

The resilience of knowledge from industrial to creative clusters: the case of regional craft clusters in the West Midlands (UK)

Roberta Comunian¹ and Lauren England

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INTRODUCTION

In local economic development literature, both resilience and clusters have received extensive consideration. Industrial clusters (Porter, 1990) in particular have been considered key to the development of local production systems, and their longevity and success has been studied extensively. In many ways, the literature that looks at the historical development of clusters and their development through crisis and economic changes (Iammarino and McCann, 2006) has been pervading the most recent economic literature on the resilience of local economic systems (Hassink, 2010). This chapter therefore aims to bring together the two concepts of clusters and resilience, specifically focusing on a sub-section of local economic clusters concerned with the production of creative and cultural products.

Our understanding of clusters and their evolution and resilience has expanded in the last decades. However, little research has considered the importance of resilience and evolution with specific reference to creative clusters (Berg and Hassink, 2014). This chapter aims to survey the emergent literature on resilience and evolutionary perspectives in economic geography, connecting it with our current knowledge and understanding of creative clusters (Pratt, 2004).

Overall, the literature on creative clusters is extensive, even more so if one considers other interconnected terminology (cultural quarters, creative hubs) which highlights their key role in contemporary post-industrial economies (Turok, 2003, Stern and Seifert, 2010, Bassett, Griffiths and Smith, 2002). However, for the purpose of this chapter we will use the term creative cluster to capture specialized forms of cultural consumption and creative production in specific contexts, building on the literature on industrial clusters to specifically consider their life cycle and transformation (Martin and Sunley, 2007, Byrne, 2002, Pratt, 1991, Martin and Sunley, 2011).

We reflect on the transformation of clusters towards 'creative clusters' following the definition given by De Propris et al. (2009: 11):

- (a) a place that brings together a community of 'creative people' who share an interest in novelty but not necessarily in the same subject; (b) a catalysing place

where people, relationships, ideas and talents can spark each other; (c) an environment that offers diversity, stimuli and freedom of expression; and finally (d) a thick, open and ever changing network of inter-personal exchanges that nurture individuals' uniqueness and identity.

Amongst the many creative activities that can define a range of creative clusters, in this chapter we focus specifically on the craft sector (Luckman, 2015). Craft in the UK is officially included in the Department of Culture, Media and Sport (DCMS, 1998: 3) definition of creative industries "as those industries which have their origin in individual creativity, skill and talent which have a potential for job and wealth creation through the generation and exploitation of intellectual property". However, the craft sector has been a "contested" area within the creative industries definition: on the one hand it is embedded in individual creativity and craftsmanship, on the other it is strongly connected with production and manufacturing. In fact, we think it would be possible to argue that craft represents an interesting historical bridge between original artisanal creative skills – for years considered outdated during the heyday of the Industrial Revolution and industrial means of production – and the new flexible production makers culture which has emerged via FabLabs (Cozzi, 2013). The rationale for researching this specific field therefore lies in the way craft 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 a new post-industrial, creative framework.

Focusing on the craft sector in the UK, the concept of resilience is explored as a conceptual framework to explain and explore the shift from industrial to post-industrial economies. The focus of the chapter is on the resilience of knowledge, and the role of networks in supporting this resilience in the shift from industrial production to creative making.

The chapter is structured in three parts. In the first part we consider the application of the resilience framework to the theme of clusters and knowledge. We consider the role of tradition and local knowledge as well as the importance of networks and infrastructure in supporting knowledge conservation, release and re-organization in specific places that have moved from industrial economies to new creative clusters. In the second part of the chapter, we introduce our case studies region, the West Midlands; we review the specific case studies and consider common patterns of development and knowledge conservation. We argue here about the importance of knowledge networks, as well as cultural institutions, in preserving knowledge and expertise. Finally, the findings highlight the need for more longitudinal and evolutionary perspectives in the understanding of creative clusters development.

The chapter uses three case studies of three different locations in the West-Midlands, a region of the UK with a strong industrial tradition. The West-Midlands is considered the birthplace of the Industrial Revolution (Jones, 2008) and was home to a rich network of industrial clusters (Wilson and Popp, 2003) operating until contemporary times (Freel, 2002; DePropriis, 2000). In all three industrial clusters – Jewellery in Birmingham, Pottery in Staffordshire and Glass in Stourbridge – we see strong industrial development and mass-production patterns which, following the post-industrial decline and new dynamics of global outsourcing, have diminished and almost disappeared. However, in this chapter we explore how the knowledge of making has been reinvented and strengthened in new emerging creative productions despite the disappearance of many industries due to economic decline.

