The shaping of dissonance in craft-based innovation - exploring the combinations of novelty and tradition

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Novelty and value are two key features of any type of innovation and have consequently received much emphasis in design and innovation studies. Lately, the predominant unilateral emphasis on novelty has been questioned in an emerging literature stream focusing on the role of tradition in innovation, and recent research has shown that a potential way of creating value is to use a combination of novel and traditional components, resulting in what is suggested as design innovation dissonance. Drawing on research through design, this paper develops the writing of production novellas from the design of three different design innovation processes, the deliberate use of tensions between novelty and tradition in material, form, manufacturing process, context, and history is described and analysed, in order to unveil explicit steps of the design process.

keywords: design, innovation, tradition, dissonance

1. Introduction

Two common denominators of most proposed definitions of innovation are novelty and value. That a specific product, service or process provides value to someone distinguishes it from a mere invention, which may constitute a new or improved functionality, but not necessarily a value. Moreover, the value of a new product to a customer or a user is not merely a matter of functionality, but is fundamentally a subjective perception that is influenced by information about a product’s origin, design, brand, etc. Novelty has this far
been seen as less problematic to observe and evaluate, but in recent works the unilateral focus on novelty in innovation has been complemented with studies underlining the innovation potential found in tradition. Based on studies of for instance Italian family-based firms (De Massis et al., 2016) and US biotechnology (Petruzzelli et al., 2012) it has been suggested that tradition in terms of materials, form, history, and location can provide value in innovations (De Massis et al., 2016). In a study of haute cuisine development (Petruzzelli and Savino, 2014), it was found that it was not necessarily the products’ novel or traditional components per se that constituted the innovation, but rather new combinations between new and traditional components. A similar view on the use of tradition in innovation was recently presented by Holmquist et al. (2016), who found that the deliberate combination of novel and traditional materials, forms, manufacturing processes, context, and history gave unique meanings to new products. More specifically, Holmquist et al. (2016) identified tensions between the old and the new in the mentioned dimensions, and the new meanings arising from these tensions were perceived as particularly valuable by customers, by presenting different types of dissonance. This paper aims to take these initial observations further in order to disclose how designers work deliberately on creating the design dissonance that is at the root of the innovation’s uniqueness and value.

The paper is structured as follows. First, a brief exposition of theory is presented. Thereafter the methods used are described, followed by the empirical observations in the form of extracts from production novellas. Eventually, the results are analysed and discussed.

2. Exposition of theory

One of the problems in the wide field of innovation studies is that there are many different definitions of innovation (Crossan and Apaydin, 2010). The resulting pluralism (and confusion) is also accentuated by an ongoing proliferation of innovation types. Early studies of innovation mainly concerned product innovation, and frequently had a strong emphasis on technology and technological change. Lately, innovation has come to be more multi-faceted, as it has come to include also innovations in terms of e.g. processes, services, and business models. The resulting broadening of the innovation management field has also led to an increased emphasis on the role of design in innovation, where the notion of design-driven innovation (Verganti, 2008) has been proposed as a particular type of innovation with specific characteristics. Another shift in focus is the increased attention to changes of the meaning of new products (see e.g. Verganti and Öberg, 2013; Norman and Verganti, 2014). Comparing design-driven innovation with other well-established types of product innovation, it is clear that design-driven does not necessarily imply the introduction of new technologies, but that it may nevertheless introduce a new meaning to the product (Verganti and Öberg, 2013). A change of meaning can be the result of a new design, for instance by altering how a product is used, or the signals it sends to customers and users.

A potential shortcoming of the literature on design-driven innovation is that it basically relies on a dichotomization of the concept of novelty, referring to it as incremental or radical (Verganti, 2008). Verganti and Öberg (2013) clearly highlight that the degree of novelty can refer to both technology and meaning. Furthermore, they point out that new
meanings are context dependent, cannot be optimized, are outlandish compared to their industry, and are co-generated by designers and users. The new meaning is expressed in the form of a scenario of meaning, in which its constituent components are merged into a whole (Verganti and Öberg, 2013. However, whereas the creation of new scenarios of meaning constitutes a valid and constructive development of innovation management theory, it presents only very limited insights in terms of action-oriented implications and recommendations for practice. Summarizing the above, we can conclude that there is a need for studies focusing on further exploring the genesis and emergence of new meanings in innovation, with an emphasis on what specific design practices lie behind the creation of new meaning.

