Editorial:

On Understanding Expertise, Connoisseurship, and Experiential Knowledge in Professional Practice

Nithikul Nimkulrat
Department of Textile Design
Estonian Academy of Arts
ESTONIA
nithikul.nimkulrat@artun.ee

Kristina Niedderer
School of Art and Design
University of Wolverhampton
UNITED KINGDOM
k.niedderer@wlv.ac.uk

Mark Andrew Evans
Loughborough Design School
Loughborough University
UNITED KINGDOM
M.A.Evans@lboro.ac.uk

Abstract

Expertise, connoisseurship, and experiential knowledge have been discussed as integral to professional practice by professionals and scholars inside and outside their professional domains. However, the notions of expertise, connoisseurship, and experiential knowledge have not been discussed explicitly in relation to practical activities. This special issue, "Experiential Knowledge, Expertise, and Connoisseurship," explores the nature of experiential knowledge as relating to expertise and connoisseurship in practical activities within design and other professional domains. This editorial article discusses how the two types of specialist knowledge—contributory and interactional expertise, and connoisseurship—gained from experience, can be utilized to judge practice and outputs within the framework of research inquiry. The nine articles included in the special issue serve as examples, demonstrating ways in which these forms of knowledge are understood in research relating to professional practice.

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1. Introduction

The issue of expertise and connoisseurship has come to the fore in recent years as professionals and scholars from many disciplines negotiate the tension between the explicit justification required by research and the tacit appreciation and judgment that expertise and connoisseurship entail.

Expertise is considered the highest level of skill acquisition and knowledge within professional practice, being based on experience and tacit understanding and an intuitive grasp and judgement of its processes and situations (Dreyfus & Dreyfus, 1986). Expertise is seen as "something practical—something based in what you can do" (Collins & Evans, 2009, p. 23) and largely operates without conscious effort. The tacit knowledge that sustains expertise is not generally made explicit nor is it easily articulated. Deliberate practice and extended experience result in automaticity and immediate intuitive response, e.g., a pianist's hand movement, a designer's choice of material, a radiologist's instant diagnosis, and so forth. Being domain specific represents a constraint to the development of expertise as it is learned and practised in context. Nevertheless, experts in all disciplines seem to share common characteristics: "superior memory for information in their domain, better awareness of what they know and do not know, greater pattern recognition, faster and more accurate solutions . . . and deeper, more highly structured knowledge" (Lajoie, 2003, p. 21). These characteristics are not easily captured by the common mode of accreditation used in research because they are experience-based (Collins & Evans, 2009, p. 142). Instead, expertise, or the outcomes of expertise in the form of the work, in many areas has traditionally been evaluated through connoisseurship.

In this context, connoisseurship can be defined as fine discrimination, sharpened by continuous exercise, which results in "the art of appreciation displayed in any realm in which the character, import or value of objects, situations and performances is distributed and variable" (Eisner, 1998, p. 63). It tends to be associated with taste, such as a wine connoisseur or an art connoisseur. Implicitly, this may be seen to include a judgment of the expertise of the practitioner, for example, wine makers or artists, through the quality of their results. The judgement of connoisseurship is subtle and, to a large extent, intuitive, going beyond mere explanation. It relies on experience and tacit knowledge. For example, curators utilize their expertise and connoisseurship acquired by a period of practical experience of curatorial practice together with their explicit knowledge gained by studying theories of museology, art history, and conservation to make judgements on

which artefacts are suitable for collections or exhibitions. Connoisseurship can thus be seen as the ability to discriminate and judge the (aesthetic) quality of something. A connoisseur is usually a person who is not an expert in the practice or in the particular skill or craft of the product or skill that they judge, but who has great knowledge of their field and experience within the conventions of judgment. Their evaluation can therefore be seen as external or "outsider" judgement.

