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Lost in translation: Translating low carbon experiments into new spatial contexts viewed through the mobile-transitions lens

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ABSTRACT

Low carbon urban transition experiments are emerging across cities globally. These experiments are socio-technical innovations with a high potential to contribute to a low carbon. Through the Global Intelligence Corps knowledge of these experiments is being disseminated across a variety of spatial contexts. Foreign cities are keen to replicate these examples of best practice; whilst technical experts, technology providers and governments are keen to export their expertise and technologies. However, the factors influencing the successful translation – movement, transformation and adaptation – of these experiments across spatial contexts requires deeper investigation. This paper explores the process using a mobile transitions conceptualisation. In this paper we develop a theoretical conceptualisation of the mobile transition process and test it using two low carbon experiments – Hammarby Sjöstad (Stockholm) and BedZed (London). We identify the type of knowledge that is translatable (in the global form), and how this is modified both by the global and local assemblages throughout the process.

The implication of our findings is that greater clarity is needed throughout the translation process if outcomes are to improve. Firstly, in order to determine the potential for an urban experiment to translate into a new spatial context the practitioner must understand the context from which it emerged and the context into which it will be translated. Secondly practitioners need to clearly define the translatable global form emerging from an experiment. It must be possible to decontextualise and re-contextualise the global form if it is to translate successfully. In some cases it may be impossible to decontextualise the global form without undermining the fundamental principles underlying the experiment. Thirdly, practitioners need to be aware of how the global form can be manipulated and re-represented by the global and local assemblages during the translation process. The global form is not fixed. Finally practitioners should be aware that new socio-technical systems (adopting the fundamental principles developed in the experiment) will emerge from the translation process.

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1. Introduction

Low carbon urban transition experiments are emerging across cities globally. They combine culture, structure (e.g. technologies, policy targets, decision support tools, design tools) and practices (e.g. planning processes, sustainable behaviours) into one socio-technical system. These experiments are socio-technical innovations with a high potential to contribute to a low carbon transition (Williams, 2016). Through the Global Intelligence Corps – international consultants, academics, governments and global networks (C40 cities, ICLEI, Climate Alliance and Energy Cities) – knowledge of these experiments is being disseminated across a

variety of spatial contexts. Foreign cities are keen to replicate these examples of best practice; whilst technical experts, technology providers and governments are keen to export their expertise and technologies. However, the factors influencing the successful translation – movement, transformation and adaptation – of these experiments across spatial contexts requires deeper investigation. Using a mobile transitions conceptualisation can help us to do this.

The mobile transitions conceptualisation was first mentioned in the literature by Affolderbach and Schulz (2016). They made a valuable contribution, critically reviewing the transitions and policy mobility literature, identifying the complementarities between the theories and suggesting the need to combine approaches to better understand the spatial dimensions of socio-technical transitions. However, they did not provide a conceptual model which demonstrated how these two ideas could be combined. In this

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paper we set out to build on the work of [Affolderbach and Schulz \(2016\)](#) by developing a clearer conceptualisation of the mobile transition process; creating a theoretical model which can be operationalized ([Fig. 2](#)) and tested using two case studies. Thus, we make a significant contribution to the development of the theoretical approach and provide an empirical analysis of its application.

2. Theoretical conceptualisation

The transition process is conceptualised by the multi-level perspective ([Fig. 1](#)). This perspective suggests that experiments (niches) can provide the stimulus for the transformation of social-technical regimes,¹ either by replacing or by merging with and transforming the regime ([Geels and Raven, 2006](#); [Smith, 2007](#); [Loorbach and Rotmans, 2010](#)). Success is more likely when the incumbent regime is destabilised, usually precipitated by a change in the landscape² or when robust niches (comprised of several transition experiments) are compatible with the regime ([Geels, 2002](#)). Niches must offer considerable positive feed-back if they are to be adopted by the regime ([Smith, 2007](#)). Radical niches will not diffuse widely since they demand too many structural changes ([Smith, 2007](#)). In this interpretation, intermediate transition experiments where regime actors take on the innovations developed by the niche, are more likely produce a regime transformation ([Smith, 2007](#)).

Experiments can enable social learning; build networks between actors; articulate expectations/visions; and help to align resources (practical knowledge, tacit skills, tools, money and people) needed for new technical systems and associated social practices to diffuse more widely ([Geels and Raven, 2006](#); [Loorbach and Rotmans, 2010](#)). Studies have tended to focus on the impact of local experiments on the local or national regime in which they are embedded, rather than the movement, adoption and adaptation of the knowledge developed from the experiment to new spatial contexts.