A second aspect of the dichotomization of novelty is that it does not take into sufficient consideration the combinative aspect of innovation. Already Schumpeter (1934) pointed to this, by defining innovation very broadly as new combinations. A more recent seminal work dealing with this is the work by Henderson and Clark (1986), in which it is suggested that novelty can refer to components, as well as the interconnections between components. Hence, an innovation can be created without the introduction of any new component, but merely by a rearrangement of existing components according to a new product architecture.

As mentioned above, another critique of the one-sided focus on novelty has also come to be challenged. Without going into a discussion about whether something can indeed be truly new or whether all new things derive from what already exists, it is clear that innovations contain both previously existing and new things (Petruzzelli and Savino, 2014). In an emerging literature stream, the use of established knowledge, skills, materials, and locations, jointly regarded as tradition, is proposed as a potential resource in innovation (De Massis et al., 2016). Studies of companies in different industries (see e.g. Petruzzelli et al., 2012; De Massis et al., 2016) have clearly pointed out the opportunities residing in deliberately using tradition as an innovation component in new products. However, the works in this stream of literature, referred to as Innovation Through Tradition (De Massis et al., 2016), primarily focus on the use of traditional components and the value of doing so. A less emphasized aspect is how to exploit the combinatorial opportunities that reside in the combination of novelty and tradition, pointed out based on a study of haute cuisine (Petruzzelli and Savino, 2014). In accordance with the argued value of recombination, Holmquist et al. (2016) identified such combinations as interesting for design innovation, as they present a set of tensions, which can be used by designers to create unexpected outcomes that do not simply fit into the coarse categories of novel and traditional.

Another particular aspect of these new combinations of the old and the new is that small residual tensions between the design dimensions of form, material, manufacturing process, context, and history give rise to a dissonance that is perceived as exciting and valuable rather than annoying and/or disturbing. To understand the nature of this particular design dissonance, as well as the micro-level design mechanisms behind it, we set out to investigate the following research questions:

RQ1: How is novelty and tradition combined in design innovation?
RQ2: What is the role played by design dissonance between novel and traditional components for the perceived value of a design innovation?
RQ3: How is design dissonance shaped and controlled in the design process, in order to
generate value?

3. Methods used: Research through Design – the production Novella

For the purpose of exploring the value of novelty and tradition in design innovation the methodology used in this paper is Research Through Design (RtD) (Frayling 1993) developed and applied by Holmquist through the writing of “Production Novellas” (see also Holmquist et al., 2016). As Frayling argues, science, research, art and design are practices that are inextricably intertwined. The crafting of an artefact like a vase or a cabinet is a production process of thinking, shaping and transforming a material through which knowledge is created. Further, the crafting of art and design take place in specific contexts and relations, which means that what take place outside the actual design of an artefact is also relevant for the design process. One of the challenges that Frayling identifies is that knowledge produced through art and design practice is intimately intertwined with communicative aspects. He writes that (Frayling, 1993: 5) ‘[…] we have a fascinating dilemma on our hands. As much about autobiography and personal development as of communicable knowledge.’ Thus, RtD is undertaken to gain new knowledge partly by means of practice and outcomes of that practice. The starting points in this paper are a series of design interventions conducted at studio Folkform in Stockholm, a design duo consisting of Anna Holmquist, the lead author of this paper, and her design partner Chandra Ahlsell. The design interventions are experiments working with the Swedish furniture and accessories design industry, combining old industrial processes and craft techniques in a series of design experiments illustrating the dissonance between traditional materials, forms, and manufacturing techniques. In this paper we acknowledge what Nagy Hesse-Biber and Leavy (2008) calls a method gap in the interface of tradition and innovation, which scholars in architecture, art and design discuss (Leavy 2015; McNiff, Prior 2013; Rendell, 2010). In line with the idea of RtD, Leavy (2015:3) promotes the argument that art based practice emerges through ‘shaping knowledge-building and communicative practices’. As a further development of RtD (Frayling, 1993), the methodology used in this study is the materialised writing of “Production Novellas” (see also Holmquist et al., 44: 2016). The Production Novella is an art-based methodology developed by Holmquist for RtD. It is inspired by Livholts’s (2015a; 2015b) untimely academic novella writing and experience based narrative research (Bruner 1991). Livholts (2015a, 2015b) combines diverse writing genres such as writing memories, letters and research poetry and photography. The production novella contributes to the developing of RtD as a communicative practice by which the designer can work reflectively in research through design to re-invent materials, forms and manufacturing processes linked with personal experience. This means that writing is used as a method of inquiry (Richardson 1994) in RtD, a retrospective narrating process by which the artist/designer/researcher create and communicate knowledge. In this paper Holmquist further develops the methodology of working with fragments of memories from the design and manufacturing process behind three different objects, a Vase, a candleholder and a cabinet. As Livholts (2015a) illustrates, working with memories as short stories, reading, re-reading, listening, re-writing is an analytical, creative and reflexive practice, which creates mo(ve)ments and shared knowledge with readers. The writing of ‘small stories’ promotes the writing of situations, fragments or scenes, from the
production process written by the designer/researcher who re-constructs stories from artistic and design practice. The method allows working with concrete detailed representation to promote seeing, feeling, colours and to include situations and events that may be unexpected - a phone call, an invitation, a co-creator, to contextualise diverse cultural contexts and include situations that occurs in relation to the design. Thus constructing narrative experience becomes a tool to reflect on dissonance between tradition and innovation in the production process. Leavy (2015) describes writing in art-based narrative research, as storying and re-storying - a reflexive, participatory and aesthetic process to display multiple meanings. This narrative writing from personal experience allows the artist and designer to re-visit and think through the materials and micro-mechanisms leading to ITT working thematically with “dissonance”. Bruner (1991: 5-6) who gave rise to experience-based narrative emphasised physical objects as central for the creation of meaning. He argued that knowledge and skills can not automatically be transferred between cultures and domains and focus on interconnectivity and interpretations of culture and context, life and art. Central for Holmquist’s work is the creation of narrative meaning in the production process of crafting and design where she as an artist and designer works with materials and designing of physical objects in close relation to production in different manufacturing and design exhibition contexts. We will now turn to three different fragments from Holmquist’s “Production Novella Writing”, using them as a vehicle to identify and explore dissonance in design innovation and the micro-mechanisms underpinning ITT.