If both expertise and connoisseurship are to a large extent based on tacit knowledge, this raises the questions: how do we judge creative practice and outputs in an academic context and how may these accommodate the requirements of the practice of research with its requirement for explicit knowledge. Research is the production or enhancement of knowledge and making such knowledge explicit for transferability. In a practical domain such as art and design, knowledge and skills tend to be acquired based on experience that is largely tacit and relies on expertise and connoisseurship. Research *into*, *through*, and *for* art and design, to use Frayling's (1993) three models of research, is apt to be carried out by experts within and beyond the domain, such as designers, artists, art historians, sociologists, or psychologists. This leads to the questions of what expertise these experts actually possess and how they acquire experiential knowledge in order to become experts. This editorial article aims to shed light on the understanding of expertise and connoisseurship as relating to professional and research knowledge in the practice of art and design and other professional domains.

2. Professional Practice: Accumulating Expertise and Connoisseurship Through Experience

Professional practice, such as the practice of artists and designers, tends to rely on personal tacit understanding of that practice which is gained through working experience or knowing in action (Schön, 1983). Skills or knowledge acquired through experience can never be fully communicated, as Polanyi (1966b) asserts, "we can know more than we can tell" (p. 4). This means that one is able to judge or act skilfully without being able to articulate what it is that he or she knows. Schön argues that the professional's everyday practice depends greatly on this kind of knowing:

> Every competent practitioner can recognise phenomena—families of symptoms associated with a particular disease, peculiarities of a certain kind of building site, irregularities of materials and structures—for which he cannot give a reasonably accurate or complete description. In his day-to-day practice he makes innumerable judgements of quality for which he cannot state adequate criteria, and he displays skills for which he cannot state the rules and procedures. Even when he makes conscious use of research-based theories and techniques, he is dependent on tacit recognitions, judgements, and skilful performances. (Schön, 1983, pp. 49-50)

Although experiential knowledge can be partially described, some part are not communicated and remain tacit (Niedderer, 2007; Niedderer & Reilly, 2010). To perform their work, experts use recognition-based cognitive processes that are based on tacit knowledge not verbally encoded nor consciously accessed during performance. As a

result, it can be difficult for experts to articulate how and what they are doing (Wood, Rust, & Horne 2009).

According to Collin and Evans (2009), there are five steps of specialist expertise: (1) beer-mat knowledge, (2) popular understanding, (3) primary source knowledge, (4) interactional expertise, and (5) contributory expertise (see Figure 1). The first three stages are considered *ubiquitous tacit knowledge* (see Collin & Evans, 2009, pp. 18-23), while the last two are *specialist tacit knowledge* as found in professional practice. In this article, only interactional expertise and contributory expertise are discussed.
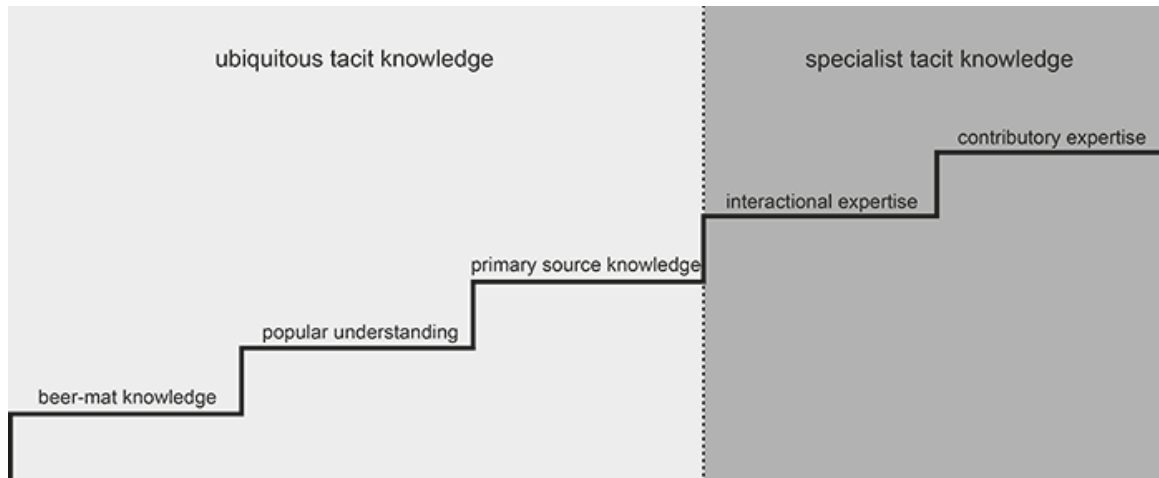