CLUSTERS THROUGH TIME: CHANGING PRODUCTION, KNOWLEDGE ECONOMIES AND CREATIVE INDUSTRIES

From industrial knowledge to the knowledge of the creative economy

Discourses surrounding the importance of creative and cultural economies are largely intertwined with the debate on the post-Fordist knowledge economy and, in particular, the agenda for increased competition in the UK economy (DTI, 1999), reflecting Porter's (1990) theory on competition. Competition can be enhanced by cutting costs of production (especially labour costs, through cheaper labour or substituting labour with technology) or alternatively, through developing innovation in products and services and increasing their value through diversification. The arguments in support of creativity, innovation and the development of the knowledge economy are also linked to the possibilities of adopting flexible specialisation strategies (Piore and Sabel, 1984) centred on loose networks of small firms that can use their expertise and skills to create new high-value products. Jeffcutt (2004) underlines that the enthusiasm for creativity needs to be connected and conceptualized within the discourses of competitive advantage and globalisation and considered in the search for new forms of competition based on innovation and on the generation of new products and services. He also illustrates how the understanding of the cultural economy is central to the understanding of the knowledge economy, as they are profoundly intertwined.

Furthermore, the post-Fordism argument seems to create a strong connection between the importance of new place-based organizational forms like the new industrial district (Amin and Thrift, 1994), and the importance of local agencies and institutional frameworks (Morgan, 1997, Keating, 2001, Pinch et al., 2003) in building the capacity for developing this potential competitive advantage. Lash and Urry (1994: 123) go as far as to suggest that "the culture industries themselves have provided the template" for new modes of manufacturing.

Castells (2000) also highlights that in essence, the new economy is cultural because its development relies on a culture of innovation and risk. Creative industries are here both cause and consequence of a new convergence, at a local, national and global level of culture and economy, art and technology and the shift towards "informational," "symbolic" and "knowledge-based" modes of production (Banks et al., 2000: 454). Taking this argument forward, Howkins (2001) argues that creative production can be considered as a model for the new economy and its business practice, especially in reference to these characteristics: outsourcing; the temporary company; the "producer" model of production management; just in time production and others.

Comunian, Chapain and Clifton (2014) specifically argue that the large enthusiasm internationally (European Commission, 2001) towards the creative industries has been motivated by the consideration that they are 'special sites' for creativity. This may be because creativity is looked at as the key element for the generation of competitive advantage, new products development and innovation for the knowledge economy.

In this chapter, we are particularly interested in highlighting the connection between industrial and post-industrial knowledge. We argue that creative industries – in our specific context, craft – might represent a new mode of production and value creation which builds on pre-existing (even industrial) knowledge and re-delivers it in new formats which are

highly individualised (rather than mass produced) and creates added value both from a high degree of specialization but also a high degree of innovation.

From Industrial Clusters To Creative Clusters: Putting Craft In Place

The study of clusters has a long tradition in economic geography and highlights important dynamics of production, knowledge sharing and networks within specialized contexts (Gordon and McCann, 2000). However, we argue there is a lesser understanding of the evolution of production, knowledge and networks over time, and only a handful of case studies have been able to apply a longitudinal perspective to the study of clusters (Ter Wal, 2013, Iammarino and McCann, 2006). This, we agree with Berg and Hassink (2014), is particularly true for creative clusters, which have tended to be studied with particular attention to specific policies and interventions but not with an evolutionary perspective.

In exploring dynamics within industrial and creative craft clusters we highlight a degree of evolution and continuity of knowledge and context, while also pointing towards a set of distinct characteristics which differentiate between them (Table 17.1). It is particularly important to recognize that contemporary craft is based on an economy of individual traders and micro-businesses and therefore has less potential for large infrastructural investments which may have been present in the mass-production system of glass making or pottery for example in the West Midlands in the last century.

In the move from industrial to post-industrial production, the emphasis is now on unique and high-value products which can be made bespoke and rely on individuals' creativity and distinctiveness – rather than a repertoire or recognized formats. It is also important to note that industrial knowledge (and the protection of its formats) within larger companies with a very stable workforce is very different from the development and protection of knowledge in contemporary craft.

The value of location is strong both in industrial and creative craft clusters. However, in industrial clusters the main rationale for location choices was connected with materials supply and infrastructure (for example transport). In the context of creative craft clusters, connection with location might be linked to specialized knowledge access and inspiration but also the brand that a specific craft heritage might bring to a maker (Drake, 2003).