4. Three case studies exploring material dissonance in art and design practice, the Masonite Cabinet, the Crystal Vase and the Brass Candle holder.

The brief manufacturing narratives inform us how new meaning and value were added to three artefacts: a vase, a cabinet and a candleholder.

4.1 Industrial Intervention crystal vase, (Folkform 2011)

This design innovation of a series of Crystal vases started off with a road trip to the old glass works in the Czech countryside in 2011. I remember the first stop at the factory in Harrachov, in the Czech Republic, which was known for its tradition of hand cutting of Crystal glass. The owner of the factory met us, me and my partner Chandra Ahlsell, in the entry and his son showed us around in the glass works. It was busy inside, lots of sweaty men glass blowers carrying around crystal glasses everywhere, it was dark in the workshop space but the orange flames from the molten glass ovens, were as intense as the heat inside the glassworks.

We were allowed to borrow three old crystal vases that belonged to the glass collection of Sklarny Harrachov, designed by Rudolf Schwedler and Milan Metelak. The vases were hidden in the glass works in an old basement during the Second World War and found by the communists after the war. These vases became the starting point and inspiration for our new work. The traditional crystal patterns cut on the surface of the vases were beautiful, but at the same time extreme, because they were so strong in their expressions. The crystal cutting techniques created a brilliant sparkling effect as each cut reflected and
transmitted light through the glass vases on the shelf in the workshop. We asked ourselves how these traditional cutting patterns could be combined in new different ways to create new expression? To explore cutting technique further the next stop on the road trip was a factory working glass cutting decorations made by robot cutting. The building was very modern, we had coffee with the owner and he showed us different samples of advanced cutting techniques, completely new patterns could be made with his robot through advanced technology and a glass cutting automat. Throughout the journey we formulated the starting point for the shaping of the new glass series and we aimed to explore the interface between the mass produced and the handmade articles and to perform a series of Industrial Interventions where the handcrafted met industry, the machine met the hand. Could something new be created when traditional handicraft was incorporated into existing industrial manufacturing processes? In our final design and new interpretation of the cut crystal vase, one layer of pattern was cut by a craftsman by hand and then the second layer was slightly tilted and cut by a robot. This intervention was performed to challenge the expected value of the machine made with the uniqueness of the handmade. The collection of vases was later on presented at an exhibition at Färgfabriken Centre for contemporary art in Stockholm, Sweden and acquired by the National Museum in Stockholm for their permanent design collection. In the exhibition launch, which we named Industrial Intervention we created a scenography from the glassworks, with fragments from the production process and a video where the hand cut glass was looping in parallel with the process of the machine cut. The music from the video projection composed by Raymond Scott and Manhattan Research Inc was loud and filled the gallery when the first guests entered the space.

