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An apprenticeship project: Silversmithing in Kapalıçarşı (the Grand Bazaar)

Keywords

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Abstract

Various cultural objects, crafts and traditional production techniques from Turkey have been research subjects in the field of design studies in recent years. During this time, definitions of tradition, culture and craft have changed and, therefore, these changes need to be revisited, in particular relating to product design. This study explores these changes through a field study conducted in Istanbul, Turkey, one of the key areas of craft production. Focusing on silversmithing, a traditional craft in Turkey, the study seeks to identify new ways in which craft can be used in and lead to the design of new products. The field study was conducted with students from the Industrial Design Department of Istanbul Bilgi University during their second-year studio

course. For the study, they were paired with craftsmen in the Kapalıçarşı (the Grand Bazaar) area, one of the most well-known and historic craft neighbourhoods in İstanbul. The aim was to investigate the relationship between traditional craft methods, craft knowledge and contemporary product design, specifically to find out how traditional craft knowledge and methods can be used to inform contemporary product design, and in return, how the craftspeople might benefit from this exchange.

Introduction

Turkey has been the cradle of many civilizations and the tradition of craft continued to exist both in Anatolian and in European sides. Yet, 'the craft paradigm has been shifting in idiosyncratic ways [in Turkey [...]] firstly, because Turkey is a late-industrialized country, and secondly, because of the transformations in social and economic policies in the late-nineteenth and early twentieth centuries' (Aktas, and Mäkelä 2017: 2). Nonetheless, the tradition of craftsman and apprentice is still alive in Turkey.

Albayrak and Ozdemir (2012: 110) state that Turkish craft that was shaped through cultural interaction until the present carries the features of a powerful past. Research on traditional crafts in the modern context of Turkey has raised concerns that 'traditional crafts run the risk of extinction' (Kocabağ 2009: 63) in favour of industrial production due to the changing needs of society. This is because the craft knowledge transfer from generation to generation is discontinued as craft becomes less appealing to new generations as a professional practice (Demircan 2005; Kocabağ 2009).

Many researchers have investigated craft traditions in different areas of Turkey. For instance, the research for Aytekin's Ph.D. dissertation (2015) studying the significance of technological support for the sustainability of local crafts took place in Mardin. Mardin is located in the south-eastern part of Turkey and is famous for specific craft traditions such as 'telkari'.¹ Aytekin's research aims to overcome the gap between knowledge and experience in the academy and within the craft profession to help maintain the local crafts through a new design-craft collaboration. Gümüş Çiftçi and Walker's study in eastern Turkey focused on how 'design can contribute to the development of crafts sector' with practice-based design methods. They selected three traditional handicrafts – oltu stone prayer beads, harik shoes and felt sheets – to demonstrate the 'design interventions' (2017). Aktaş (2015) focused on handmade socks, another traditional Anatolian craft. Altay and Öz (2019) wrote about a graduation project conducted by a student of the Industrial Design Department at İstanbul Bilgi University; their study focused on the basket-weavers in Sapanca. Such scholarly concentration on the topic of craft-design collaboration indicates the importance of the issue and the urgent need to reinvigorate traditional Turkish craft not only for the sake of craft but also for the future of contemporary product design. Accordingly, our study engages in craft-design collaboration, too, examining silversmithing in İstanbul, with particular focus on the educational aspect.

1. Telkari is one of the traditional crafts that uses silver material. This craft technique has been implemented in upper Mesopotamia since 2000 BC. Nowadays, it is used by craftsmen in Mardin and Midyat as 'micro enterprises' (Ensici 2005: 2).

2. Informal production is reinforced by the spatial organization of a neighbourhood. Meanwhile, 'production in neighbourhood-scale craft clusters relies greatly on social relationships and the casual exchange of know-how and resources' (Kaya and Yağız 2011: 61).
3. The mapping was designed by the researcher; the data for making the map were obtained from sources such as the website www.craftedinistanbul.com/locations.
4. For instance, Behçet Necatigil's first book of poems was titled *Kapalıçarşı*. In Orhan Veli Kanık's poem *Kapalıçarşı*, the definition for the word 'kapalı' (closed, sacred) is used, giving reference to the treasures that were hidden there.

İstanbul is significant in terms of the sustainability of craft in the Turkish context as it is the most important cultural, historical and economical urban centre, providing a unique network of traditional production. It has an urban layout that 'offers designers various scales of operation in the city's economic spectrum' (Kaya and Yağız 2011: 61). Thus, Istanbul has been attracting designers from across the world owing to its creative industries and production capabilities.

As İstanbul consists of many craft neighbourhoods and communities, such as Şişhane and Kapalıçarşı (the Grand Bazaar), there is a unique opportunity to explore a combination of traditional workshops that use traditional production methods and a network that has a specific structure (Kıyak İngin 2013). A remarkable scale of production occurs in these urban neighbourhoods, encompassing various forms of knowledge and practice. Craft production operates within a specific 'network structure', which consists of clusters formed in various neighbourhoods, mainly in the city centre. Its existence and operation depend on this network (Kaya and Yağız 2011: 60).² In the craft workshops in various districts of İstanbul, designers and craftsmen share their time together, which benefits both sides. The 'shared production processes between designers and craftsmen' allow them to be exposed to local resources and materials. This encounter brings about a 'spontaneous choice of materials and improvised applications in design' (Kaya and Yağız 2011: 60).

The areas shown in the map below identify the craft communities in İstanbul (Figure 1).³ Eyüp area, marked in yellow, was famous for toy production; yet, the production stopped. Among the reasons for its demise are the toyshops not being able to catch up with the changing times and city planning ending bazaars (Akbulut 2009: 184). Gürpınar states that this change has been due to physical (material and production processes) and cultural (consumption related) causes rather than structural reasons (2012: 137). Toys have begun to be mass-produced instead of hand-crafted. In the other areas, marked in blue, craft production continues despite the decreasing number of workshops. Craft neighbourhoods have faced some changes over time and most of them could not survive the effects of mass production. One of the neighbourhoods that still exists today is Kapalıçarşı (the Grand Bazaar). It was 'arranged as a large mechanism in order to keep product identity and economy alive' and 'gained value as an important economic project of the state' (Küçükerman and Mortan 2007: 13). The Grand Bazaar has been a central place for the jewellery sector and other crafts for years (Çörek 2011; Kıyak İngin et al. 2018). 'The development of jewellery in İstanbul was determined with the establishment of the Grand Bazaar, where production connections took shape' (Çörek 2011: 33). It was the centre of attention for many years; it has been subject to stories and poems.⁴ It was also known as a multicultural area where minorities from different ethnic groups could spend time together. Today, the Grand Bazaar still attracts customers, both locals and tourists. However, people increasingly prefer shopping malls instead, meaning that the Grand Bazaar appears to be relatively unpopular and less well frequented.