Figure 1. Five steps of specialist expertise. (Adapted from: Collins & Evans, 2009, p. 14, Table 1, "The periodic table of expertises")

Skill and knowledge acquisition of professional practice requires "immersion in the specialist culture" (Collins & Evans, 2009, p. 24). Expertise learned through such immersion involves specialist tacit knowledge in form of both contributory and interactional expertise (Collins & Evans, 2009, p. 24). Contributory expertise is self-sustaining and gained through practice; it enables the "expert" to contribute to, or do things within the domain of expertise (pp. 24-27). The acquisition of contributory expertise follows Dreyfus and Dreyfus's (1986) five-stage model of skill acquisition: novice, advanced beginner, competence, proficiency, and expertise.

Interactional expertise, on the other hand, is "in the language of a specialism in the absence of expertise in its practice" (Collins & Evans, 2009, p. 28). The idea of interactional expertise has developed as a result of sociological fieldwork. This form of expertise is gained by engaging with contributory experts through interview, discussion, and conversation (pp. 32-34), involving a particular set of abilities:

> the ability to interact with other people, to talk smoothly about the domain . . . to reflect upon [the] subject matter so as to articulate . . . findings or judgments, and sometimes to translate the expertise of one domain into the language of another insofar as this can be accomplished. (Collins & Evans, 2009, p. 37).

To accumulate contributory expertise in professional practice is to physically engage with practical activities within that professional domain. On the other hand, interactional expertise is accumulated by engaging in the practice of contributory experts through observation or language based conversation. According to Collins & Evans (2009), "possession of contributory expertise guarantees possession of at least *latent* interactional expertise" (p. 38), which can turn into *expressed* interactional expertise once the expert expands his or her interactive and reflective abilities.

Taking a contemporary ceramic exhibition as an example, the museum curator needs to develop interactional expertise to manage collections of ceramic artefacts and deal with their acquisition, care, and display. The curator acquires interactional expertise by using verbal and non-verbal language as means for interaction with ceramic practitioners with the aim of gaining understanding of their practice and outputs that the curator can use to inform and educate the public about the displayed artefacts. In this example, the curator appears as a connoisseur who compares ceramic artefacts with respect to the qualities they display and learns from the practitioners what to look for in the artefacts in order to recognize quality and give reasons for his or her judgement. According to Eisner (2004), the ability to recognize differences in quality that are subtle but significant is a pervasive feature of a person who practises connoisseurship in a particular domain. In this example, the curator may not necessarily have the knowledge of making ceramic artefacts and needs to gain such knowledge by conversing with the ceramists whose works are included in the exhibition in order to inform museum visitors about ceramic practice. In turn, the curator articulates the expertise of the ceramic domain in the language of curatorship—a language that is "accessible to others and that enables others to 're-see' . . . the object at hand" (Eisner, 2004, p. 198).

In contrast, ceramists possess contributory expertise by physically working with clay and forming it into artefacts, i.e., they know how they have made these artefacts. The practice of ceramists as contributory experts implies the possession of interactional expertise that may be latent. The difference between the two professions lies in the necessity of making interactional expertise explicit in the practice of curatorship. The curatorial practice requires the practice of research in order to gain the knowledge to judge creative outputs resulting from the practice of a different professional domain. For a ceramist who enters the research context and examines activities of creating ceramic artefacts using the research *through* practice approach, explicit interactional expertise becomes crucial for transferring knowledge generated from his or her activities.

