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Studying the Complexity of Craftsmen's Creativity

Calling for a Cross-Disciplinary Research in the Future

Chunfang Zhou *Ph.D., is assistant professor in Department of Learning and Philosophy, Aalborg University, Denmark. Chunfang locates her research in the area of Science, Technology and Society (STS), with a particular focus on creativity study and its relations to group learning, science and engineering education, organizational innovation, Problem-Based Learning (PBL), engineering and technology design, and Information Communication Technology (ICT).*

Lene Tanggaard Pedersen *is professor at the Department of Communication and Psychology, Aalborg University, Denmark and co-director (with Vlad Glaveanu) of the International Centre for the Cultural Psychology of Creativity (ICCPC) and co-director (with Svend Brinkmann) of the Center for Qualitative Studies. She has held visiting positions at Berkeley and the University of Technology, Sydney. Her research focuses on the situational and contextual dimensions of creativity vis-à-vis real-life problems.*

Hui Zhang *is a Ph.D. candidate in Center for Studies of Technology and Society at Northeastern University in China. During 2014-2015, She was a visiting Ph.D. student in Department of Communication and Psychology, Aalborg University, Denmark. Hui Zhang focuses her studies on history of science and technology, creativity, craftsman work, and gender issues.*

Abstract

Creativity has been given much attention by researchers in various areas, but recent studies lack particular discussions on craftsmen's creativity. This article presents an analysis of craftsmen's creativity as a complex phenomenon that indicates the need for a cross-disciplinary research to enable creativity research to reach

its full potential in the future. We regard craftsmen's creativity as a contextual-based activity, involving a range of socio-material aspects in practice.

This underpins the need for a holistic and cross-disciplinary view of craftsmen's creativity that is built upon a hybrid of insights gained from diverse fields including psychology, cognition, arts, humanities, design, and learning, etc.

Keywords creativity, craftsman, cross-disciplinary research, complexity, systematic approach

A Systematic Approach to Creativity

The concept of creativity has gained more and more importance in recent years. It is typically defined as the ability to produce work that is novel (i.e., original, unexpected), high in quality, and appropriate (i.e., it is useful, meets task constraints) (Beghetto and Kaufman 2007). As creativity has been thought of as a necessary element of innovation (Zhou 2012), numerous managers have argued that enhancing the creative performance of employees is a necessary step if organizations are to achieve competitive advantages (Oldham and Cummings 1996).

The literature has demonstrated many strands of research contributing to our current knowledge of creativity (Unsworth 2001). Creativity research was defined as a field of research in the early 1950s and today it covers a very broad range of research disciplines, with empirical studies in many fields (Sternberg 1999). The diverse perspectives range from cognitive accounts (Mednnick 1962), personality accounts (Barron and Harrington 1981), social psychological accounts (Amabile 1996), to cultural psychological accounts (Tanggaard 2013; 2014). In the early years of creativity research, there was a strong emphasis on inner determinants when it came to describing or explaining creativity (Guilford 1950; Simonton 2013). However, since the 1980s there has been an ever-increasing interest in studying the human capacity for producing new and original ideas and products seen as something taking place within and formed by social contexts. This implies that the environmental aspects contributing to creativity have been studied to a higher degree than before (Ryhammar and Brolin 1999). This emphasizes that creativity does not occur in a vacuum. Accordingly, when we

examine what is defined as a creative person, a creative product, or a creative process, the environmental milieu cannot be ignored (Lubart 1999). Thus, creativity is a context-based and context-informed activity. It cannot be dissociated from its social, cultural, or evolutionary setting (Zhou 2014).

Accordingly, there are calls for a systematic and practice-based approach to creativity indicating the complex nature of creativity. As Mumford, Reiter-Palmon and Redmond (1994) argued, there are a host of variables influencing the nature and ontogeny of the creative act. These variables span a wide range of individual and situational attributes, including knowledge, basic cognitive processes, aptitudes and abilities, personality characteristics, environmental perceptions, environmental structure, cultural characteristics and economic or evaluative considerations. Although there is a relative uncertainty in the essence of creativity itself, one may understand acts of creativity by means of studying the interacting aspects constituting these contexts in social practices (Zhou 2012). In the following, we will attempt to describe basic elements of the creativity involved in crafts. This description will reveal how craftsmen's activities regularly involve creative problem solving, imagination and design-oriented processes and how craftwork is a case illuminating in particular the process of creativity and how creativity can be part of continuing a tradition. These multiple and over-lapping processes indicate the need for a broad range of theoretical concepts and approaches to enable a ongoing analysis of craftsmen's creativity calling for multi-disciplinary perspectives in the future research within this domain.