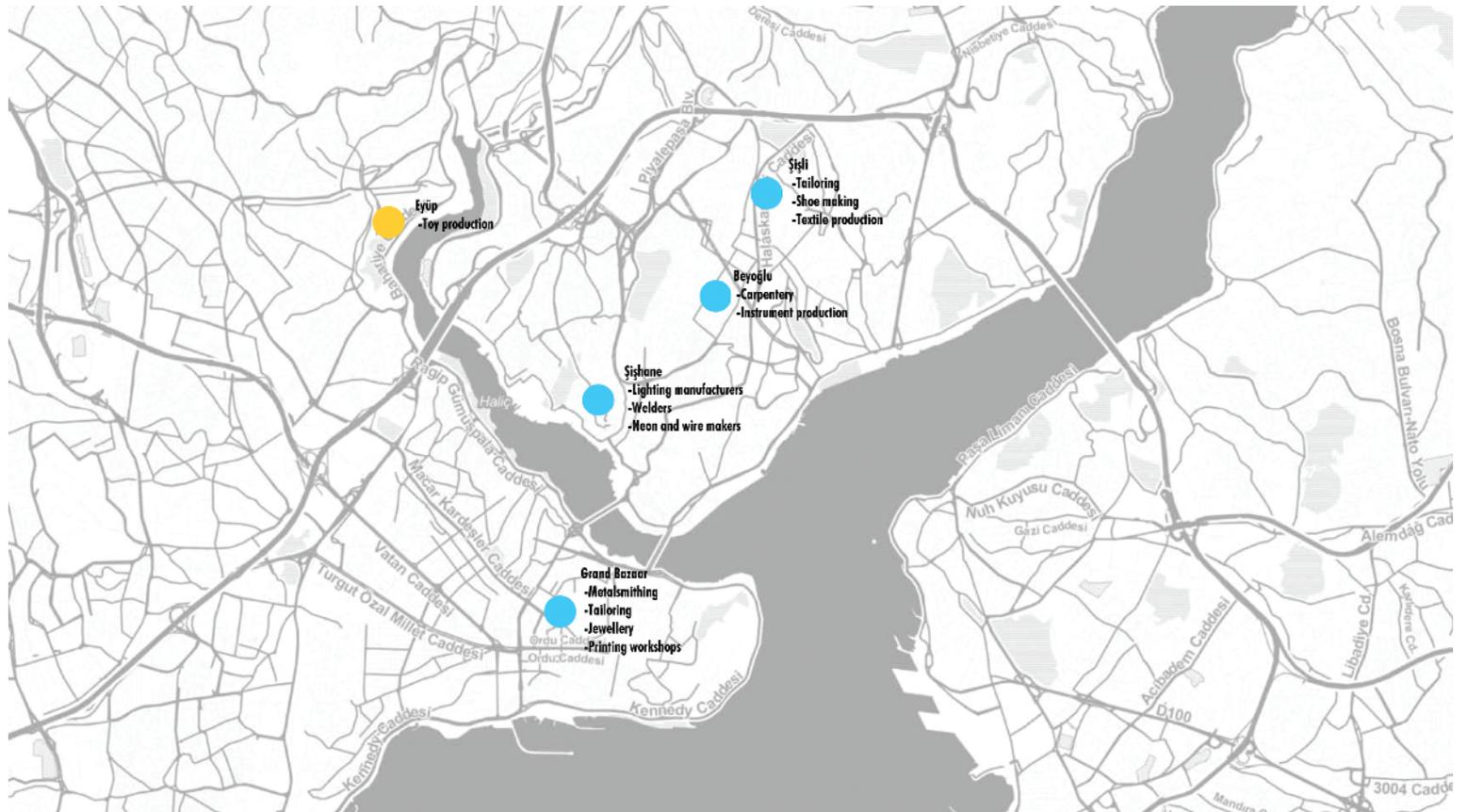


Figure 1: Craft neighbourhoods in Istanbul. Mapping designed by Berilsu Tarcan. Background map from http://maps.stamen.com/m2i/image/20170808/toner_hWB5dKSbs4o. Map data by OpenStreetMap, under ODbL. © OpenStreetMap contributors.

5. For instance, *The Oxford English Dictionary* states that design, understood as a 'plan or scheme intended for subsequent execution', does not appear as a term until the middle of the sixteenth century (Margolin 2015: 17).

The Grand Bazaar's common 'metal-based craft' results mostly in jewellery products, particularly made of silver. The art of silver processing in this area has developed as silver masters from Central Asia, the Caucasus and the Middle East settled around the Grand Bazaar area (Çörek 2011: 35; Şekerci 2014: 23). Particularly in the context of jewellery-making, Sargül identifies a 'culture, tradition and a micro universe' that has existed for 550 years. The jewellery masters established a variety of social and cultural rules, tendencies and traditions, formed a certain moral code and developed a tradition that was transferred to new generations with the master and apprentice relations (Sargül 2015: 4–5). Yet, the products made in the production network appear to repeat themselves. Among the problems that craft culture and craftsmen face here are the decreasing numbers of craftsmen working in the field, the products that do not seem to be up to date, decreasing sale figures, lack of collaboration between academy/designers and craftsmen, and the resultant insufficient knowledge transfer.