This is also linked to the importance of the brand that a location might develop. In the past, location was often synonymous or connected with specific brands and large companies that were located there, for example Wedgwood and Stoke on Trent. However, with the re-branding, re-location overseas or closure of larger companies, contemporary craft clusters are perceived as living and building on the previous craft heritage, or creating new “collective” brands or property rights (Santagata, 2002).

While there are many differences between the modes of operation of old industrial clusters and new craft clusters, it is also important to highlight connections and continuity within the evolution of knowledge. The concept of a “learning region” (Morgan, 2007) seems particularly useful here. Regions are repositories of knowledge and ideas, a specific symbolic capital and specialized skills and practices. Those regions which are more successful in learning and evolving in their learning are the ones able to create an infrastructure (often linked to social capital and local networks) through which this knowledge is shared, flows and becomes a driver of further learning processes. This can ultimately create space for possible innovation and specialization which will create a competitive advantage against other places (MacLeod, 2000; Moolaert and Nussbaumer, 2005). Within this framework, we

are particularly interested in the role that networks and institutions (educational and cultural) play in connecting knowledge in the context through time.

Table 17.1 Differences between industrial and creative craft clusters

	Industrial Cluster	Creative Craft Cluster
Companies	Few large or medium size companies employing specialized workers	Many individual traders and small micro-businesses
Production	Emphasis on large replicable production	Emphasis on unique / high value products
Knowledge	Industrial knowledge is protected within companies and often established via repertoires and trademarks – but shared training and institutions are also key to a local specialized knowledge pool	Contemporary craft knowledge is often shared informally or through a network. The distinctiveness of individuals’ style or techniques is often the trademark
Location	Importance of connection with materials and infrastructures of production	Importance of networks and availability of space and support
Brand	Brand is made by large companies located in the area	Brand is a collective effort of individual makers to support / attach to their marketing

Institutions and Networks In Learning Regions: The Repository Of Knowledge Between Old & New

Institutions are often seen as key nodes in the cultural and social infrastructure of places. In fact, Asheim and Clark (2001) argue that the knowledge economy presents a new perspective on innovation as being both culturally and institutionally contextualized. “In a learning economy the competitive advantage of firms and regions is based on innovation, and innovation processes are seen as socially and territorially embedded interactive learning processes” (Asheim and Clark, 2001: 806). This can be applied specifically to CCIs, which show a strong link with both social dimensions and social networks and specific places and localities. They also contain elements of idiosyncratic cultural expression and are the basis of intense socio and economic networks. The importance and “thickness” of these local networks can have great influence on the ability of a region to innovate and share

knowledge. We argue that in this perspective, not enough emphasis has been placed by research on studying the evolution of this knowledge over time, especially in the shift between industrial and post-industrial knowledge.

Pinch et al (2003) talk about cluster level architectural knowledge systems which emerge through the routinization of interactions fostered by interdependencies and common interests between group members. This implies an understanding of issues such as reciprocity, trust and reputation. It also involves issues of component knowledge exchange, co-operation, competition, and other elements related to the socially embedded character of the cluster (Pinch et al., 2003: 383). However, many also argue for the importance of institutions as repositories of knowledge in clusters (Foss and Lorenzen, 2003; Asheim and Gertler, 2005).

There is extensive research on the role of knowledge and educational institutions in industrial clusters (Goddard and Vallance, 2013). Universities or R&D platforms create knowledge and learning and specialized human capital which feed into the cluster (Cunningham et al., 2004). This is also true for emerging craft clusters in the examples we use; the presence of specialized university courses or business advice services is often key to the resilience of the clusters and the influx of new producers that perpetuate innovation and value creation. However, there is much less understanding of the role of heritage institutions and museums in preserving and connecting existing knowledge (both knowledge of style and repertoires as well as technical knowledge of historical processes of production) with new forms of creative production.

CASE STUDIES: INDUSTRIAL TO CREATIVE CLUSTERS IN THE WEST MIDLANDS

Studies on the UK craft sector have begun to examine the shift from industrial to “creative” clusters within a craft manufacturing context; considering the cluster concept in relation to industrial production dynamics alongside new developments in the framework of the creative industries and post-industrial economies. This chapter considers three craft industries: jewellery, ceramics and glass, reviewing studies in each area in order to explore the role of tradition and local knowledge as well as the importance of policy, networks and infrastructure in supporting knowledge conservation, release and re-organization in specific places that are shifting from industrial economies to new creative clusters.