Figure 1 Crystal Vase (Folkform 2011) patterns cut both with traditional hand cutting and high-tech robot cutting.

4.2 Collage candleholder, (Folkform, 2011)

Malmö was covered in fog when we landed at Sturup airport in Sweden. The flight was
late. This was the first time, we, me and my colleague, Chandra Ahlsell, visited Rosengren Metal foundry, in Limhamn located outside of Malmö on the south coast of Sweden, to take part in the metal casting process of our new Collage candle holders. The foundry was mostly casting small bronze birds for gravestones and sculptures by local artists. To work with brass as a material was not something they usually did, but they promised to make an exception and give it a try. We arranged to stay two days at their workshop and take part in the moulding process when the first prototypes of the candleholders were made. We brought a documentary photographer to make pictures of the traditional sand casting technique that we were going to use for the casting.

The first sketch of the candleholders was made at our studio Folkform in Stockholm, Sweden, about 6 months earlier. However, I remember throwing the first sketch in the dustbin, I was too critical towards my own work, but my design partner, picked up the sketch from the bin and was convinced that we should develop it further. We continued the work by making a series of paper models and prototypes in wood to find the right proportions. Each candleholder comprises a candelabra, where the simple tea lights, pillar candles and hand-crafted votives were put side by side to create a collage, a landscape of candle typologies. Different forms of candles that usually were not put together in the same candle holder, were put side by side, to create a patchwork of contrasting candles. After spending hours in the industrial building during the casting of the candleholder, I remember the heat was intense towards the skin. The sand in the mould was slightly orange and oily. It was striking that each sand form was unique and was only going to be used once, knowing all the craft that was put into making this form. It was also fascinating that we were using the same old casting technique as 1000 years ago. Nothing had changed. The sand was shaping the melting, glowing, hot brass to become the design of the candleholder.

We named the exhibition that was held at Whyred art projects, a few months later Hand made Mass production, and raised the question “how can old industrial processes and craft techniques could be used in new ways?” I remember we spent the whole night building the exhibition at Whyred. We presented photographic prints from the foundry workshop and also brought back fragments from the foundry to Stockholm such as tools and a sand mould together with the candleholders. The exhibition was an attempt to introduce the audience to the knowledge of the craft that was behind the manufacturing of each piece and to make the manufacturing process visible and transparent in contrast to the often anonymous mass production.

We kept up our small scale self production for about a year, but the first series of candleholders were almost impossible to get delivered from the foundry on time. I was calling them every morning trying to speed up the manufacturing process. After some months the well established producer of metal objects and home accessories Skultuna Brassworks invited us to collaborate, the Brassworks are located in an enchanting valley in the heart of the idyllic province of Västmanland in Sweden, but most of their manufacturing is now located to Asia. Collage is in serial production by Skultuna and distributed all over the world. The limited first edition bronze version has been exhibited at the Stockholm auction house at the Museo Poldi Pezzoli and Mint Gallery in London to mention a few places. The bronze candleholders are still casted at Rosengrens metal foundry.
4.3 Masonite Cabinet with 18 drawers (Folkform, 2008)

The Production Novella writing on the Masonite Cabinet with 18 drawers was recently presented by Holmquist et al. (2016) and will be refered to in the following fragment of writing from a Masonite factory.

This piece of furniture was one of the first we designed in the Masonite hardboard material. The starting point for the design of the furniture was to combine the raw surface of the material in new ways, and to play with the composition of the drawers. This cabinet was all made from the standard humble wooden boards of Masonite we found at the factory in Rundvik in the north of Sweden, when we were there visiting. The boards had different soft wooden brown tones and thicknesses varying from 3mm to 8mm and some of the boards we treated with linseed oil to get an even darker colour of the material. In the final 18-drawers Masonite Cabinet we selected different kind of Masonite surfaces traditionally used only for their functional purposes and usually not combined. The different boards created the front panels of the drawers on the cabinet, each drawer was unique in its form and proportion and as a wholeness the new combinations of the material created a graphic and at the same time simple abstract expression. The different drawers played with proportion and form of the cabinet and were inspired by historical references and made by Cabinet maker Jonas Fjellman, but using this very humble chipboard material instead of more expensive materials traditionally used in this type of furniture, for example wood such as oak. We were using this standard building material in the cabinet to deconstruct material hierarchies and to create dissonances between form and expected choice of material.