Against this backdrop, we have conducted field research where a group of Industrial Design students is paired as 'apprentices' with craftsmen in the Kapalıçarşı area, one of the most well-known and historic craft neighbourhoods in İstanbul, to explore the impact of tacit knowledge and knowledge transfer on product design. In addition to investigating how traditional craft methods and knowledge might affect contemporary product design, this study also aims to understand whether the characteristics of craft production can be transformed based on this interaction. In other words, could this cooperation between industrial designers and craftsmen be beneficial for craftsmen and the designers? It was hoped that within the scope of this apprenticeship project, the students would learn the intrinsic details of the craft from the masters themselves and incorporate these into their own design, and also for the craftsmen to benefit from this interaction by adapting their traditional production methods according to the contemporary markets' and customers' needs and expectations.

Design, craft, apprenticeship and tacit knowledge

Design has been described as a 'plan' in many resources.⁵ Before the twentieth century, the designer was at the same time the maker of a product. Industrial design as a discipline has only emerged with the Industrial Revolution. Heskett defines industrial design as 'a process of creation, invention and definition separated from the means of production', specifically linked to the development of industrialization and mechanization that began with the Industrial Revolution in Britain around 1770, although it cannot be described simply as a deterministic product of those (1980: 10). According to Greenhalgh, it was in the twentieth century that the idea of the designer as a professional who saw the entire process of manufacture from the drawing-board to a finished artefact through fully evolved. He states that it was only then that 'design' became exclusively tied to the idea of industry

and designers clearly distinguished from artists and craftspeople. They are now irrevocably associated with mass production, or at least highly mechanized production (Greenhalgh 1997). At the end of the nineteenth century, although industrial design was commonly incorporated into the industry, 'the profession of the industrial designer was still rather blurry, meaning that the activities of artists, architects, craftsman, inventors, engineers, technicians and personnel of larger companies were all labelled as industrial design' (Megens et al. 2013: 2).

However, design as an act is much older and has a broader perception.⁶ Friedman states that 'the practice of design predates professions' and the human race, as making tools in fact is 'one of the attributes that made us human in the first place' (2000: 5). Taşdizen mentions that the relation between making and designing is rather grey than black and white (2017). Since this article is developed via an apprenticeship project, the collaboration between design students and craftsmen has placed the emphasis on the definition of design related to making and craft as a humanizing process. Thus, both traditional and contemporary approaches can be addressed as contributing factors to the study.⁷

Craft as a term has changed over time. While it referred to the method of production before the Industrial Revolution, today it is used in a broader sense. It is said that craft became separated from art and design after the Industrial Revolution, and Dormer describes this separation as 'one of the phenomena of the late-twentieth-century western culture', and states that the consequences of it 'have been quite startling' (1997). According to Dormer, the separation of having ideas from making objects was a direct consequence of this split, and also the idea that creativity can be separated from knowledge of how to make things, which has led to art without craft (1997).

Dormer argues that craft could have two very different meanings: first, it could mean 'studio crafts', which covers anyone working in a craft medium from 'producers of functional ware' to 'abstractionist sculptors who work in textiles, clay or glass'. Second, it could refer to the 'process over which a person has detailed control' (Dormer 1997: 7). Campbell points out that the term 'craft' is a shortened version of 'handicraft', a term that draws attention to the contrast between 'someone who produces objects by hand' (the traditional worker) and someone who produces objects 'with the aid of a machine' like the modern factory worker. Activities that would traditionally be addressed as 'craft' include weaving, carving, pottery, 'handblock printing, embroidery, silversmithing, jewellery working, bookbinding, furniture making and so on' (Campbell 2005: 27).

In brief, craft today is considered a dynamic concept. Kocabağ explains that craft as she sees it is not 'limited to the conventional meaning; but a continuously evolving, adapting, dynamic concept which needs to be re-evaluated in terms of its position within contemporary design' (2009: 5). Further expanding the concept, Bunnell defines craft as an 'essentially human and humanizing process'. She argues that 'to craft something involves human interaction with technology whether it is a pen, hammer, or computer software and hardware' (2004: 5). Craft is even associated with someone's identity or seen as a symbol of certain lifestyles.⁸

6. Design is no longer just defined as problem-solving or planning, but more related to craft as an act of making and creating. Both design and craft are becoming more related to self-expressions, lifestyles and even attitudes. See for instance, DIY, craftivism movements: a movement influenced by DIY, with the combination of craft+activism, which focuses on activities such as 'teaching knitting lessons, crocheting hats for the less fortunate, and sewing blankets for abandoned animals' (Greer 2007: 401).
7. The Industrial Design education at Bilgi University also aims to expand the defined design field by not limiting itself to industrial paradigms, but by combining it with different modes and practices. It sees designers not only as responsible for selling products to clients but also as professionals who ask and search for alternatives. It should also be noted here that this attitude in particular has contributed towards this field study as it enabled the combination of craft and design knowledge together in a studio course.
8. Recent movements such as Maker and DIY that

combine technology and/or making things with hands can be given as examples; both these movements mean more than leisure-time activities and imply lifestyles in today's consumerist world.

9. A term used in biology that means 'a process by which molecules of a solvent tend to pass through a semipermeable membrane from a less concentrated solution into a more concentrated one'. However, in this context, it has a different meaning: the process of gradual or unconscious assimilation of ideas, knowledge, etc. Origin: mid-nineteenth century: Latinized form of earlier *osmose*, from Greek *ōsmos* 'a push' (which is also appropriate in the given context) (<https://en.oxforddictionaries.com/definition/osmosis>).
10. Something that is one's duty or responsibility (<https://en.oxforddictionaries.com/definition/onus>).

Craft requires a craftsman. As Sennett argues, "'craftsmanship" may suggest a way of life that waned with the advent of industrial society, but this is misleading. Craftsmanship names an enduring, basic human impulse, the desire to do a job well for its own sake' (2008: 9). According to Aktaş, craftsmen have 'two major skills: Idea generation in the design phase; and working by hand in the making phase. These skills comprise a balance of thought and practice, hand production, and manual technical experience' (2015: 11). 'Individual differences of each craftsperson, object, and context bring the personal dimension of crafts' (Risatti 2007 cited in Aktaş 2015: 11).