It is important, before detailing the nature and characteristics of these clusters, to highlight their regional dimension and connection with the changing landscape of production in the West Midlands from an industrial region to a service region alongside increased investment and attention towards the creative economy.

The West Midlands, and Birmingham in particular, are strongly associated with the Industrial Revolution. Their boom during this time implies that their size and the importance of the region remains significant today, with Birmingham being the second largest city in the UK. The city and region – like many other hotspots of the industrial age – has, however, been strongly affected by economic changes. This need to respond to de-industrialization processes with restructuring and re-qualification is very well documented (Donnelly, Barnes and Morris, 2005; Whitehead, 2003). The 1970s and 1980s represent a period of major decline in the manufacturing sector of the West Midlands, and in the city of Birmingham in particular. One of the key strategies in responding to the economic downturn has been one of economic regeneration – including investment in new financial and service-based industries but also from the 1990s onwards there has been an increased attention towards

the cultural and creative economy. The emergence of creative industries and investment in cultural regeneration is also well documented (Chapain and Comunian, 2010, 2011) and builds on the capacity of the region to re-invent itself and its knowledge.

Within this creative economy landscape, it is important to highlight the role played by policy, particularly through the work of the Regional Development Agency (RDA) "Advantage West Midlands" that operated in the region between 1999 and 2012, but also the activities of Birmingham City Council, with particular emphasis on supporting regional specialization and clusters (Jayne, 2005). In the 2000s there was a particular emphasis on the "Regional Cultural strategy" (published in 2001 and updated in 2005) on the role of cultural and creative industries in the region, but also their economic dimension. The craft sector, which has a considerably long tradition in the region (Gilbert, 1972), was recognized in policy documents but also supported with the development of local networks such "Created in Birmingham".²

Jewellery: Birmingham Jewellery Quarter

Consisting predominantly of small firms, the Birmingham Jewellery Quarter (BJQ) is "one of the most highly geographically concentrated industries in the UK" (Pollard, 2004: 180; Devereux, Griffith and Simpson, 2004). BJQ-based firms, some of which have been part of the quarter since its origins in the late eighteenth century (Pollard, 2004), have survived shifting markets, advances in technology and the rise of large-scale mechanization of labour (De Propriis and Wei, 2009). Studies on the BJQ have highlighted key issues facing the survival of the quarter in a post-industrial economy; the evolution of traditional manufacturing towards new forms of creative innovation, the development and preservation of support infrastructure and networks within the quarter, and the development of an aligned policy agenda.

According to De Propriis and Wei (2009), while traditional knowledge and skills remain part of cluster operations, innovative, creative skills in the design and manufacture of jewellery are now integral to the ability of firms to maintain their position within both domestic and international arenas. Firms are no longer able to rely on their prowess in the now common-place industrial processes for which they became known (electroplating and precious metal treatments), they must adapt to the shifting landscape of the international jewellery market along with its technological and creative developments if they are to survive:

[T]o maintain their competitive position in the domestic market and to export, jewellery firms need not only to keep up with technological progress, but more importantly to offer pieces of jewellery that have a very highly innovative and creative content and that are almost unique. (De Propriis and Wei, 2009: 44)

This is supported by Pollard in that "Birmingham jewellers face a stark choice between further decline, to the point of extinction, in low value-added markets or a shift into more design- and knowledge-intensive forms of production" (Pollard, 2004: 174). De Propriis and Wei present this shift as a challenge for traditional technology-orientated firms "to recombine existing competences and skills with novel ideas and designs" (De Propriis and Wei, 2009: 44). Overall, this suggests that although traditional knowledge remains a key feature of the quarter, there is a growing demand for a particular post-industrial creative skill set that enables the invention and production of added-value products.

This is a fate suffered by many industries in a post-industrial economy both within and outside of crafts disciplines due to increased pressures rising from the increase of low-

cost mass-manufacturing in China and India; “Indeed, many traditional manufacturing industries whose competitive advantage had been eroded by price competition from low cost producers, had to move away from mass production and to concentrate on technology and design” (De Propris and Wei, 2009: 44; Advantage West Midlands, 2000).

It has been implied that such creative assets (skills, market knowledge etc.) are required for survival within the market and that the ability of firms to harness such creative skills and knowledge has a direct impact on their growth (De Propris and Wei, 2009). In this sense the quarter has become a “place of contradiction and contestation, where the new and the old meet head on” (Pollard, 2004: 174). The growing reliance on creative assets also marks a shift from a consideration of the quarter as an industrial hub towards the development of a post-industrial creative cluster. However, the management of this contest between traditional expertise and creative innovation demands an aligned and evolved support structure, both in terms of physical infrastructure and inter-firm networks, in order to release and reorganize industry skills and knowledge in line with new market demands. The challenge is finding a way of achieving this whilst also conserving the traditional expertise of those firms historically associated with the BJQ and around whom the reputation of the quarter has been built.