Complexity of Craftsmen's Creativity

Based on the above-mentioned systemic and practice-based approach to understanding the concept of creativity, the general case of craftsmen's creativity can be seen as an example involving a range of socio-material aspects constituting the process of creativity (Tanggaard 2013). A socio-material perspective underlines that the interplay between actors and artifacts is to be seen as a substantial component of the process of creativity in itself and looking at a craftsperson producing a craft, it is indeed hard to separate people and craft as these seem to define each other. Let's take a deeper look at this process.

Crafting and creative problem-solving

In the book *The Craftsman*, Sennett (2009) argued that craftsmen are creative problem solvers and he describes that "every good craftsman conducts a dialogue between concrete practices and thinking; this dialogue evolves into sustaining habits, and these habits establish a rhythm between problem solving and problem finding" (p. 9). But what characterizes a creative problem-solving situation in practice? Generally, it can be defined as a wondering that takes the concrete form of a question; it can be characterized as the discrepancy between a hypothetical normal condition and a fact that diverges from it; it is a form of appearance of contrasts, conflicts and contradictions (Qvist 2004). Problems can take various forms, such as failure to perform, situations in need of immediate attention or improvement, a need to find better ways to do things, unexplained phenomena or observations, gaps in information and knowledge, decision-making situations, or a need for new designs or innovations. A problem triggers the context for engagement, curiosity, inquiry, and a quest to address a real-world concern. These psychological events, in turn, set in motion certain mental processes and behavioral changes, which includes developing creative ideas (Tan 2009). In this sense, 'creativity' and 'creative problem solving' can be seen as interchangeable terms (Basadur 1994).

Particularly, in the practice of craftwork, Sennett (2009) describes how a good craftsman uses solutions to uncover new territory; problem solving and problem finding are intimately related in this practice. He also describes how the act of 'opening up' is one of the basic abilities of craftsmanship: the capacity to open up a problem draws on intuitive leaps, specifically on the power to draw unlike domains close to one another and to preserve tacit knowledge in the leap between them. "Open up" is intimately linked with "open to," in the sense of being open to doing things differently, to shifting from one sphere of habit to another (Sennett 2009), which stimulates creative thinking. But what does this process of opening up imply in practice?

Imagination and creative problem-solving

In the process of problem finding and problem solving, the skilled practice of a craft and the ability to be open to alternatives involves imagination; every masterful exercise of craft projects involves de-

termined intentionality and an imagined vision of the completed tasks or object at hand (Pallasmaa 2009). As Sennett (2009) argues, all skills, even the most abstracts, begin as bodily practices; while the technical understanding of the skills develops through the powers of imagination. According to Jackson and Shaw (2006), imagination as a thinking process acts as a source of personal inspiration, it stimulates curiosity and motivation, it generates ideas from which creative solutions are selected and facilitates interpretations in situations which cannot be understood by facts or observations alone. Some craftsmen's work also assembles what is often described as a design-oriented activity. As Engeström (2006) has described it, each type of work generates and requires a certain dominant type of knowledge and design. In craft, the worker and the designer are essentially merged into one and the same person, the master craftsman. As quality, and the implied need to take into account the perspectives of users and the qualities of the materiality involved, becomes of crucial importance, designers/craftsmen are increasingly used in assisting with developing projects with their particular insights (Engeström 2006). As developing projects are emergent, it involves craftsmen engaged in complex, unpredictable interactions (Sawyer 2003). In this sense, a craftsman's creative process cannot be exactly repeated by himself or others. It often begins with an attempt to accomplish a task or solve a puzzle. It also often begins with the creative idea that comes to the mind before the product production, but which is also continually worked on as part of the production process (Zhang et al, 2016). But why do we care or dare to describe craftsmen's creativity? One could argue that craftsmen are not truly creative. Let's look at this very typical opposition.