Craftsmanship requires apprentices, promoting apprenticeship as a process of young people learning a craft. 'The apprenticeships of recent centuries involved a methodical process of training young people in a craft' (Ragland 2009: 3). Ragland explains the process as follows:

Throughout his training, a boy was expected to absorb by osmosis.⁹ The onus was on the apprentice to accumulate hand skills sufficient to facilitate the level of ingenuity required to become a master craftsman.¹⁰ His only way to reach this goal was by imitation. Being 'indentured' to one person for the period of the contract had additional educational significance. A boy in the furniture industry would commence working at about fourteen, he was usually coupled with a single craftsman for a period of normally seven years, a period which would witness a transformation, not only in the boy becoming a skilled craftsman, but the child becoming an adult.

(2009: 3)

Ragland clarifies that rather than 'merely becoming "knowledgeable" about the subject, an apprentice was expected to practice the displayed project by himself to discover "the secret"' (2009: 3). The master's objective is 'to encourage the apprentice to learn the lessons of the trade for himself' because the aim is to coach him to adapt to developing solutions by 'his own strength of character'. With time and his own efforts, the 'tricks of the trade (with hints and pointers from his master) would become apparent'. With this, his work would become 'an expression of his individuality', and therefore 'a strong personal connection' would emerge with the artefact that he created (Ragland 2009: 3). Similarly, in her study of Shoji Hamada, the ceramicist Susan Peterson describes the apprentice (*deshi*) and master relationship as follows:

To learn as a *deshi* means to submit one's self to the master, to leave one's own self, to become in the master. This surrender to the master does not mean just blind imitation but gives a spiritual discipline and the opportunity to absorb a skill into one's bones.

(1974: 46)

However, in some cases researchers argue that it is difficult for a novice craft practitioner to ‘observe and imitate’ a craft practice (Wood 2006: 126). In other words, practicing craft takes time: the master-apprentice relationship that is disappearing has great importance in craft practice, and could be reinvigorated or replaced with alternative and more attainable ways.

Michael Polanyi argues that ‘we can know more than we can tell’ (1966: 4, 1997). Hence, in his book *Personal Knowledge* (1958), he proposes that ‘any expression of knowledge was greatly influenced by a complex range of knowledge possessed by the person in the act of knowing’. According to Polanyi, ‘whilst explicit rules or formulae might influence a skilful performance, it actually is the performer’s wider personal knowledge that plays the largest role in guiding the performance’ (1966: 4). Polanyi observes that ‘much of this knowledge was so internalized and interwoven it was not possible to express’, and this knowledge became widely known as tacit knowledge, the knowledge that we have but cannot put into words. The concept of tacit knowledge is strongly relevant to the craft knowledge and learning craftsmanship as the master, through apprenticeship, transfers the knowledge to the apprentice. ‘On a purely functional level, tacit knowledge might be seen as offering advantage to the craft practitioner by reducing cognitive load, freeing the mind from one level of a task to enable thought to be directed at another’ (Wood et al. 2009: 71).

Nicola Wood is one of the researchers who has appropriated tacit knowledge into craft practices. Together with Chris Rust and Grace Horne, she explains that Polanyi’s work implies ‘such knowledge is gained experientially, through undertaking the actions and absorbing the principles’ (Wood et al. 2009: 72). Polanyi describes the learning process of this knowledge as an indwelling process: ‘The novice seeks to dwell in the actions of the expert through observing them and taking action to imitate them’ (Polanyi 1966 cited in Wood et al. 2009: 72). The project that Wood et al. have conducted aims to ‘enable new practitioners to tap into the accumulated knowledge of previous generations of practitioners’ (2009: 72).

Tacit knowledge is directly included in craft knowledge and it forms a product knowledge on its own. Cross states that we ‘must not forget that design knowledge resides in products themselves’ as traditional crafts are based on ‘the knowledge implicit within the object itself of how best to shape, make and use it’. He mentions that this is why ‘craft-made products are usually copied very literally from one example to the next, from one generation to the next’ (1999: 6).

Tung states that the ‘existing knowledge of a craft is viewed as tacit, where specialized skills are embedded in a person or within a local community’ (2012: 74). Tung explains further that the ‘tacit knowledge possessed by the local artisans is acquired through extensive experience of working with materials and processes and it can primarily be acquired by practical and personal contact between master and apprentice’. These ‘specific techniques’ and ‘craft styles’ can be passed on in two ways: (1) within families and (2) in a close-knit community (Tung 2012: 74). ‘If knowledgeable people fail to pass on their tacit knowledge then that knowledge will disappear. When practical knowledge disappears, it is hard and time-consuming to rediscover it’ (Dormer 1997: 148).

11. As primary and secondary school is mandatory and education at formal school is the right of children today, it is less common to train an apprentice from an early age to become a master in years.
12. In addition to the researcher (as the research assistant), two tutors from Bilgi University, Aslı Kıyak İngin and Ayşenaz Toker, were involved in the project. The course 'Apprenticeship in Product Design' was first started in 2013 by Aslı Kıyak İngin and Can Altay, with the aim of filling the gap between the domains of local craft workshops and academy, bringing design education together with craft skills, the know-how and micro-scale production in the city (2014).
13. Previously, the same studio course had been conducted in Şişhane workshops for four years: the Şişhane studio was formulated with the know-how of the social design project 'Made in Şişhane', which was a ten-year long project within local craft neighbourhoods, started by Aslı Kıyak İngin. The researcher (Berilsu Tarcan) was not a part of the Şişhane studio course or Made in Şişhane project before. (Continued on p.101.)

In learning a skill, we develop a complicated repertoire of procedures. In the higher stages of skill, there is a constant interplay between tacit knowledge and self-conscious awareness, the tacit knowledge serving as an anchor, the explicit awareness serving as critique and corrective. Craft quality emerges from this higher stage, in judgments made on tacit habits and suppositions.

(Sennett 2008: 50)

Even though the relationship between the master and apprentice as described in this section has already faded in many countries, the intrinsic idea of learning and transferring knowledge via practice remains in existing craftsmanship across the world.¹¹ For instance, Çörek, who has conducted in-depth interviews with local craftsmen in Turkey, underlines the significance of tacit knowledge in the jewellery sector: All the masters whom she interviewed emphasize the importance of 'practice-based and face to face education', and both these depend on tacit knowledge (Çörek 2011: 77). Knowledge on products and production techniques is transmitted through 'generations of craftsmen', and specific production techniques are only known by specific craftsmen. Therefore, the concept of 'tacit knowledge' plays an important role for the purposes of this study.