While the accumulation of knowledge associated with cluster formation (Maskell, 2001; Belussi, 1996) is present within the BJQ (De Propris and Lazzarretti, 2009) in terms of the specialist nature of quarter firms, the transfer of knowledge (traditional and contemporary) through internal and external cluster networks appears limited, due to the conservative and insular behaviour of firms and BJQ constituents (Pollard, 2004). This is somewhat mitigated by the outsourcing of work by smaller firms seeking specialist skills such as casting, gem setting and polishing, although Pollard further suggests that the large proportion of family-run businesses is in part responsible for the “climate of secrecy” (Pollard, 2004: 186) within the BJQ, fuelled by the uncertainty of trade operations and increased sector competition. Pollard’s study appears to suggest that the insular quality of the BJQ and jewellery industry further afield has increased as the industry declines and shifts towards a new economy reliant on individual creativity. This presents a potential barrier to creative cluster evolution and management as the continued resilience of the BJQ requires the development of “trust, collaboration and strategic capacity” (Pollard, 2004: 191), which stretch within and outside of the quarter, in order to create sustainability within an evolved, design and knowledge-intensive industry.

The lack of external network cultivation within the quarter appears to limit, not only the creative skills capacity of BJQ firms, but also their access to international markets for retail purposes. A certain degree of inertia within the cluster in this area was noted by De Propris and Wei (2009) who have called for an evolved communications and business structure, alongside an appeal for policies that support the development of creative activity, in order to strengthen the position of the BJQ as a creative cluster and inject “innovation into the manufacturing heart of the quarter” (De Propris and Wei, 2009: 53).

On the other hand, we can certainly see a presence of institutions, both cultural and educational, playing a role in the development and preservation of the cluster. An important element of institutional advantage in the cluster is the presence of the Birmingham School of Jewellery which was established in 1890 (and since 1989 has been part of Birmingham Polytechnic, now Birmingham City University). It is the largest school of its kind in Europe and is based in the centre of the Jewellery Quarter. The school has evolved over time from being a training institute for local workers to a repository of knowledge and innovation for

the sector. Since 1997 the school has also hosted the “The Jewellery Industry Innovation Centre (JIIC)” as part of The School of Jewellery, providing expertise in CAD/CAM, laser and related technologies and their application within the sector for the benefit of the students and local small companies in the cluster.

Furthermore, as part of the city's Heritage Development Plan the city council opened the “Museum of the Jewellery Quarter” in 1992. The museum is in fact housed within the factory of small family-run firm (Smith and Pepper) who produced gold jewellery there and stopped operating in 1981. Interestingly, the workshop/museum preserves instruments as well as local knowledge of the production and traditional design used in the area. It also includes a collection of locally made jewellery produced over time.

De Propriis and Wei (2009: 41) also highlight the “policy support packages for the redevelopment and regeneration of the area” that have been instrumental in maintaining the quarter including the *Jewellery Quarter Urban Village Project*, an initiative designed to promote regeneration in the area, supporting the tradition and identity of the BJQ whilst also facilitating industry development (Birmingham City Council, 2005: 274). Policy support is further demonstrated by the nomination of the BJQ for World Heritage Status in 2010 and acknowledgement of the historical and contemporary importance of the cluster; “The outstanding universal value of the Birmingham Jewellery Quarter lies in its survival as a living cultural and physical entity representing early industrialisation in Britain” (Birmingham City Council, 2010: 4).

While these examples suggest a strong engagement between policy makers and the quarter, particularly in the case of support for infrastructure preservation and development, Pollard has suggested that the “repackaging of the Jewellery Quarter, moulded by Birmingham’s broader urban regeneration strategies, is affecting the material and social networks that constitute jewellery manufacturing” (Pollard, 2004: 173). Such regeneration agendas can therefore be seen as detrimental to the very “domestic model of industrialisation” (Birmingham City Council, 2010: 4) the scheme proposes to protect. Pollard goes on to argue that the “greater stress being given to the aestheticisation of the Quarter may ultimately undermine the economic (and social) bases of the Quarter’s jewellery manufacturing networks” (Pollard, 2004: 173). This suggests a level of disconnect between local policy makers and the needs of BJQ firms. According to Pollard, this discord resonates both between the jewellery industry and the city council and within the quarter itself creating an internal fragmentation. When coupled with the conservative outlook and insularity of jewellery makers working within the quarter (Pollard, 2004) this presents a significant challenge to the evolution and continued resilience of the BJQ.

