Editorial Introduction

Helena Teräväinen
Aalto University School of Arts, Design and Architecture
helena.teravainen@aalto.fi

The 7th symposium called "ARCHI+TECTONICS Architecture, Communities and Cities under Change" was organized by the Department of Architecture of Aalto University School of Arts, Design and Architecture in Otaniemi, October 22-24 of 2015. The theme's (ARCHI+TECTONICS) aim was to cover a variety of contemporary discussions in architectural research, from architectural design at different scales, to the context of urban planning and development, among other themes that were discussed in the sessions during the conference.

The symposium offered interesting Keynote lectures, which three of them are published here as (non-reviewed) articles, and marked as "Keynote speeches".

Ombretta Romice, Senior Lecturer from Urban Design Studies Unit (UDSU) Department of Architecture, Unit University of Strathclyde, Glasgow, presented her research in different areas of urbanism; she explained how they have used this approach in evidence-based masterplanning. The paper "The Road to Masterplanning for Change and the Design of Resilient Places" is touching upon certain milestones, such as: 1) the form of cities, studied across space and time, as complex systems, 2) the impact that cities have on their inhabitants and, 3) the form and design of sustainable and resilient cities. The paper explains which questions have led them to name *'Masterplanning for Change'*, the normative approach to city design.

Juanjo Galan, Professor in Landscape Architecture at Aalto University School of Arts, Design and Architecture, presented "Landscape planning: from theory to teaching", starting with definitions of ecosystem services and urban metabolism. In his article he points out positive academic experiences in landscape architecture which are rising from courses working multidisciplinary hand in hand with the new planning context. He is enhancing a holistic perception of the territory, promoting a global understanding of urban, agricultural and natural areas. Specially, he emphasizes the proactive character of the landscape planning tools which can overtake formal description and produce new models and clear spatial or normative determinations which conveniently can be introduced in the planning context.

You are now reading first number of the journal "*Architectural Research in Finland"* (Vol 1, 2017).
This is a new peer-reviewed scientific journal founded by the three Finnish universities offering architectural education in Finland:
Aalto University, Tampere University of Technology and Oulu University.

Toni Kotnik, Professor in Design of Structures at Aalto University School of Arts, Design and Architecture, involved in his Keynote lecture mathematics and formal design. He also covers new, emerging methodologies in architectural design that extensively use the computer as a design tool; this has generated a varied set of digital skills and a new type of architectural knowledge. An example of reshaping of discipline-immanent thinking by means of computation, is the paradigmatic shift in sciences like physics or biology caused by the introduction of the computer as the primary tool for simulating and modelling natural processes; this has resulted in a successive modification or even replacement of reductionism as the predominant paradigm of research by a systemic, bottom-up understanding. As a consequence, architects have become interested in these systemic models of nature. Moreover, during the past decade, systemic notions and concepts from science have diffused into architectural discourse and are currently being explored for design purposes. Hereby is published his article "On the Role of Geometry in Formal Design".

Petter Næss, Professor in Planning in Urban Regions at the Norwegian University of Life Sciences, addressed during his lecture some characteristics of critical realism, interdisciplinarity, the causal status of the built environment, impact assessment and prediction. He argues that "critical realism" is "a viable path between the trenches of the science war", instead of positivism, empiricism, or even postmodern relativism. His lecture was based on the newly published article:
Petter Næss (2015): Critical Realism, Urban Planning and Urban Research, European Planning Studies, DOI: 10.1080/09654313.2014.994091

This first issue of Architectural Research in Finland (2017 Vol.1,no.1) will also publish eight selected papers from the 7th symposium which have gone through the double blind peer-review process. The themes vary widely, from philosophical applications and cultural heritage issues to new design methods and technical solutions.

In their article *"Architecture in Suspension, Disruptive practices within the state of exception"*, Francisco García and Fernando Nieto are transferring into architecture philosopher Giorgio Agamben's concept called "spaces in suspension", where the rule is the exception in the form of the suspension of the legal order, the anomie. This approach is based on the analysis of some case studies, which are considered as disruptive practices since they are proposing new ways of practising architecture.

In her article "*Paimio Sanatorium: interrelationships within a technological system",* M. Heikinheimo uses the actor-network theory of Bruno Latour, and argues that the examination of the relationship between architecture and technology revealed the critical issues for the architect and for the other actants. This explains how a certain system was developed further than another, and also how modernism came to be expressed in Paimio Sanatorium.

B. Grahn Danielson, M. Rönn and S. Swedberg argue that several instruments, for compensation measures in planning processes, can be found in the law and land use of the Swedish planning system; however, these are not being used properly, which results in a negative impact on the cultural heritage. After two years of analysing and discussions in workshops and conferences, they are writing a conclusion in the *article "Cultural Heritage: Changing Ideas on Compensation in Planning",* and claim a strong need for clarifying planning instruments and professional practices dealing with compensation measures. However, it is one matter to rebuild a swamp, marshland or habitats, which is not too difficult to conceptualise, but how to compensate the impact upon an old building, archaeological site or cultural heritage values in the landscape?

Two articles are discussing about learning in architecture: 1) E. Becker in *"Design Cognition: Optimizing knowledge transfer in digital design pedagogy"* explores how knowledge transfer may be impacted by digital design as an architectural

medium. He uses a research conducted by Ausubel, R. Oxman, Schön, Sweller, and others, to expose the cognitive logics associated with introductory digital design and digital skill thinking. 2) *"Spatial solutions supporting information exchange and knowledge creation*" by S. Peltoniemi together with J. Poutanen, A. Ahtinen and H.Salonius, presents information exchange and knowledge creation as essential components of architects' profession. The objective of the study is to analyse how the mobility of the different types of workers effects on the information exchange and knowledge creation, in a team-based office layout.

Two articles present housing research: 1) E. Hasu and A. Tervo write about *"Playing with Townhouses – a Design-Based Research Method for Housing Studies"*. The paper focuses on a design game, which provides tools to examine, reinvent, and verbalize the residents' innermost housing preferences. The game allows themes such as spatial flexibility and adaptability, to be studied, which in other situations might be difficult to study. 2) In the paper "*A Townhouse for Life"* I. Verma and E. Hasu study townhouses as a potential solution for lifetime housing. The study focuses on people over 55 years old, as they represent an age group relatively free from many aspects limiting housing decisions. In Helsinki, Finland, the townhouse is seen as a sustainable urban version of single-family house that can reduce urban sprawl.

Y. Cronhjort argues, in her article *"Standard Timber Structures for Lean Architectural Design"*, that building production development is required for timber-building to compete in the world market. She explains, how lean construction research has defined lean and industrialized processes, identified the differences between mass-customization and mass-production, and finally she emphasizes the importance of standardization. This study explores pre-designed details as a means to reduce work in building design.