The choice of the material and the design of the cabinet were also the result of spending hours with the material inside the beautiful brickbuilding factory and in the workshop to really get to know its qualities. We saw the new beauty in the raw Masonite boards and began to play with the different thicknesses and surfaces. Later on the same year we presented the Unique Standard collection that consisted of a series of furniture and an exhibition. The collection was first launched in a small display of Folkform’s work during the Prague design week and some months later we were showing the collection in Stockholm (2008) at the contemporary art gallery Crystal Palace. The exhibition was an independent design event outside the main furniture fair. The foundation for the design
process and the exhibition was to investigate questions such as how to combine simple industrial material in new ways to create new expressions. I later on realised that this approach was a way to explore design as value making and the design process as a tool to explore material hierarchies. We made several pieces of furniture in different materials with the same question as a starting point to find the answer through the material, form and the context. We saw the new beauty in the Masonite boards and began to play with the different thicknesses and surface treatments of the boards, such as linseed and oiled Masonite in combination with wax treatment. How could we make this material that had been forgotten since the 1950 renewed, and make people look at the material with new eyes? Through the design of the 18 drawers Cabinet we wanted to highlight the beauty of this simple mass produced industrial material by combining it in new ways in a new pieces of furniture. The furniture was later on acquired by the National Museum of art and Design in Oslo (2011) and sold at the contemporary design auction for 4600 EUR (2014). The cabinet is made in an edition of 10 pieces. In the work with the Masonite cabinet with 18 drawers we made a new interpretation of an old standard material. Traditional industrial material was used in new combinations and forms to create new value and expression.

![Masonite Cabinet with 18 drawers](image)

Figure 3  Masonite Cabinet with 18 drawers (Folkform, 2008) a patchwork of different types of standard Masonite in the same cabinet.

**Analysis and discussion**

This paper aims to address the relationships between novelty and tradition in the design and material innovation process behind a series of artefacts. We suggest that a material dissonance composed through design was leading to a shift in meaning. The artefacts in this study were hand-crafted in limited editions. In the case of the sculptural brass Candle holder where different types contrasting candels were combined leading to a dissonance in the form expression of the candleholder, the candleholder later on become mass-produced by Skultuna brassworks. In the case with the Masonite Cabinet with 18 drawers
made from humble Masonite wooden boards, the design dissonance was created by combining traditional building materials in new ways with an attention to details and to thicknesses and the perception of the raw surface of the material. In the case with the crystal glass vases, we suggest that the design dissonance was created by cutting traditional patterns both by hand and by machine and compose them in layers. All three artefacts were well crafted by master craftsmen in different workshops in Europe. An important part of the design process was to highlight the people and the places where the artefact was manufactured. It is clear that this constitutes examples of how tradition can be used in innovation, thereby underlining the potential residing in using “the old” to generate “the new”, as suggested by e.g. De Massis et al. (2016) and Petruzzelli et al. (2012). In particular, the empirical observations point to the importance of recombination of old and new, earlier highlighted by Petruzzelli and Savino (2014) in another industry. The study also presents some new ideas in this field. First we would like to stress the importance of extending the design components that can be traditional. In all three cases the use of traditional craftsmanship played a fundamental role in the resulting new meaning of the artefact. Secondly, the cases all result in design innovations where the resulting value is not the result of pure and simple harmony between design components, but rather constituted by a certain element of dissonance between its constituent parts. Whereas these dissonances are clearly notable for a skilled interpreter of design objects, they are at the same time contained to remain subtle, in order not to jeopardize the overall aesthetics. Arguably, the deliberate use of design dissonance in this type of innovation constitutes a potential pool of design value that can be tapped into by skilled designers.

While looking closer at the design innovation process we have explored how the designer is shaping design dissonance in material, form and manufacturing throughout the formgiving process by working with combinations of novelty and tradition. In the shaping of each artefact, the designer worked with the composition of the elements of the form to balance the material dissonance, a slightly disturbing form feature, expressed in the tension between novelty and tradition in materials, patterns, manufacturing techniques and contexts. The dissonance was shaped by design; as collages of traditional forms, as combinations of contrasting materials, or as new patterns of traditional ornaments, or as a slightly disturbing change of context, materials or form. The different explorations were communicated through exhibition launches where manufacturing narratives were built with inspiration from scenography. Fragments from the craftsmen’s workshops and old industrial processes were physically moved into new urban contexts, creating a spatial dissonance.

To sum up this discussion we suggest that dissonance through design is created by combining novelty with tradition in the design process, crafting new compositions of unexpected elements of forms and materials. By no means this is the only way dissonance can be performed through art and design practice, but it should merely be considered a presentation of a few examples and suggestions for further research.

References


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