Ceramics: North Staffordshire Potteries

In contrast with the BJQ which is dominated by small firms, the history of the North Staffordshire ceramic district, also known as ‘The Potteries’ has historically been driven by larger firms and their responses to economic challenges (Hervas-Oliver, Jackson and Tomlinson, 2011). With a legacy of industrial ceramics production dating back to the seventeenth century (Tomlinson and Branston, 2014), both the decline and regional resilience of the Potteries has been attributed the strategic planning of leading firms such as Wedgwood and Spode (Hervas-Oliver, Jackson and Tomlinson, 2011). It has however been argued that this reliance has created a “slow entrenched decline exacerbated by globalisation” (Hervas-Oliver, Jackson and Tomlinson, 2011: 183). On the other hand, Tomlinson and Branston (Tomlinson and Branston, 2014b) argue against this pessimistic

view of large-firm dominance, suggesting that the reputation, technical expertise and product quality associated with such firms have been instrumental in retaining consumer interest in district production through the promotion of the “Made in England/Staffordshire” trademarks, and that the “re-shoring” of such firms from the Far East in North Staffordshire has boosted the district and provides a level of security in a challenging economic environment (Tomlinson and Branston, 2014b; Sacchetti and Tomlinson, 2006).

Nevertheless, it has been theorized that the age of large-firm dominance over the ceramics industry are numbered; Padley and Pugh (2000: 28) argue for a “small is beautiful” model in ceramics production (Sacchetti and Tomlinson, 2006), drawing from Piore and Sabel’s (1984) theory that “in the new global economy, smaller (ceramics) firms are likely to be more flexible and successful in reacting to changing market conditions” (Sacchetti and Tomlinson, 2006: 239). While Jayne argues that regional strategies promoting creative industries development in Stoke-on-Trent have been “aligned more with past failings than with the kind of progressive agenda that has contributed to the renaissance of many other former industrial cities in the UK, the rest of Europe and North America” (Jayne, 2004: 208), Sacchetti and Tomlinson suggest that the “small is beautiful” approach promotes a “less hierarchical industrial structure and a greater involvement of stakeholders at the local level (and thus reducing the risks of ‘strategic failure’ (see Cowling and Sugden, 1999)” (Sacchetti and Tomlinson, 2006: 239).

Restructuring of the industry can be observed in parallel with a shift towards higher-value niche product design and the production of bespoke products (Hervas-Oliver, Jackson and Tomlinson, 2011; Tomlinson and Branston, 2014) as found in the BJQ. A marked industry difference, however, is that in the ceramics industry this evolution has begun to successfully exploit the expertise of district firms and the capacity for such expertise to be applied outside of a traditional table, gift and hotel-ware context including ceramics applications in other industries such as construction and medical engineering (Hervas-Oliver, Jackson and Tomlinson, 2011). The adaptive response of multiple district firms suggests a concerted effort to adapt to evolving markets as firms begin to “pay more attention to their designs (and design teams) and wider marketing activities” (Tomlinson and Branston, 2014: 8). It is noted that while this strategy has been a consistent feature of leading firms, the shift towards niche market orientation has also been taken up by new firms at a micro-enterprise level (Tomlinson and Branston, 2014), suggesting a district-wide evolution. Sacchetti and Tomlinson state that “the future of the UK industry lies in encouraging smaller-scale production units and that competing on the low-cost, mass-produced wares of the past is no longer a viable option, since foreign operators will always hold an absolute cost advantage” (Sacchetti and Tomlinson, 2006: 239). Despite this assertion, it is acknowledged that the position of small ceramics firms remains precarious as they compete against more established firms both in domestic and international markets (Sacchetti and Tomlinson, 2006).