3. Tacit Knowledge, Design Expertise, and Research

Design has been recognized as a domain in which practical experience provides an essential foundation and is therefore used in the following as an example for professional practices whose expertise is accumulated through experience in general. The professional practice of designers, which relies partially on specialist tacit knowing, has been researched from the viewpoints of historians, sociologists, as well as designers themselves. To explicate tacit knowledge in design practice as required by research, the researcher—whether he or she is a historian, a sociologist, or a designer—needs to accumulate explicit interactional expertise. Understanding the nature of design expertise

and how it may extend to other professional domains requires a focus on the dynamics of professional expertise and the role of tacit knowing in its formation.

Tacit knowing generally means intelligently doing something in an intuitive manner. For Polanyi (1966a), tacit knowledge is a fundamental element of all knowledge whether it is scientific or artistic—as he asserts, "all knowledge is either tacit or rooted in tacit knowledge" (p. 7). Collins (2010) sees Polanyi's "personal knowledge" as:

> the process of making good judgments . . . that arises out of having stores of tacit knowledge. Insofar as these stores have an element of collective tacit knowledge they link the person back to the society in which the judgment is embedded. (Collins, 2010, pp. 148-149)

Therefore, the ability to make good judgments is "referred to as 'intuition' gained through practice and socialization, including the acquisition of interactional expertise" (Collins, 2010, p. 149). Collins (2010, pp. 158-159) categorizes tacit knowledge into three types that map into three zones: an outer zone of relational tacit knowledge, an intermediate zone (harder to access but still attainable in principle) of somatic tacit knowledge, and a central and inaccessible zone of collective tacit knowledge (see Figure 2). As one moves to the inward terrains and "knows inside out," it gets more challenging to "tell" what goes on in them although this is the familiar world in which we live every day.
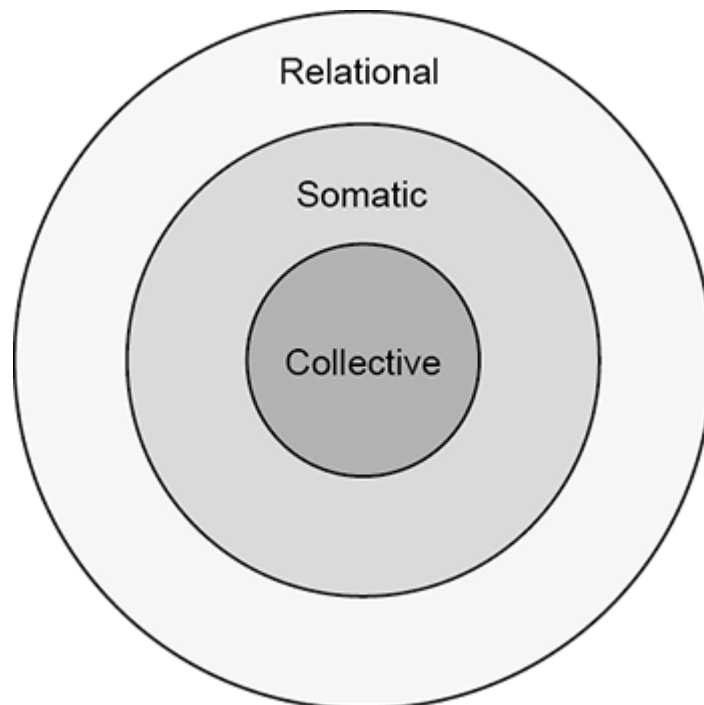

Figure 2. Knowing inside out—three zones of tacit knowledge. (Adapted from: Collins, 2011, p. 158, Figure 8, "The terrain of tacit knowledge")

To do something intelligently and intuitively, one must be experienced, reveal a kind of knowledge that does not arise from a prior deliberate act, and be able to articulate corresponding rules before or afterwards (Neuweg, 2004). When a skill becomes embodied, the self-consciousness of the process fades away. By reflecting on action, a practitioner attempts to explicitly describe the knowing implicitly, and therefore turns knowing-in-action into knowledge-in-action (Schön, 1983, p. 25). In the midst of action, the practitioner focuses "interactively on the outcomes of action, the action itself, and the intuitive knowing implicit in the action" (p. 56). To become an expert, or advance in skills, one must engage in "effortful study" (Ericsson, 2003) which is a combination of thought and practice in situations beyond one's competence level. Polanyi (1966a) includes skill as a type of tacit knowing. The expert acts often intuitively but at the same time continues to study his or her domain of expertise explicitly (Neuweg, 2004, p. 114).