Designing with craftsmen

This apprenticeship project was part of the second-year studio course and master's thesis for industrial design students at İstanbul Bilgi University.¹² The course was titled Apprenticeship in Product Design: Kapalıçarşı, conducted by Aslı Kıyak İngin and Ayşenaz Toker and the researcher, for which the students were paired with craftsmen in the Grand Bazaar area in İstanbul during the spring semester of 2017.¹³ The mini-apprenticeships started in 7 March 2017 and ended in 31 March 2017. In total, nine silversmithing workshops agreed to participate in the project. Sixteen students who took the studio course were informed about the workshops and introduced to the production techniques used in each. They were given three design briefs to identify the projects and homework by the tutors. Before the study, the craftsmen were informed briefly about the projects and their description; however, they were not a part of the writing process. The three design briefs given for the project are presented below:

Project 1: Layers of Kapalıçarşı and *Hans* (research and investigation of the different layers of Kapalıçarşı and its surrounding production area as a personal project).

Project 2: Deciphering the Craft (see Figure 2).

Project 3: Accompanying Craft: Table Landscapes (design and produce an object for the dining table environment, taking the craft knowledge and experience as a starting point).

P2: Deciphering the Craft

personal project

Blog

For until the rest of the term, you are expected to keep a blog to publish your apprenticeship process and experience, daily!

P2a. Deciphering the Workshop

A thorough observation and analysis of the workshop;

- its location and plan
- stories about people who work there
- workshop rules
- workshop routines

Submission on A3s (09.03.2017 23:59) (on Drive and Printouts)

P2b. Deciphering the Production

Observation and analysis of;

- materials used
- production techniques
- tools used
- production networks and techniques of related ateliers
- movements

Submission on A3s (16.03.2017 23:59) (on Drive and Printouts)

P2c. Deciphering the Object

A thorough observation and analysis of how one product is produced in the workshop. Choose one object, finished or still being produced to decipher the production process and steps: including production techniques, tools, materials used. Use photographs, sketches and/or diagrams to produce a storyboard.

Submission on A3s (16.03.2017 23:59) (on Drive and Printouts)

Figure 2: Brief of Project 2, in 'Apprenticeship in Product Design: Kapalıçarşı' studio course.

P2d. Body Companion and How It's Made

For this project, you will reinterpret and explore the potentials of production techniques and/or materials that are used in your workshop and its network. As a continuation of your research and trials, you will design a "body companion." Research and Design process are as important, and will be presented along with the final product.

Taking different layers of the workshop, its network and its surrounding area as a starting point (stories / architecture / movements / sounds / colors / textures / materials / production techniques / forms / patterns and moulds etc.), how will you add another layer to body?

Submission:

1/1 prototype

Set of orthographic drawings

Showcase of your design and production process, and methodology (sketches / photos / material and production trials) -Format TBC-

Field Trips:

03.03.2017: "Cevher ve Zanaat" (Rezan Has Museum)

14.03.2017, 09:00: Şenay Akın's Atelier

16-19.03.2017: İstanbul Jewelry Show

She became a part of the 'Apprenticeship in Product Design: Kapalıçarşı' course in 2017 as a research assistant.

14. An article about the same studio course, focusing on the educational methods and processes was written for *Making Futures Journal* by Aslı Kıyak İngin, Ayşenaz Toker and Berilsu Tarcan, and published online on March 2019. Additional educational information, pedagogical purposes and outcomes about the project can be found in this article, ISSN 2042-1664.

Calendar: Project 1: 2 weeks; Project 2: 4 weeks; Project 3: 6 weeks.

(Kıyak İngin et al. 2017)

This report presents the second project, in which the students were asked to perform small tasks as part of the workshop production while observing the workshops, the masters, techniques and materials. This helped students to take part and become accustomed to the everyday routines of the workshops and its network (Kıyak İngin et al. 2017). The products developed and shown in this article were designed as part of Project 2 (Deciphering the Craft), and the descriptions and assignments of this project are shown in Figure 2. The term 'body companion' was chosen deliberately, instead of jewellery, to allow students to design and produce anything that relates to the body; thus they were not restricted to jewellery. Another reason for the assignment was that the end products can be smaller in size, thus less expensive, than the silverware produced in the workshops. Also, as these workshops do not normally produce any kind of jewellery; the tutors were interested in observing what kind of products might be developed. The tutors decided on which projects to assign; the craftsmen's role was to guide and teach students about the production going on in their workshops.¹⁴

The field study comprised several observations, formal and informal semi-structured interviews by the researcher with craftsmen and students, and an analysis of the products that arose from the collaboration. The observations, interview deciphering and their analyses were conducted during the studio course from February to June 2018, with consent from the students and craftsmen. The workshops and their production are analysed with respect to notions of craft community, tacit knowledge, production techniques and craft-design relationship. These data are used to better understand the continuous transformations that occur in the craft and design scene.

Knowledge transfer and transformation of production techniques

During the study, the researcher observed that there is a distinction between the silverware workshops, which produce 'silver goods', and jewellery workshops that specialize only in jewellery. Some of the craftsmen involved in the study stated that they used to produce jewellery; however, after machines such as laser cutters began to replace the hand-based techniques, they stopped making jewellery and shifted their focus to silverware, where they could continue to employ their traditional skills. These craftsmen were critical of these changes, i.e. the use of machines, in the jewellery sector because they did not see value in the machine-made jewellery. While the techniques in jewellery were applied for machine production in the last few years, this appears to be less the case in the creation of silverware products. Some craftsmen claim that since their craft cannot be appropriated to machine production, it is more valuable.

Craft production in the Grand Bazaar takes place in the *hans* around the area. Kalcılar Han and Büyük Yeni Han are the *hans* where most of the production with silver material takes place.¹⁵ Different workshops in these *hans* produce different parts of a product and use different production methods. Various types of production techniques, mostly traditional, are used in each workshop. The production techniques shown below were observed by the students (Figure 3).¹⁶

For instance, in Ming Silver, tools such as snips, hammers, welds and pincers are used for producing silverware, and these tools used for production have been used as an inspiration by students of this workshop (Table 1).

