BOOK REVIEW

Arjan VAN TIMMEREN, Laurence HENRIQUEZ, *Ubikquity & the Illuminated City: From Smart to Intelligent Urban Environments,* TU Delft, Delft 2015, 184 pages

In today's world of dispersed and disclosed humanity, we have created a globalized society integrated by network infrastructures through imagination and technological achievements. The realities of resource scarcity, climate change, stiff global competition, and technologically-led austerity are the factors which lead cities to becoming the forerunners of modernity as well as forcing them to adapt to changing economic, environmental, and socio-political conditions. To respond to those crises, IT-companies, politicians, and technologists believe that smart sensors and sophisticated algorithms can help. Those devices are said to offer opportunities for optimizing urban space and to make our cities 'smarter', i.e. more efficient, environmentally sustainable, economically attractive, and socially inclusive. IT has obviously disrupted many other domains over the last twenty years. However, with regard to cities, there are some questions: Is the smart city concept capable of solving the lingering urban problems? Is it focused on the complexity of contemporary urban life and the reciprocities that exist between cities and their hinterlands? Is it empowering individuals and communities? What are the elements of urbanity and the human condition lying beyond the scope of data collection?

The book *Ubikquity & the Illuminated City* consists of twelve chapters and discusses a range of approaches to the concept of 'ubikquity' (to be explained later on) across discrete experiences in different cities of the world. The book is situated in three important fields: the human and living environment, technology as well as design and integration. Each chapter has an image which raises a question in the reader's mind regarding the issue which is going to be discussed there.

Ubikquity & the Illuminated City begins with a brief introduction (chapter 1), which consists of two sections. The first section, entitled 'Rise and Collapse

of Cities', claims that although cities prospered during many ages, some developments such as political, economic, social, and cultural factors along with the scarcity of resources and climate change eventually led to their collapse. In the following section, 'From Nation to Cities', two dominant themes in today's urbanization debate are discussed, that is: networks and their complexity, and the increased public awareness of environmental issues. The authors argue how rapid population growth, urbanization, economic inequality, political austerity, resource scarcity, climate change, and global computation may lead to unpredictable cascading effects, such as natural and man-made catastrophes that tend to be less localized than ever before.

In chapter 2, entitled 'Urbanization in Crisis', the authors emphasize the importance of changing our self-destructive patterns while we expect the extraordinary achievements of human culture to survive. This development must one way or the other result in respective behavioural changes as well as a shift in our understanding of the relationship between the built and natural environment and the mutuality of their material and information flows. Chapter 3 ('Networked Environments') highlights another manner of organising infrastructure, implying also a different network architecture and organisation. The 'wicked problems' section in the chapter describes the new science of networks called 'complexity theory', portraying complex systems in terms of connected nodes. In that theory, the complex adaptive system (CAS) and its characteristics of emergence and self-organisation are essential.

In chapter 4, entitled 'Ubikquity', the notion of 'ubikquity', i.e. the global infrastructure and the ecology of ICT, is defined. The chapter proposes a new model by Benjamin Bratton that he calls 'the stack' (p. 41). An explanation is given on how the stack model serves as a useful guide to contextualising the smart city imagery within the constantly shifting and multi-scalar dilemmas of ubikquity and urban planning. Chapter 5 ('Techno-austerity') states that 47 percent of jobs in the US and Europe has a high risk of becoming automated within the next twenty years according to a study by Oxford University's Programme on the future impact of technology. ICT is becoming more ubikquitous, while it will continue to take over more low-skilled jobs previously performed by humans. Chapter 5 also introduces the notion of the so-called 'crobo', a portmanteau word of 'creative' and 'hobo', that refers to mobile creative talent. In short, cities must conform to the needs of the neo-liberal economic paradigm as they are forced to compete with one another for the attention of globetrotting investment capital and a growing class of crobos in the place of automation, unemployment, and economic austerity.

In the following two chapters (chapters 6 and 7), the authors allow the readers to reflect on the smart city and the question what exactly a city 'smart' is. Three types of 'smart cities' are identified (1. greenfield projects, 2. retrofit projects and 3. community-led bottom-up initiatives) with the help of the examples of Sangdo, Masdar City, Singapore, and Rio de Janeiro. Chapter 8, entitled 'Digital Divides

and Elite Enclaves', contains the term 'urban splintering' as coined by geographer Steven Graham. Using that term, he referred to how infrastructures, including information and communication technologies, can fragment the experience of a city. In the chapter Henri Lefebvre's famous notion of the 'right to the city' is also re-emphasised, which has recently become an emblem of urban social movements worldwide. The authors claim that the most pressing urban problems are not technological but social in nature. Those problems, however, have rather been exacerbated than solved by corporate-led privatisation and city branding strategies. Chapter 9 discusses two general camps in the theory of technology, i.e. that of 'technoneutrals' and 'technostructuralists'.

In chapters 10 and 11, entitled 'Liberté, Prédictivité, Uniformité' and 'Acceleration Towards Cloud Feudalism' respectively, the authors try to show that in the post-Cold War era, the West has blended negative liberty with the reductionist theories of neoliberal economists who claimed that human interactions and the financial world are best understood as billions of self-seeking rational economic agents. In that respect, a reference is made to Paul Virilio's notion of 'dromology' which applies to the acceleration of the social, political, and economic worlds, and how the transference of people and objects, and the transmission of images and ideas have become compressed over time.

The last chapter is entitled 'Illuminated Cities' and serves as a kind of a summary of the book. The authors refer to Lefebvre's 'right to the city', and suggest to call it the 'right to empowered Ubikquity', thus allowing us to open-up the agential work of infrastructures, the living environment, and Ubikquity as (open) sources of possibilities in their own right. The authors describe urban problems which may be similar but are myriad in form, extremely complex, which can only be truly understood and solved by urban dwellers and local governments themselves. The chapter asserts that an illuminated city is an alternative to technological solutionism that reduces and views citizens into passive peripherals of Ubikquity. As the authors see it, the so-called 'community innovation incubators' can transform cities into prosperous, dynamic, and adaptive living environments. 'Malleable infrastructures' are also discussed, as they may offer a distinctive way of thinking about the relationship between an infrastructure and its position in the urban realm resulting in more sustainable and just outcomes. The illuminated city approach emphasises the importance of improving the overall fitness of networks (social and technical). Finally, the authors deal with one of Ubikquity's major drawbacks: its design does not guarantee users' privacy. The digitisation of an urban environment leads to the inevitable higher possibility of being tracked. The book concludes with an afterword stating that a major issue one should realise is that nothing happens overnight, and that people themselves are the key to real and lasting solutions.

In conclusion, the book *Ubikquity & the Illuminated City* is recommended to anyone interested in the topic of smart cities, and the role of digital knowledge

in the urban realm. In terms of its look and feel, the book is very attractive and eye-catching. The setting of each chapter draws the public's attention to a challenging subject in a modern way. The idea of including different images to intrigue the readers and encourage them to read the chapter works well. The book has also unexpected elements such as a telling poem or relevant quotes that add a literary touch. Initially, the reader might feel confused at some points because of the unexpected organisation of chapters but after a few pages it becomes easier to follow, and new ideas offered in the book can be enjoyed fully.

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