The infrastructure of the Potteries, both physical and in terms of network structure, has been key to the resilience of the ceramics industry, although there have been recent calls for greater emphasis on “small-firm development and encouraging greater networking between firms within and across localities” (Sacchetti and Tomlinson, 2006: 239). Both long-standing and developing networks are seen to facilitate the sharing of industrial and creative knowledge and are associated with a diminished risk of over-embeddedness and “lock-in” within the industry (Tomlinson and Branston, 2014a). Co-operation, as a means of

developing innovative production methods and products, has become a central part of regional policy in North Staffordshire and is actively encouraged within the ceramics industry (North Staffordshire Taskforce, 2003 in Sacchetti and Tomlinson, 2006). Such collaborative practice is facilitated by interactions between industry and higher education, the formation of research bodies such as CERAM (Hervas-Oliver, Jackson and Tomlinson, 2011) and publicly-funded initiatives such as “Hothouse”, a ceramics technology centre (primarily for shape and print) “which can facilitate mutual learning, knowledge and technological transfers that are a key facet of any modern successful cluster” (Morosini, 2003 in Sacchetti and Tomlinson, 2006: 240). Furthermore, recommendations for the combination of external knowledge and local expertise have become an established part of industrial policy discourse (Storper and Venables, 2004; Wolfe and Gertler, 2004), encouraging collaborative practice and the development of creative innovations that can tap into niche and high-value markets.

Similar to the Jewellery Quarter museum, Stoke-on-Trent has also invested in the preservation of its industrial past and technical making knowledge via the creation of a museum. The Gladstone Pottery Museum (just one of many local heritage sites dedicated to pottery) is housed within a previous working pottery typical of the area, which last closed its production in 1960. The museum opened in 1974 with the remit of preserving the history of the local production setting and techniques. A similarly important role is played by local universities (like Staffordshire University) in terms of providing opportunities for new makers and designers to engage with the sector and benefit from the local knowledge in the area. Furthermore, the British Ceramics Biennale was launched in 2009 to celebrate, educate and showcase contemporary ceramics from across the world in Stoke on Trent.

It is acknowledged that the resilience of the region’s ceramics industry is a feature “which if managed correctly, may potentially open up different and prosperous paths for firms and the industry” (Hervas-Oliver, Jackson and Tomlinson, 2011: 383). This view is supported by Sacchetti and Tomlinson’s assertion that “the cluster itself has inherent strengths, which can be further harnessed to its long-term competitive advantage, the cluster’s long-standing tradition in ceramics, its ceramic research centres and expertise, combined with a reputation for quality and design being particularly significant” (Sacchetti and Tomlinson, 2006: 238).

Glass: Stourbridge Glass Quarter

Glassmaking remains the least-explored craft form within cluster studies. However, as a crafts discipline it incorporates both industrial-technical knowledge and artistic and designed-based added value, marking it as a key discipline through which to explore how local industrial knowledge is being reinvented in a new post-industrial, creative framework (Yair, Tomes and Press, 1999). From the seventeenth to the twentieth century Stourbridge glass-manufacturing firms made a name for themselves and the region producing lead-glass tableware (Dudley Borough, 2015). During the Victorian period the industry flourished, with new techniques such as cameo introduced and developments in coloured crystal glass. Driven primarily by the success of cut-glass manufacturing in the region (Red House Glass Cone), this growth continued until the early twentieth century (Farmer, 2008), with major manufacturing companies including Thomas Webb and Sons, Webb Corbett/Royal Doulton, Royal Brierley Crystal and Stuart Crystal employing over 1,500 people within the industry. A further 500 plus jobs were supplied by smaller companies and sole traders (Dudley Borough, 2015), a model that has now become the norm for glass industry employment (Crafts Council, 2014).

The decline of the glass industry in Stourbridge has been attributed to a number of factors; “Environmental issues, Health and Safety, rising energy costs, European competition, life style tastes and changes” (Dudley Borough, 2015) and by 2001 all the major glass-manufacturing companies in the area had closed (Dudley Borough, 2015). Nevertheless, Stourbridge remains an important location for contemporary glass artists, collectors and exhibitors today (Brocklehurst, 2010) and the region’s glassmaking heritage has been somewhat preserved by cultural investments and developments such as the repurposing of the iconic Red House Glass Cone, which once housed Stuart Crystal and a number of other glassmaking firms, as a working museum in 1984 and then as a visitor attraction in 2002 (Red House Glass Cone).

In Stourbridge, old industrial heritage has also been reinvented and re-used in the new glass-making work taking place. Glass makers in the locality draw on the tradition of industrial glass-making in the region but also observe how knowledge, networks and cultures of making are passed on and resiliently survive from the industrial economy to the new post-industrial creative economy. Place-based knowledge here combines with individual research practice (especially design and materials development) to promote glass artists and makers and present the possibility for the sector to be a key player local economic development. England and Comunian (2016) also found that an acknowledgement of the evolutionary nature of the glassmaking industry within glassmaking studios in the quarter exists, but there is also a sense of local pride in the glassmaking heritage of the region (Farmer, 2008: 11):

Stourbridge people are proud; they are proud of their town and proud of their town's legacy. Find any true local and ask them about the glass trade and they will usually regale you with a tale of father who was a cutter, uncle an engraver, mum who packed crates or great grandmother who kept the accounts.