In all the workshops, knowledge transfer has been central in terms of learning the craft and the relevant production techniques. The apprentice students focused on different techniques in different workshops. Transfer of tacit knowledge has occurred in various ways. For instance, it was explained by the craftsmen that ‘when beating a material, the exterior should be without any marks from the

| | Workshop names | Student names | Product names |
|---|-----------------------|----------------------|---------------------------|
| 1 | Vilyan Toparлак | Dila Arık | <i>Insects</i> |
| 2 | Halit Kandemir | Sezin Çelebi | <i>Conics</i> |
| | | İrem Altunsu | <i>Patina</i> |
| 3 | Rose Silver | Selin Öztürk | <i>Pangea</i> |
| | | Elifnaz Pamukçu | <i>Single or Together</i> |
| 4 | Ming Silver | Polen Kenziman | <i>Adaptable Twirls</i> |
| | | Alara Altınören | <i>Anomali</i> |
| 5 | Orgu Silver | Deniz Yıldırım | <i>Hanclampus</i> |
| | | Ece Kökçak | <i>Dancing Chain</i> |
| 6 | Ares Silver | Lara Divriş | <i>Vertebra</i> |
| | | Gizem Erbilgin | <i>Hollow</i> |
| 7 | Eyüp Silver | Kunt Konuk | <i>HealthKit</i> |
| | | Adem Sınağ | <i>Avam’s Jewellery</i> |
| 8 | Balyan Handicrafts | Adil Batuhan Kaşut | <i>Bowoice</i> |
| 9 | Halil & Ali Silver | Ali Rıza Atakan Gür | <i>Brass of Han</i> |
| | | Gözde Çubukcu | <i>Ma’star</i> |

Table 1: List of workshops, students and products.

15. *Han* in Turkish culture is a typical commercial structure similar to shops, generally used for retail trading and production. It is one of the important structures in craft neighbourhoods as it serves as a production hub itself. The position of han is also important in this study as the students are positioned in the han (Büyük Yeni Han) instead of a design studio classroom or a workshop in the university.

16. Figures titled ‘from the Apprenticeship in Product Design: Kapalıçarşı design course archives’ are taken from the course assignments, which are archived by the university and the tutors of the course. Permission was sought from all students and craftsmen for the publication of their work and photographs. All the figures, tables and quotations from craftsmen and students have been included with their consent.



Figure 3: Production techniques observed by students in the workshops Halit Kandemir. From the Apprenticeship in Product Design: Kapalıçarşı design course archive. © Polen Kenziman.

beating, but the interior should remain with the marks', and beating should be made in a specific rhythm and order, not randomly. The silver waste is reused a lot, and so the dust of silver is not discarded. The workshops repair objects that were produced there, and it is stated by the masters that 'for a mass-produced object it would not have been possible to be repaired after forty years'. This knowledge transfer contributed towards the apprentice students' understanding of the material and process, and subsequently, towards the design processes and the creation of their own products. The specifics of techniques and craft were better understood with these explanations. This also means that the knowledge transfer does not just occur through producing and showing the techniques, but also via the interactions between students and craftsmen.

The transformation of the traditional production techniques was apparent during the 'fuzzy front-end phase', which is 'the early phase before the traditional design process begins' (Tung 2012: 74). The fuzzy front-end phase is the phase when divergent activities take place to identify any fundamental problems 'to describe opportunities, and to determine potential designs' (Tung 2012: 74). In this phase, observing and getting to know the local setting, materials, craft products and techniques are essential. The boundaries between craft and design become more blurred, and thus design and craft practitioners learn more from each other. Then the design development process follows, where 'the resulting ideas for products are developed into concepts, prototypes, and then refined into resulting products' (Tung 2012: 74). The process consists of observing the workshop, coming up with ideas for taking the craft knowledge and combining it with the design knowledge according to the design brief. For example, in our study, traditional techniques and tools in the workshop have been used for unconventional purposes. To show the transformation and collaboration of craft and design more clearly, we present product examples from three workshops.

For instance, in the workshop of Halit Kandemir (Table 2), all the different hammers were used for creating a new texture, and the change in texture was used as an idea for new designs. The colour changes on copper and brass that occur with time were observed by the students and used for design concepts. The traditional techniques have been transformed in context and material. The techniques used in the workshop have been used for lending form to the products. Students also conducted their own experiments, especially for colour and texture (Figures 4 and 5).

The end products designed by the students and the products normally produced in the workshops have clear differences. To compare the results and the production techniques, the production processes of the two different products are shown in Figure 4.

These two products are not typical products that come out of this craftsman's workshop: in particular the functions, forms and the usage of production techniques are quite different. Even though the typical production techniques such as plastering, hammering, welding and melting have been used by the students, they used them in different contexts: melting, which is usually only used for combining points, has been used for every edge of *Pangea*. The student found the

Product photo



Product names and key points

Tree Leaves for the Bowl
 Material shaped into a three-dimensional form
 Traditional leaf figures



Pangea by Selin Öztürk:
 Changing colours of materials by heating
 Creating integrity by melting every edge,
 instead of melting just the combining points



Patina by İrem Altunsoy:
 Changing the *Patina*
 Organic forms
 Out-of-traditional shape
 Look and feel like a second skin

Table 2: Product analysis of Halit Kandemir's workshop and students.