The accumulation of experience is a vital part of the transformation from a novice designer to an expert one (Cross, 2004, p. 231). Cross (2004) points out that expert designers are solution-focused, not problem-focused. In other words, expert designers utilize their experience in a specific problem domain to enable their design process to move quickly from identifying a problem frame and proposing speculative solutions (p. 237). Popovic (2004) sheds light on the development from a novice to an expert product designer. One difference that identifies the progression to the expert level is the designer's possession of experiential knowledge (Popovic, 2004, p. 540)—the knowledge gained through experience in his or her own domain, as well as more episodic knowledge (Visser 1996). The generic processes of commercial design activity have, in recent years, been adapted and extended to the populist practice known as design thinking which involves "applying a designer's sensibility and methods to problem solving no matter what the problem is. It is not a substitute for professional design or the art and craft of designing, but rather a methodology for innovation and enablement" (Lockwood, 2010, p. xi). With the potential of separating design thinking from the visually creative activity that is a central feature of a design school education and ensuing practice, Cross (1990) describes the fundamental design ability as "resolving ill-defined problems, adopting solution-focused cognitive strategies, employing abductive or appositional thinking and using non-verbal modelling media" (p. 12). Cross goes on to acknowledge that whilst design ability may be a fundamental human trait, it is "highly developed in skilled designers" (p. 12). Brown (2009) takes a middle ground approach whereby skill/expertise in design thinking can be acquired without a formal design education, commenting that "[d]esign thinking takes the next step, which is to put these tools into the hands of people who may have never thought of themselves as designers and apply them to a vastly greater range of problems" (p. 3). As an emerging mode of practice that has the potential to develop into an established design discipline, the demonstration of expertise as a design thinker is yet to be identified as its translation into a profession with associated norms and indicators of excellence are yet to be defined.

Following Collins and Evans's (2009) model of specialist expertise, the work of designers from within the design domain is based predominantly in their contributory expertise. By contrast, professionals who deal with design research from without, such as sociologists, historians, and philosophers, may be seen to rely on a high level of interactional expertise pertaining to a particular specialism of design such as textile

design, ceramics, or musical instruments, which they acquire through contact with the respective contributory experts: textile designers, ceramists, or musical instrument designers. Expertise that non-designer researchers possess in order to research the design domain is therefore generally interactional; these people gain knowledge about design not by making design but by conversing and discussing with designers and communicating findings to others. Their approach to design research can be considered research *into* or *for* design, to use Frayling's (1993) terms. They are design connoisseurs who may never actually have designed anything, having no contributory design expertise, but have an ability to make judgement and to exercise interactional expertise having seen and discussed many design cases with designers.

Accordingly, it is important for a designer conducting research *through* design to be able to make his or her interactional expertise explicit and become an efficient researcher by means of language and communication, as knowledge in a research sense needs to be explicable. Based on Collins and Evans's (2009) book, *Rethinking Expertise*, it is possible to understand the whole process of research that involves professional practice through the concept of expertise. Researchers must have interactional expertise and, in cases of investigating their own domain in which they are practising, contributory expertise. Research *into* design processes may include investigations into the connoisseurship of people who do not make things but make judgement on design. When such research is disseminated, a common method of judging it is peer reviewing. Peer reviewers may share the same contributory expertise as the author, but to make judgement they utilize interactional expertise or the ability to talk or write about the subject domain (Collins & Evans 2009, p. 60).

