perspectives requires agility, flexibility, independence, spirit of adventure and embracing uncertainty.

VII Professionals should be trained as 'T-shape': grounded in their field while able to dialogue with other fields.

VIII Both generalists and specialists are needed. Education should provide opportunities for both.

contributions by
Cem Ada
Gerjan Agterhuis
Leanne van Bentem
Fabrizia Berlingieri
Hans de Boer
Daniele Cannatella
Marcelo Carreiro Matias
Roberto Cavallo
Fabrizio Chiappe
Tom Daamen
Floor van Dedem
Thomas Dillon Peynado
Sonja Drašković
Gabriel García Gonzalez
Maurice Harteveld
Marcel Hertogh
Erwin Heurkens
Jeff Hill
Ilse de Jong
Joran Kuijper
Tim Li
Carlos Lüchau
Davide Massa
Bart Mispelblom Beyer
Sylvan Muilwijk
Víctor Muñoz Sanz
Mauro Parravicini
Jasper Rouwenhorst
Rick Schoonderbeek
Daniel Sobieraj
Mesut Ulkü
Jaap Vleugel
Alexander Wandl
Fikri Yalvaç

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