Why do we care about creativity in crafts?

Given a product perspective to creativity, a craftsman does create as part of producing a new kind of artifact (Kronfeldner 2009). However, in ancient times, craftsmen did not care about creativity. In contrast, they focused on how to exactly reproduce the traditional model (Barzun 1989). This understanding involves a very implicit concept of creativity that is still very much alive. The product produced by craftsmen is often seen as primarily the result of the craftsmen's effort to explore the beauty or utility of the material. In other words, the craftsman collaborates with the material at

hand to make a unique product, a process revealing an often not recognized creativity, flourishing on the basis of existing artifacts or revealing something that did not exist before. Nevertheless, a craftsman's products are different from the mass production products, which are extremely homogeneous. So we might assume that craftsmen show more creativity in the uniqueness of creation style than at the creation level. This implies that the combination of creation style and technique level is regarded as the criterion of creation in craftwork. If a craftsman's creative product as a kind of artifact becomes famous and popular, the craftsman takes pride in his feeling of work, which can also encourage the craftsman to make novel and original products sequentially (Zhang et al. 2016).

Craftwork as continuing tradition and caring a mark of one-self

A workshop or studio is often the main working place of a craftsman. Families and relatives engaged in the crafts may influence the next generation to work in the same field, and the pressure for the next generation to continue the tradition may be strong. As Sennett (2009) argued, the instrumental dimensions of a craft can be theorized, researched, taught and incorporated in the practice fairly rationally, whereas the existential dimensions are integrated with one's own self-identity, life experience and ethical sense as well as one's personal sense of mission (Pallasmaa 2009). Therefore, the craft is also based on learned specialized skill, while a skill can be defined as a trained practice. A trained practice is where the craftsman needs to develop specific relationships between thought and thinking, ideas and execution, action and matter, learning and performance, self-identity and work, pride and humility. The craftsman also needs to embody the tool or instrument, internalize the nature of the material, and eventually turn him/herself into his/her own product, either material or immaterial (Pallasmaa 2009). So for the craftsmen, the seamless and unconscious collaboration of the eye, hand and mind is crucial. As the performance is gradually perfected, perception, action of the hand and thought lose their independence and turn into a singular and subliminally coordinated system of reaction and response (Pallasmaa 2009). However, training for a skill implies endless practice and repetition that borders upon boredom. The gradual improvement of performance, combined with dedication, keeps the negative sense of boredom at bay

(Pallasmaa 2009). But the creative ideas often come from destroying existing patterns of thought to produce some creative work. All craftsmanship is quality-driven work that pursues the standard of excellence: the aspiration for quality will drive a craftsman to improve, to get better rather than get by (Sennett 2009). However, craftsmanship is a very fitting case study for how creators and their audiences can hold an ambiguous position towards creativity. Their ambivalence usually steams from an age-old ideal shared by folk artists to achieve the greatest level of mastery in their work while (and often as a result of) eliminating any traces of personal identity from the end-product. Unlike art, a domain that fosters and to a certain extent relies on creative identities, craftsmanship is defined mostly by its anonymity. In craft, it is not the individual creator being foregrounded but, on the contrary, the continuity of a tradition takes centre stage.

The above discussion of the complexities of craftsmen's creativity is also related to the interaction among the craftsmen themselves, relevant field skills and knowledge, problem solving, coordinated working process, a novel and unique product, trained skills, intrinsic pressure, and a supportive environment etc. So creative abilities do not stand in isolation: they have to be blended and connected to other sorts of ability and capacity. As suggested by Sternberg and Lubart (1996), successfully intelligent individuals succeed in part because they achieve a functional balance among a 'triarchy' of abilities: analytical abilities, which are used to analyze, evaluate, judge, compare and contrast; creative abilities, which are used to create, invent, discover and imagine; and practical abilities, which are used to apply, utilize, implement and activate. Undoubtedly, craftsmen are people who are good at blending and utilizing different abilities, knowledge and capacities in order to achieve a goal of creative work.