4. Contributions to the Special Issue

This special issue is a compilation of articles that delve into the nature of experiential knowledge as relating to expertise and connoisseurship in practical activities such as winemaking, musical instrument design, conducting accessibility audits in architectural practice, and the development of luxury watches. With an aim of highlighting the importance of the interdisciplinarity of research *into*, *through*, and *for* practice, articles are drawn to demonstrate the commonalities and use of expertise and connoisseurship in various practical domains.

These articles have been selected and developed from two sources: (a) contributions to *EKSIG 2013: Knowing Inside Out—Experiential Knowledge, Expertise, and Connoisseurship* conference held at Loughborough University, UK, which was organized by the Experiential Knowledge Special Interest Group (EKSIG) of Design Research Society (DRS) during July 4-5, 2013, and (b) independent proposals in response to the call for submissions for this special issue. While seven out of 26 peer-reviewed presentations at the EKSIG 2013 conference were chosen for further development for the special issue, authors of nine of out 15 proposals were invited to submit full articles. After a double-blind peer-review process, five articles from the EKSIG 2013 conference and four articles from the independent submissions were selected for publication in the special issue.

The first article in the special issue is "Mobilizing Disability Experience to Inform Architectural Practice: Lessons Learned from a Field Study" by **Peter-Willem Vermeersch** and **Ann Heylighen**. It explores ways in which architectural design may empathize with disabled users of the build environment. Physical disability often requires the acquisition of advanced spatial knowledge and awareness to navigate and negotiate interior and exterior architectural environments. This heightened sensitivity can be regarded as a form of connoisseurship that is rarely exploited by architects and experts in disabled access. This article reports on an approach that employs this distinctive form of connoisseurship to facilitate enhanced empathy from architects and other design professionals. As disabled users can detect obstacles and appreciate spatial qualities that architects and other designers with no disabilities may not realize, their connoisseurship has the capacity to support and enhance architectural practice.

"Intuition as an Expression of Procedural Knowledge and its Association With Sense-Impressions: Illustrations From Winemaking Practice" by **Nelius Boshoff** reveals procedural knowledge in winemaking. It examines how winemakers' intuition and its relationship with their sense-impressions and experiences can form the expert knowledge of winemaking. Through this article, the winemaking knowledge was made explicit due to the author's *expressed* interactional expertise. The article offers four insights on intuition with regard to winemaking practice. First, intuition is similar to artistic inspiration, and wine becomes an expression of the winemaker's personality. Second, senses play a crucial role in knowing intuitively, calling for an examination of the relationship between intuition and senses. Third, intuition is instantaneous knowledge that leaps from a link between past experiences and current events. Lastly, intuition occurs when considering all relevant facts and filling any missing pieces with sensory assessments in order to gain an absolute understanding of the situation. In "Emotions in Risk Assessment and Decision Making Processes During Craft Practice," **Camilla Groth** scrutinizes her professional practice of clay throwing. By examining critical incidents in a blindfolded throwing process as a contributory expert in the domain of ceramic practice, the author reflects on how felt experiences and emotions guided her in risk-assessment, decision-making, and problem-solving processes while throwing. It concludes that sensory experiences and emotions facilitate and steer the making process and that they are important factors for knowledge production in craft practice.

In "Expertise and Tacit Knowledge in Artistic and Design Processes: Results of an Ethnographic Study," **Johanna Schindler** examines different qualities of tacit knowledge and questions its ineffable dimension. The article is based on an ethnographic study that evaluates the interplay of hidden and manifest forms of knowledge involved in the artistic and design process of a new electronic musical instrument. Against common conceptions of the ineffability of tacit knowledge, the article argues that tacit knowledge can be conveyed partly in an articulate manner but requires the researcher to possess a certain expertise in order to capture knowledge in words, or *expressed* interactional expertise in Collins and Evans's (2009) terminology. "Aesthetic Responses Made Visible through Voices of Experts" by **Anna Kholina** examines the development of professional expertise in environmental aesthetics. The article argues that the tacit nature of aesthetic appreciation can be approached with the expert's active engagement and reflection-on-action and studied in specific research setting that creates a deeper interaction between

the expert and the object of research. Through two empirical cases, the article demonstrates the possibility of generating insights into the nature of aesthetic experience at the site of investigation. It proposes that the profile of the expert in environmental aesthetics should be reconsidered/widened in order to blur the boundary between experts, lay public, and the users/producers of knowledge.