The understanding of the evolution of glass-making from an industrial to post-industrial practice in Stourbridge may be related to the relatively short history of artistic glass production (1960s onwards) (Cummings, 2005) creating a clear shift from industrial manufacturing towards individual creative practice. This was heavily influenced by the presence of factory-trained glass makers in teaching facilities such as Stourbridge College prior to and following the loss of industry. Although initially links between industry and education were a priority, this began to shift as industry diminished in the mid-twentieth century. Sam Herman was particularly influential at this point in the 1960s; a teacher at Stourbridge College he was also a pioneer of the British Studio Glass Movement (Cummings, 2005) and encouraged a shift away from industrial manufacturing processes towards the development of contemporary artistic practice, a now dominant practice in UK glass-making.

It appears that the specialized and embedded knowledge integral to the continuation of glass-making lies both within individuals (artists, designers and fabricators) and institutions as research centres and facilitators of creative practice and development. Although there are no higher education institutions currently offering glass courses in Stourbridge (the degree course has moved to Wolverhampton University), the centrality of key glass-making facilities and studios and cultural and heritage institutions such as Ruskin is reflected in the supply chain as auxiliary firms cluster around the institutions and makers’ studios. The traditional knowledge (technical) held by individuals whose training

predominantly took place in a factory setting also remains of value within such clusters and is preserved by institutions such as the Ruskin Glass Centre, while contemporary practice is promoted within the quarter by studio makers at Ruskin and the Biannual International Festival of Glass and British Glass Biennale. The prominence of these exhibitions, which provide a snapshot of glass-sector developments, technological advances and new talent on a biannual basis, demonstrates vividly the resilience and evolution of glass-making knowledge both within the region and across the UK.

CONCLUSIONS

This chapter has tried to reflect on the connection between industrial clusters and the creative economy, with particular reference to craft production in the UK. We used three case studies from the West Midlands to explore the shift from past industrial tradition, which relied on large industrial production, to new post-industrial added-value artefacts fuelled by creativity. The case studies and trajectories described highlight the importance of taking a longitudinal and evolutionary perspective when exploring the changes taking place in material and cultural production (Berg and Hassink, 2014). It also questions the tendency, in policy and academic circles, to hail the creative economy and creative industries as a new disruptive force in local economies that can be implemented by interventions representing a completely new chapter in local economic development. On the contrary, we argue that creative industries – in this case craft but much could also be said about music, fashion and other creative sectors – rely and thrive on local knowledge, heritage and production systems that have developed over time and are very place-specific (Drake, 2003). While policy certainly plays a role in supporting resilience and enabling knowledge to be retained rather than disappear from old industrial regions, we argue that the success of policy in the context of the West Midlands and our case studies has been in trying to preserve the local knowledge by supporting cultural institutions, heritage preservation, education and training opportunities or developing local creative networks. However, policies that do not take into account the diversity of regional creative industries (Drake, 2003), simply “repackaging” creative clusters through redevelopment strategies, tend to demonstrate a closer affinity with broad urban regeneration (Pollard, 2004) and tourism agendas, rather than addressing the needs of the cluster and its constituents. Such misalignment has the potential to create disconnect, between both policy makers and practitioners and within the cluster itself (Pollard, 2004). This has implications for policy makers when considering cultural regeneration strategies in that the diverse nature of their industrial or creative specialism and their locality must be considered in order to facilitate sustainable evolution. It might also be a particularly valuable lesson for countries which are still transitioning from industrial to post-industrial economies, highlighting the importance of preserving their industrial heritage and knowledge as an asset for future development within knowledge and creative economies. This chapter could only offer an introduction to these topics and reflect on the resilience of knowledge from industrial to creative clusters, but more in-depth qualitative research is certainly needed to trace the connections and patterns of resilience and re-qualification of previous knowledge and expertise in new economic forms.

NOTES

¹ Contact details: Reader in Creative Economy, Culture, Media and Creative Industries King's College London, 335 Norfolk Building, Strand Campus, London, WC2R 2LS Tel +44 (0)20 7848 1557

E-mail: Roberta.Comunian@kcl.ac.uk

² For more details see: <http://www.createdinbirmingham.com>

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