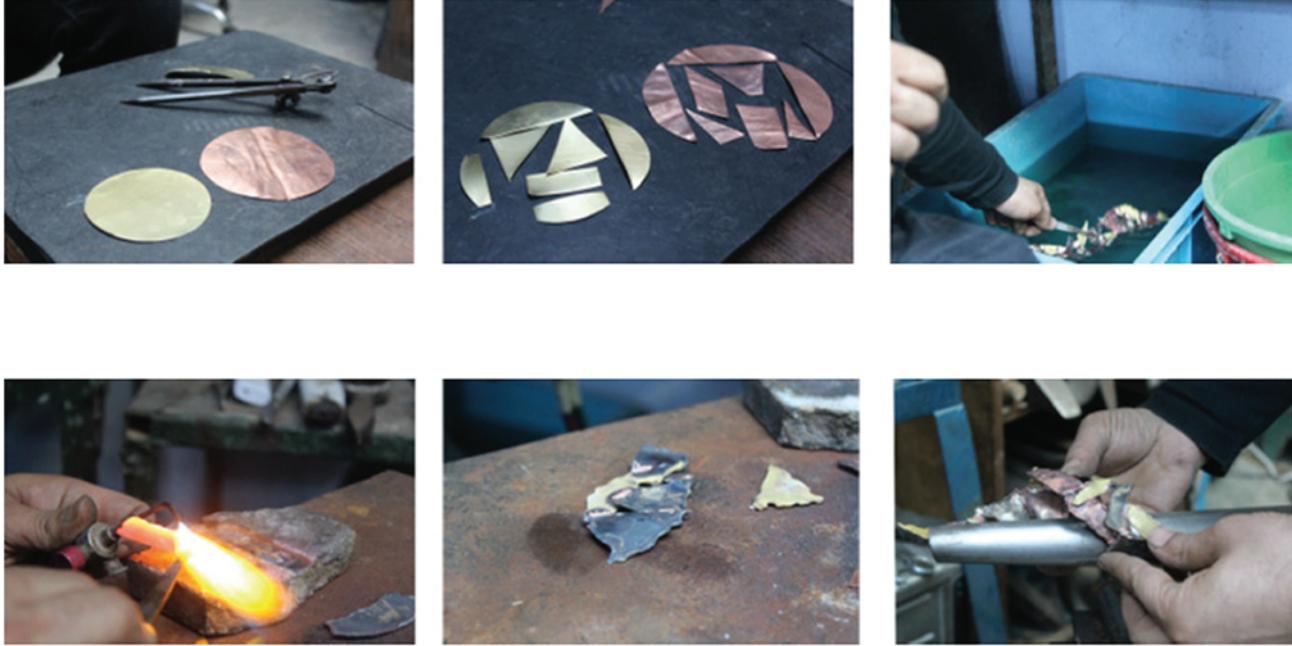


Figure 4: Production processes of Pangea by Selin Öztürk. 1st row: production of Pangea; by cutting the brass into pieces 2nd row: Production of Pangea, by welding and melting all the edges to create colour change; and then hammering and twisting the shape to suit the arm. From the Apprenticeship in Product Design: Kapalıçarşı design course archive. © Selin Öztürk.



Figure 5: Production process of Patina by İrem Altunsu. 1st row: experiment process of Patina with different kinds of vinegar, ammonium and salt 2nd row: experiment process of Patina: Applying the apple cider vinegar to create the final patina 3rd row: Production of patina: form trials with aluminium foil and cardboard, cutting and melting the brass according to the cardboard layout; and applying the patination process on the brass. From the Apprenticeship in Product Design: Kapalıçarşı design course archive. © İrem Altunsu.

plastering and the hammering techniques most suitable for her project, and these were also the most commonly used techniques in the workshop. The student learned how to re-shape and change the colours of brass, copper and alpaca. Instead of using the circle-shaped brass and copper pieces – which were typically used in the workshop – the student cut the circle-shaped piece into multiple pieces and gathered them together. In the workshop, melting was used only for combining the points. However, as the student observed that melting edges create more integrity, she chose to melt every edge instead of just melting the combining points. Similarly, the other student observed and decided to use a colour change on brass from the interference of chemicals/liquids on metals, which is normally considered a mistake, an error or an out-of-control result in the material. For this product, named *Patina*, the student researched various methods to create a green-blue colour on brass that would normally occur with time, which is called ‘patina’. Around a hundred experiments were conducted to observe the patina process by changing the metal, the liquid applied (apple cider vinegar, white vinegar, ammonium, salted vinegar, etc.) and application methods. The process was controlled over time and was applied on the brass to make it ‘look and feel like a second skin’ (Figure 5).

In Ming Silver, for the project *Anomali*, brass and copper plates were combined and cut into stripes without any welding. These two materials were wrapped and tightened to each other using pliers. Then, they were toughened up by hammering and the final rasping was performed for corrections (Figure 6). For the other product *Hanclampus*, the clamping method that is traditionally used for adding ornaments on the silver products was employed as a functional tool for the student’s design (Table 3).

In Halil&Ali Silver (Table 4), production was focused only on silver. As silver is very valuable, both students were advised not to work with silver by the tutors, but instead observe and use the techniques on aluminium plates or other relatively cheaper materials. At the end of this process, both students used templates in the workshop (known as *mastars*) as their inspiration. Both observed *mastars* as crucial tools for production and used the logic of *mastars* while designing their products. The first product idea, *Brass of Han*, came from the use of a tree stump with open gaps in the workshop. The student used the walls in the *han* as a ‘template’; brass and aluminium plates were placed on the walls and hammered with a rubber mallet until the plates took shape of the walls (Figure 7). The other product that was developed in the same workshop was similar. After observing many production techniques and tools, the student decided to use *mastars* to develop and produce her product. In the end, she created and used new *mastars* (Figure 8).

Without doubt, the production processes are similar to each other in the different workshops as all of them deal with metals. Nevertheless, students from each workshop chose specific methods that are used for producing or joining materials. Students’ designs were produced using traditional methods, but they were also in touch with the contemporary consumer trends. The aim has been to



Figure 6: Production process of Anomali by Alara Altmören: 1st row: cutting brass and copper 2nd row: bending, hammering, wrapping and rasping brass and copper. From the Apprenticeship in Product Design: Kapalıçarşı design course archive. © Alara Altmören.

Product photo



Product names and key points

Clamps attached to the product
Used for attaching figures, ornaments
on products
Traditional figures

Anomali by Alara Altınören:
Changing colours of materials by
heating
Creating integrity by melting every
edge, instead of melting just the
combining points

Hanclampus by Deniz Yıldırım:
Using the clamps as a different function
Adapting the workshop tool to the
product design

Table 3: Product analysis of the Ming Silver workshop and students.

| Product photo | Product names and key points |
|---|--|
|  | <p><i>Mastars of the workshop:</i> These mastars are used for producing silver goods</p> |
|  | <p><i>Brass of Han</i> by Ali Rıza Atakan Gür: Changing context Using the walls of the han as a 'mastar' (mould/pattern)</p> |
|  | <p><i>Ma'star</i> by Gözde Çubukcu: Changing context Using the workshop's 'mastar' for creating a new product form</p> |

Table 4: Product analysis of the Halil&Ali Silver workshop and students.



