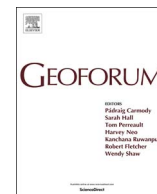




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# Creative clusters and the evolution of knowledge and skills: From industrial to creative glassmaking

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## ABSTRACT

Glassmaking is considered part of the craft sector and represents an interesting cross-over between design and artistic research and industrial (material and technical) innovation and understanding. However, in the history of glassmaking – which has for centuries concentrated in regions that could provide energy and primary materials – we can recognise the struggle for preserving and developing glass making skills through processes of skill development and deskilling. The paper reflects on the emergence of new craft-based glassmaking in post-industrial contexts where glass was traditionally produced industrially, giving us the opportunity to question processes of deskilling, re-skilling and upskilling in relation to industrial, post-industrial and creative making. Using in-depth qualitative interviews across two case studies of glassmaking clusters in the UK cities of Sunderland (North East) and Stourbridge (West Midlands) we consider the role of tradition and local knowledge as well as the importance of networks and infrastructure. We propose to investigate how the old industrial past of these two locations, specifically how knowledge and skills are traditionally lost, is reinvented and re-used in the new glass making work taking place today. Finally, the paper reflects on how skills and knowledge from traditional industrial clusters might connect to new models of flexible and specialised production in the creative and cultural industries through phases of deskilling, reskilling and upskilling.

## 1. Introduction

The development of creative clusters and their potential to revitalise the economies of often lagging regions has been a key argument in economic geography and urban studies literature in the last two decades in the UK. However, most of this literature presents the creative industries and their patterns of co-location and clustering (Chapain et al., 2013) as a policy strategy or intervention that can easily be implemented and adopted across a range of regions and cities, often with very little connection to their present economic structure or industrial past.

The results of these interventions have been very limited and case studies of failure in top-down interventions have also been highlighted (Mould and Comunian, 2015). One of the main criticisms made was the disconnection between these interventions and the specificity and traditions of their local context, highlighting policy blindness to issues of long-term development and evolutionary dynamics within local development. The other – maybe more recent – policy resolution is that intervention is not necessary, and that a *laissez-fair* approach will ensure the spontaneous development and growth of new silicon roundabout and creative clusters.

Berg and Hassink (2014) highlight that these extreme policy outcomes are mirrored in the academic literature, with a very limited amount of research trying to give a long-term perspective on creative clusters development and their link with historic evolutionary perspectives regarding crisis, re-organisation and adaption in the development of new economic systems in old post-industrial contexts.

Large parts of the literature on clusters and industrial districts address the role of trust, social networks, learning environments and institutional infrastructure (Amin and Thrift, 1995; Banks, 2010), while literature on the evolution of industrial and post-industrial clusters further highlights the embedded nature of knowledge and skills held in specific places and institutions (Asheim and Isaksen, 2002) and often subject to specific lifecycles (Fornahl et al., 2010). It is indicated that such ‘stickiness’ is a key dynamic of cluster development (Bathelt, et al., 2004) with regional or context-specific tacit knowledge playing an important role in the development and transfer of skills (Gertler, 2003).

Against this backdrop, this paper focuses on a specific sector of the creative economy – craft, a contested field that has been investigated only partially and often considered at the boundary of the creative economy in itself (for a review see Luckman, 2015). There are a variety of reasons for this. Firstly, the limited size (and economic value) of the

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sector (Bakhshi et al., 2013) presents challenges in developing useful policy frameworks to support innovation and economic growth (Harvey et al., 2012). This links to the lack of attention given to craft in the literature as it is considered less important and more dispersed than media sector, film, design and music clusters (Harvey et al., 2012). Subsequently, the craft sector is often undervalued in reference to its ability to generate economic growth, with social and cultural externalities tending to form the main focus.

A third issue relates to how the sector sits somewhat uncomfortably between creative arts and design; informed by original ideas, which are central to the Department for Culture, Media and Sport (DCMS) definition of the creative economy, and making/manufacturing which appears to be looked down on within policy discourses on knowledge and post-industrial economies.

The status of craft skill, both in industry and creative practice, is a further issue that has plagued the sector since the Renaissance period in that it is often seen as lower value than creativity (Adamson, 2007). Banks (2010) has also noted that despite the integration of craft skills within a broad range of creative industries sectors including economic high-performers such as media and film, their contribution is seen as supplemental and rarely acknowledged by industry or academic studies.

This paper reflects on the emergence of new craft-based glass-making in post-industrial contexts where glass was traditionally produced industrially. Historically, the first craft deskilling happened due to emerging mass production and industrialisation in the UK, however, further deskilling and potential loss of knowledge and production practice has occurred more recently through de-industrialisation and international outsourcing of production in many craft sectors, including glassmaking, ceramics and textiles. Our consideration of new contemporary practices gives us the opportunity to question processes of deskilling, re-skilling and upskilling (Gallie, 1991) in relation to industrial, post-industrial and creative making.