Transition theory explains that an emerging socio-technical system is the result of co-evolution of technical and social elements. Thus, the local context and the local embeddedness of experiments are key to their development, and ultimately their ability transfer to new spatial contexts. Local, socio-technical innovation shapes local contexts, and local contexts shape local socio-technical innovations ([Coenen et al., 2012](#); [Späth and Rohrer, 2010](#)). The literature highlights the importance of: diverse experiments in a variety of contexts ([Rotmans and Loorbach, 2006](#); [Loorbach, 2007](#)); translating practices between contexts ([Smith, 2007](#)); conducting multiple experiments in niche-trajectories ([Geels and Raven, 2006](#)) and a parallel development pattern ([Raven, 2005](#)) in the transformation process. However, the difficulties of translating knowledge developed from low carbon experiments into new spatial settings have been highlighted and the merit of “broadening” has been questioned ([Williams, 2016](#)).

Previous empirical work which studied the scalar and spatial dynamics of the transition process, suggested that low carbon experiments (including the cases studied in this paper Hammarby and BedZed) could influence development regimes across national borders ([Williams, 2016](#)). However, it also demonstrated that structures (e.g. technical systems) and practices (e.g. integrated and collaborative planning) developed in an experiment in one spatial

context often encountered barriers in another ([Williams, 2016](#)). The findings also suggested that the process of “broadening” (developing multiple models in a variety of locations) creates such a diversity of models that it could eventually destabilise the niche-regime, rather than lead to transformation ([Williams, 2016](#)).

From a transition perspective the focus is on the temporal dynamics of the transformation process, rather than the spatial dynamics. It is unclear at what scale or where spatially the niche, regime or landscape operate. Most studies seem to focus on the national context and the embedded, localised niches ([Affolderbach and Schulz, 2016](#): pp). There is limited discussion of how knowledge produced from experiments, travels to new contexts and how it evolves.

Conceptual perspectives in critical urban geography – policy mobility, assemblages and mutation - when used in tandem with the transition conceptualisation can help overcome these limitations. The conceptual framework offered by the policy mobility literature helps us to understand the process by which experimental policies (technologies and tools) may move from one spatial context to another ([Evans, 2004](#); [McCann, 2008](#); [Peck and Theodore, 2001](#); [Stone, 2004](#); [Ward, 2006](#)). It highlights that “policy transfer rarely results in carbon-copied policies being instituted in different places” ([Prince, 2010](#), pp171). Local variation in political, institutional, economic and cultural parameters, results in policies changing or mutating as they move between contexts ([Stone, 1999](#); [Peck and Theodore, 2001](#); [Phelps et al., 2007](#)).

Policy mobility and mutation literature denies the existence of localised best practices and models of good governance by introducing a relational view on continuous transformation and adaptation processes and their underlying driving forces ([Affolderbach and Schulz, 2016](#): pp7). It offers a better understanding of a continuous learning process resulting from the transference of this knowledge to new spatial contexts. It highlights the importance of evolving narrative, supportive programmes, key individuals and power relations in this process.

The mobility literature explains how policies disassemble and reassemble in new contexts ([McCann and Ward, 2010, 2011](#); [Peck, 2011](#)). Actors transferring policies view and present them differently, and thus policies evolve through the spatial translation process ([Roy, 2010](#); [Hult, 2015](#); [Callon, 1986](#); [Tait and Jensen, 2007](#)). The physical manifestation of these policies in new contexts, are deeply influenced by the translation process and by the context in which they remerge ([Prince, 2010](#)). New knowledge is subject to recombination with pre-existing on site knowledge (reassembly) that leads to further innovation ([Affolderbach and Schulz, 2016](#): pp9).

The importance of context (temporal and spatial) is highlighted by both literature. For the transitionists, the regime and events in the wider landscape influence the experiment which emerges. In the mobility literature, local actor constellations, ideas, attitudes, values, past experiences and power relations all inform the urban experiment which emerges. Thus the successful transfer of best practice is bound to be determined by socio-spatial conditionality ([McCann and Ward, 2011](#)). So we must study the forces that condition urban experiments, to understand whether they will successfully translate into new contexts ([McCann and Ward, 2011](#)).

The policy mobility conceptualisation suggests experiments precipitate global forms. These are objects, systems or techniques which can translate into new spatial contexts because their “validity is not dependent on the context of their production” ([Collier and Ong, 2005](#), pp400). Global forms have “a distinctive capacity for decontextualisation and recontextualisation, abstractability and movement across diverse social and cultural situations” ([Collier and Ong, 2005](#), pp400). However, the universality of the global form is dependent on the global assemblage.

¹ A regime comprises culture, practices and structure of the wider system.

² The landscape encompasses a broad range of factors such as economic pressures, cultural values, social trends, wars and environmental issues, which are exogenous to the regime.

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