

Väitösikkuna

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Opponent's statement on the PhD dissertation and the defense of Satu Läheenoja

The dissertation of Satu Läheenoja deals with sustainable development. Sustainable Development has been a hot topic in politics as well as in research, ever since the Brundtland Commission in 1987 defined sustainable development as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (WCED 1987, 43). After the Brundtland report was published a major United Nations (UN) Summit on Environment and Development was held in Rio de Janeiro, Brazil, in 1992. This conference resulted in Agenda 21, the Rio Declaration, but also in the signing of three major international environmental agreements: the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity; and the Declaration on the Principles of Forest Management. At that time hopes were high.

In the following years implementation started at the national and at the local level. In Finland the National Commission on Sustainable Development was formed in 1993 and many municipalities started to work on local sustainable development. During this period there was also a growing research interest in Sustainable Development. An important theme was policy integration, and a lot of research was based on planning theory, which is quite interesting when the 1990s was a time when planning in general was getting out of fashion.

Rather soon there were backlashes as well. On the political level, for example George H. W. Bush lost the election for a second term as president of the United States and it has been argued that one major reason was his participation in the Rio conference and his signing of the United Nations Framework Convention on Climate Change (Yergin 2011). But also, locally and nationally the focus on sustainable development diminished. But the sustainability challenges were not solved, on the contrary many features got worse.

Some politicians and public servants argued that the increasingly difficult sustainability crisis was just due to lack of implementation. For example, in 2011 Hannu Kyröläinen, adviser on sustainable development to the Finnish President Tarja Halonen, stated that "*the concept of sustainable development, as it was adopted 20 years ago and has evolved since then in global summits, is still basically valid, and does not need to be reinvented. The problem lies in the failure to implement sustainable development*" (Mickwitz 2012, 75).

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Among researchers, there were several attempts to reframe the challenge of sustainable development. The two efforts which are particularly relevant as a background for the thesis of Satu Lähteenaja will be briefly described next.

A group of prominent researchers in 2009 published an article in *Nature* with the title "A safe operating space for humanity" (Rockström et al. 2009), which introduced the framework of "planetary boundaries". This framework has later been complemented with the social dimensions in an environmentally safe and socially just space in which humanity can thrive, referred to as the doughnut economics model (Raworth 2012). These researchers started by reframing the aim of sustainable development and then started to examine how the safe space could be reached. Concepts such as resilience and sustainability transformation were emphasized by these scholars.

In parallel another group of researchers, largely social scientist from many different fields but with a common interest in innovation studies and technological change, also worked on reframing sustainable development. These researchers argued that emissions, loss of biodiversity and inequality are caused by the systems of production and consumption. They further stressed that systems of production and consumption have changed historically. Thus, it would be possible to learn how to enhance sustainable development, by examining these past processes of system change. This became the focus of a new research field (e.g. van den Bergh et al. 2011) where sustainable development is increasingly understood in terms of "transitions" to more sustainable socio-technical systems (Smith et al. 2010).

After the adoption of Agenda 2030 by the United Nations there is a bigger focus on sustainable development than ever before among policymakers at all levels, but especially in the private sector. Research on and for sustainability is also thriving. Unfortunately, the world is no closer to a sustainable development than when the Brundtland report was published, and we are not on a track to reach any of the sustainable development goals. More research on advancing sustainability transitions is thus very much needed and this is why the PhD dissertation of Satu Lähteenaja is important.

The theoretical framework of Satu Lähteenaja's dissertation is based on elements from three areas: design studies, transition management, and sustainability transitions/transformation building on both the traditions discussed previously. The framework is original and through her research Satu Lähteenaja contributes to all these three streams of literature.

The empirical method is a multiple qualitative case study based on four different empirical cases: an assessment of Sustainable Development in Finnish Municipalities (article 1); an evaluation of the national sustainable development policy in Finland (article 2); a Citizen Energy Transition Arena for housing companies in urban areas (articles 3 and 4), and the National Agenda 2030 Transition Arena (article 5).

Multiple sources of empirical materials have been collected for each case. The materials have been carefully studied to reach empirical conclusions, but also to make methodological and conceptual contributions, and in addition to assist in policy development. Satu Lähteenaja has also made well justified decisions related to the ethical aspects of her research and these are well documented.

The PhD dissertation consists of five published articles and an introduction, which is 109 pages long. All five articles have been peer-reviewed and are published in journals highly regarded within the academic community. The five published articles make major contribution to the research on sustainability transitions. Articles 3 and 4 make exceptional methodological contributions, while the empirical case of the article 5 is unique in the world: nowhere else has researchers been able to work as closely with the development of a governmental policy strategy as in this case. The role of Satu Lähteenaja in the research reported in the articles is substantial. The contribution of the articles to the PhD dissertation of Satu Lähteenaja is thus clearly surpassing the expectations for a PhD dissertation.

and can be considered exceptional as a contribution of a PhD dissertation. The introduction of the PhD thesis combines the articles into a whole and through the introduction the contribution is clearly bigger than the sum of the five articles.

The vision of Lund University is to "work to understand, explain and improve our world and the human condition." My assessment is that the PhD dissertation of Satu Lähteenaja has done all three things: it has helped us understand, it has provided explanations, and the results can be used to improve our world and the human condition.

Based on reading the PhD dissertation of Satu Lähteenaja and based on the oral examination during the defense, I propose to the Doctoral Programme Committee of the Aalto University School of Arts, Design and Architecture that the dissertation be accepted with distinction.

Espoo 14.6.2024
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