In order to consider the impact of this history and the relevance of clustering, knowledge, skills and geography in contemporary studio-based glass making, we take into consideration two key locations in the UK: Stourbridge and Sunderland, which share the presence of an historical and contemporary concentration of glassmaking activities. Via qualitative interviews and ethnographic work we explore how, in these two different contexts, individual research practice (particularly design and materials development) and place-based knowledge enable the success of glass artists and makers and facilitate the potential for the sector to be a key player in local economic development. The comparative nature of the research project will enable us to assess how these different factors come together and develop historically in different contexts. Attention is given both to the personal/individual understanding of these local dimensions (McAuley and Fillis, 2005) and also to its policy and public support implications and interactions. The relevance of researching this specific field lies in the way glassmaking incorporates both industrial-technical knowledge and artistic and designed-based added value, making it an ideal context to research the way local industrial knowledge is nowadays being reinvented in new post-industrial, creative frameworks (Yair et al., 1999).

Bringing together the literature on clusters and their evolutionary nature in this context, the paper also engages with the literature on path dependency and adaptation in evolutionary economic geography and the literature on deskilling, reskilling and upskilling (Christopherson et al., 2010; Comunian and Jacobi, 2015; Gibson, 2016) to understand how the industrial heritage of these two locations is reinvented and re-used in new glass making work taking place. We are interested specifically in how the creative industries and creative economy remain mostly underexplored in this literature.

In the first section, we review the key ideas from the literature focusing on how ‘sticky’ knowledge has been overlooked in the study of creative clusters. Here we also consider the connection between knowledge and skills pattern development and how, in contrast to

digital clusters or contemporary creative clusters associated with a specific music or art scene, the craft sector demonstrates a connection between industrial and post-industrial economies and the translation of industrial knowledge into new creative outcomes and markets (Pollard, 2004). We then introduce two case studies in the UK (Stourbridge and Sunderland) to discuss changes and economic development specifically in relation to glass-making in the creative economy. Using qualitative interviews and data from extensive field work in these locations, we consider how glass makers in these areas relate their work to the local traditions of industrial glass making and also how knowledge, networks and cultures of making are passed on and demonstrate evolution and adaptation from the industrial economy to the new post-industrial creative economy. The conclusions highlight the need for more research to consider the longitudinal dimension of knowledge, but also to re-draft the genealogy of the creative economy within old industrial traditions and networks in order to account for connections with specific geographies and places. Finally, we reflect on how skills and knowledge from traditional industrial clusters might connect to new models of flexible and specialised production in the creative and cultural industries through phases of deskilling, reskilling and upskilling (Heisig, 2009).

## 2. Place, knowledge, skills and ‘stickiness’: An evolutionary perspective

Literature on the role of regions and locales in the preservation and development of industrial and post-industrial clusters has highlighted that the ‘stickiness’ of knowledge and skills and their embeddedness in places and institutions are key dynamics of clusters development (Bathelt et al., 2004). Gertler (2003) provides a useful overview of the importance of tacit knowledge and its connection with skills development and transfer: the “tacit component of the knowledge required for successful performance of a skill is that which defies codification or articulation – either because the performer herself is not fully conscious of all the ‘secrets’ of successful performance or because the codes of language are not well enough developed to permit explication” (p. 78). The craft sector is certainly under-researched by economic geographers (Gibson, 2016) and a preference towards manufacturing and innovation-led industries can be observed in the choice of sector and case studies analysed. Historically, the craft sector has been considered backwards looking and potentially rejecting innovation in favour of tradition (Warburton, 2016). However, the emergence of flexible specialisation (Phillimore, 1989) and the expansion of cultural product markets (Scott, 1996) has given the sector a new revival and new centrality in both making (Capdevila, 2013) and soft innovation (Eltham, 2013).

Nonetheless, moving from different modes of productions or industrial phases, in this article we are particularly interested in understanding how knowledge and skills are retained, preserved and updated within the same locale, and what mechanisms facilitate or hinder the re-invention of knowledge from industrial to post-industrial and creative. The ‘stickiness’ of skills and knowledge is recognised in the literature as being embedded in “regional resources” (Asheim and Isaksen, 2002, p. 77) including “place-specific, contextual knowledge of both tacit and codified nature, that, in combination, is rather geographically immobile”. Subsequently, there is a risk of embedded knowledge and networks becoming “strongly self-referential and subject to lock-ins” (England and Comunian, 2016: 159; Visser and Boschma, 2004) which could hinder processes of industrial restructuring, reskilling and upskilling. However, linked to the growing interest in high-tech clusters and economic development, the greatest concern for the literature is innovation, while very little is explored in terms of knowledge preservation and tradition.

We aim to link the current understanding of knowledge embeddedness and ‘stickiness’ with its necessary evolution and change through time to reflect on its adaptation and re-organisation (Holling, 1986).

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