Cities of the Future

Control in Times of Acceleration

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City of the Future Graduation Lab

Experiences in Multidisciplinary Education

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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.

Cities of the Future: Control in Times of Acceleration

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The architect who proposes to run with technology knows now that he [sic] will be in fast company, and that, in order to keep up, he may have to emulate the Futurists and discard his whole cultural load, including the professional garments by which he is recognized as an architect. If, on the other hand, he decides not to do this, he may find that a technological culture has decided to go on without him.

These cautionary, and still relevant, words by Rayner Banham in his book *Theory and Design in the First Machine Age*[10] are very telling of the key challenge of dealing with the implications of technology in our cities. Simply, it goes too fast, while architecture and allied design disciplines are, almost by definition, slow. In just a very few years (I got my first iPhone in 2007) and perhaps accelerated by the pandemic, we have included in our vocabulary and internalised in our everyday practices a whole new set of terms, related to professions (mechanical turks, flash delivery riders, YouTubers, influencers, content creators), psychological states (Zoom fatigue), forms of violence and manipulation (fake news, Zoom bombing, ransomware, DDoS attacks), forms of access (FaceID and other biometric data), economic exchange (Tikkie, cryptocurrency) and even

opening embracing the possibility of life in some sort of multiverse in the Cloud—a Metaverse populated by avatars, digital twins, and other *architectures*. Yet it also leaves us physical remains, new architectural typologies like fulfilment centres, dark stores and dark kitchens, data centres, or crypto coin mines. These terms, and buildings, change and evolve, some succeed, and some are abandoned and superseded (who remembers Second Life?), making it difficult, even for those working on technology, to keep the pace. The urbanised landscape faces an uncanny condition. The traditional understanding of the layers of urbanisation and the longue durée is today challenged by technology and the planetary climate crisis. Both layers at the bottom (landscape) and the top (cloud) are changing faster than the middle layers our cities, buildings and infrastructures can cope with. In a way, it seems futile to try to anticipate what is on the way. Anticipation distils some sort of sense of control, that we know what comes next and we are prepared. That the disciplinary tools and knowledge we have now are enough to confront a challenge. Agility, innovation, and critical thinking concerning digitisation and technology are a way forward. To deal with the spatialities and wicked problems technology brings,

as architect Rahul Mehrotra would say, the profession needs to go from being thermostats—just reading the temperature—to becoming thermometers—controlling the temperature.[11] What does that mean in practical terms? Perhaps, following Banham, it requires that the discipline rethinks what the architectural project is. As shown in the projects in this section on Digitisation, technology can offer tools to support the work of the architect and urbanist, facilitating the testing of options and decision-making. What is important is that the designer keeps hold of the steering wheel, and the discipline does not fall into the trap of *Data Driven Design* and pushes forward *Design Driven Data Practices*. Data does not necessarily mean knowledge. Asking the right design questions to it (Cedric Price Dixit) is key to bring the city of the future our planet needs.

10. Banham, 1960
11. Mehrotra, 2018

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.

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