Studying Craftsmen's Creativity towards a more Integrated Cross-Disciplinary Approach and Significances

As the above analysis reveals, the process and results of creativity cannot be anchored in any single point of departure. The whole body of the craft person is at work guided by the materials at hand, the situation, the need for producing something of value for custom-

ers and so on. It is indeed a very complex process and such examples show us why we might need a cross-disciplinary approach to the study of creativity. The complexity of the world we study means that it is open to interpretation. The curiosity driving the search for understanding that is simulated by the possibility space afforded by interpretation of what is encountered (Jackson and Shaw 2006). These points drive us to rethink both theoretical and methodological significances of a more integrated cross-disciplinary approach to study craftsman's creativity, as the following lines illustrated.

Respecting diversity of theoretical perspectives

Theoretically, based on a systematic view to creativity studies, we should give enough respect to the diversity of perspectives to cases of craftsmen's creativity. As mentioned above, situating creativity as emerging from within systems involving norms, values and practices implies that it has something to do with "being in a relationship." As Glăveanu (2013) described, the intensely focused thinker is oblivious to the immediate surrounding world because he or she is entrained in the internalized conversations of the network creativity, which is a process of making coalitions in one's mind, and creativity is a dialogical process that occurs within the context of relationship.

But can we also understand creativity in a more holistic, connected, and perhaps even constructive sense of a relationship? It is clear that we should call for a more integrated cross-disciplinary approach to creativity studies, especially in the case of craftsmen's creativity, based on the understanding of complexity and sociomateriality in a trained practice. This move to a more systemic and integrated approach to the study of creativity echoes the call raised in a recent review of creativity studies (Amabile and Hennesey 2010) and the concerns raised among other researchers in the field aiming for a better integration of research perspectives within creativity (Glăveanu 2010; 2014). However, an attempt at integration might be needed in the direction of model unity and coherence as suggested by Glăveanu (2014). On the contrary, we stress the importance of tolerating and respecting the diversity of perspectives and enjoying the fruits of cross-disciplinarily research, not needing to reach any state of unity. In this sense, a way out of the current fragmentation and 'crisis' in the field of research on creativity could be that we respect differences, variations, and instead of coherence

establish meeting places and spots where divergent perspectives can be celebrated.

Underpinning ethnographic and qualitative methods

According to Engeström (2006), there are five ideal types of work in history of industrial production: craft, mass production, process enhancement, mass customization, and co-configuration. Today, compared with other types of work, the influence of interaction between craftsmen and environment is changing slowly. In their workshops, craftsmen communicate with other craftsmen, get the opinions and ideas of others, and interact with the surrounding environment. Even if the greatest genius needs the work environment for encouraging creativity, they will not accomplish anything without the support of society and culture (Zhang et al. 2016). Compared with a picture of the stereotypical worker in the factory, craftsmen work under another kind of pressure to produce and sell their goods; they often need to face all the survival risks by themselves. However, the creative environment of craftsmen involves more freedom than the workers in the factory (Engeström 2006).

As evidenced in the above analysis, we are in need of creativity research that can tell us more about the physicality of the environment and the embodied nature of creative work and that does not place creative work outside the mind, but in between mind and environment, self and other, the psychological and the material. So creativity is socially constructed as dialogic and not as unitary (Zhou 2014). This means relationships between actors, practical context, and their dialogues should be most focused when craftsmen's creativity is investigated. This involves methodologies rooted in diverse theoretical approaches, as mentioned above, for example, phenomenology and hermeneutics (Ricoeur 1975). As Gadamer (2004) emphasized, understanding and interpretation are related to verbal tradition in a specific way. But at the same time, they transcend this relationship not only because all the creations of human culture, including the nonverbal ones, can be understood in this way, but more fundamentally because everything that is intelligible must be accessible to understanding and to interpretation. These points underpin the point that methodologies for investigating creativity have shifted from large-scale studies aiming to measure creativity towards ethnographic, qualitative approaches to re-

search focusing on the actual site of operations and practice, again situating creativity in the specifics of the underlying disciplines, and in the social and cultural values and practices of the particular setting (Zhou 2014).

Overall, this study is an example of a study of creativity in the wild, where the traditional distinction between mind and body and between idea generation and idea implementation becomes not necessary and where cross-disciplinarily approaches come in handy because they leave us with a range of perspectives making it possible to reach a fuller understanding of the complexity of the phenomena at hand.

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