Melehat Nil Gulari's article entitled "Metaphors in Design: How We Think of Design Expertise" explores the use of metaphors to support the understanding of design expertise, with a focus on contributory design expertise. Gulari examines previously published work to collate and demonstrate how visual and cognitive metaphors can be used to identify the nature of design expertise. The analysis of these metaphors reveals characteristics, strengths, and limits of how design expertise is understood and communicated within the design and business communities that may not share the same language and mindset. **Michael Harkins**'s article "Forms and Levels of Expertness: Interpreting Accounts of Typeface Design" is based on a study that attempts to identify a theoretical position in text typeface design. With the aim of revealing and theoretically describing knowledge of contemporary text typeface design processes, the study explores the historical context of typeface design from both non-expert (etic/outside) and expert (emic/inside) perspectives, and rationalizes differences between the two perspectives. The article proposes "vicinage," a numerically graded model to classify "expertness." The model allows us to reason and argue why we might consider someone an expert and to what degree.

"Developing Expertise and Connoisseurship Through Handling Objects of Good Design: Example of the I.L.E.A./Camberwell Collection" by **Maria Georgaki** examines the contribution of handling museum artefacts to the development of connoisseurship. In her study, Georgaki uses a significant national design archive to explore ways in which the capacity to actively and critically handle the collection develops enhanced sensitivity to functional and visual qualities. "Handling" is discussed in this article as a research methodology with particular relevance to expertise and connoisseurship in design history. The article also provides an overview of the divergence of expertise and connoisseurship in meaning and scope in the discipline of design history in comparison to art history and adjacent disciplines, such as material culture studies. The special issue closes with **Matt Sinclair**'s "Connoisseurship as a Substitute for User Research? The Case of the Swiss Watch Industry." The article investigates an alternative approach to product development in which the proprietor acts as a connoisseur to support design decision-making as opposed to a conventional user-led strategy. The article uses examples from the Swiss luxury watch industry to demonstrate how exclusivity can be used to drive demand yet break the conventions of customary practice in product design and marketing by excluding the consumer/user from the development process. It describes how commonality between brands plus low volume production runs of models can drive market share.

5. Conclusion

This editorial has discussed expertise and connoisseurship with respect to their role in the conduct of academic research *into*, *through*, and *for* the domain of professional practice.

The nine articles included in this special issue touch upon the researchers' professional knowledge and the different ways in which it can be utilized and communicated within the framework of research inquiry. This includes, for example, investigations into the nature, aims, evaluation, and/or necessity of different forms of expertise and connoisseurship as well as modes of communication and exchange for experiential and procedural knowledge. The editorial has mainly utilized Collins and Evans's (2009) concept of specialist knowledge to examine expertise, connoisseurship, and experiential knowledge as found in professional practice.

Expertise and connoisseurship can support the production and communication of knowledge from research *into*, *through*, and *for* professional practice. The necessity of expertise and connoisseurship in research varies depending on the approach taken for conducting research and the research topic itself. If the researcher is a practising professional, such as a designer doing research *through* practice about the process of doing something, both his or her contributory and interactional expertise contribute to the advance of that professional domain. The result of this is not only communicated knowledge but also the practice itself which could be, for example, the redesign of built environments as in Vermeersch and Heylighen's article. On the other hand, a researcher who possesses only interactive expertise can research *into* or *for* the same professional domain, of which he or she has no contributory expertise and uses language to explicate the domain. This can be seen in Boshoff's article, where the researcher examines the winemaking process without being a winemaker. Moreover, connoisseurship of stakeholders participating in a research process can facilitate research activities, as demonstrated in Vermeersch and Heylighen's article by the participation of disabled people as users of built environments. It is also demonstrated in Sinclair's article by the proprietors in the Swiss watch industry.

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