Figure 7: Production process of Brass of Han. From the Apprenticeship in Product Design: Kapalıçarşı design course archive. © Ali Rıza Atakan Gür.

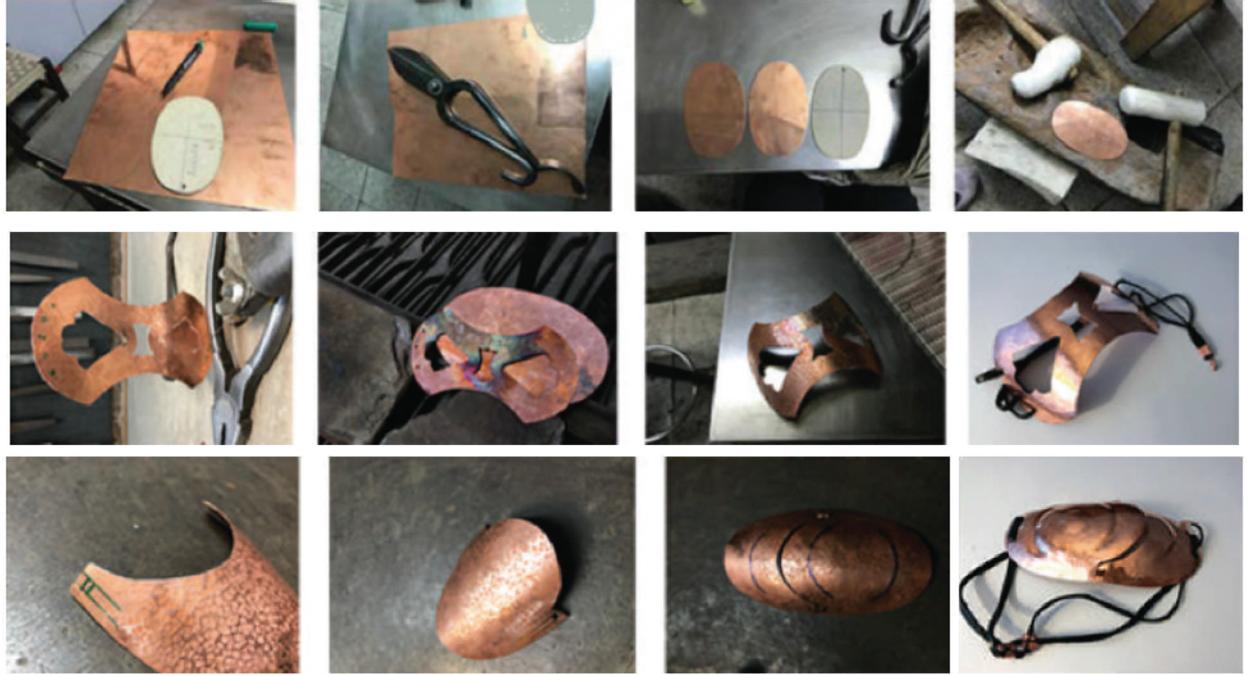


Figure 8: Production process of Ma'star by Gözde Çubukcu: cutting and hammering holes. From the Apprenticeship in Product Design: Kapalıçarşı design course archive. © Gözde Çubukcu.

take the craft knowledge in the workshops and use it in the product design process. The commonly used techniques have been transforming forms and materials. The outcome of the project demonstrates that the craft-design collaboration has created novel designs and approaches, such as combining traditional methods with new materials, forms, functions and contexts.

At the end of the project, students were asked about their experiences in the design course and their apprenticeship process through interviews, which were recorded and analysed: one of the students stated that before starting in the workshops, she assumed that producing a product from the start would be the difficult part, but after she learned how they are produced, she thought that designing the product was far more difficult than producing it. Another student also remarked that the masters were more assertive and involved than he had imagined. A student from Halit Kandemir's workshop stated that she was not expecting all apprentice students to produce different products for all the workshops produce similar items with same materials. However, in the end, each student from the workshops came up with designs that differed from each other (personal communication). These comments suggest that the production techniques were learned along with design knowledge. The design knowledge helped in observing, learning and transforming the production techniques and the craft knowledge.

The craftsmen were also interviewed about craft and silver products during the studio course. In general, they were nostalgic and wanted to continue producing the goods that they used to produce twenty years ago. The goods produced with the traditional forms and production techniques are not viewed as outdated as they attract tourists. The fact that young consumers do not want to buy products made in these workshops is mostly viewed as a cultural issue and not a matter of form or function. This was one of the crucial observations of the study. It appears that the main issue with craft in general and silversmithing in particular is cultural. Promotion of handcrafted objects may appear to be a quick solution for selling craft; however, it is not sufficient for the sustainability of craft objects. This cultural issue is related to both the producer and the consumer. The craftsmen associate it with sociocultural changes; the culture has changed, and nobody uses silver products at home anymore, and also, government policies (the tax for silverware being too high, the fact that companies cannot buy silverware as presents, etc.) have changed.

Throughout the research, the craftsmen became more open-minded about the designed products, meaning that there is potential to improve the relationship between the craftsmen and the students who are indeed future professional designers. It should also be noted here that the students and the craftsmen developed a good relationship that appears to have continued even after the completion of the apprenticeship project (Kiyak İngin and Altay 2014).

Concluding remarks

The relationship between design and craft has existed for a long time. Today's excessive consumption culture challenges designers and forces them to review the old production and consumption forms (Ovacık 2015: 55). In this study, the role of craft and tradition in contemporary product

design has been studied. An apprenticeship project has been used to observe the role of tacit knowledge in the design process, which has been realized through cooperation between design students and the masters of silversmithing in the Grand Bazaar. This led to the establishment of a connection between the academy and the craft community, which has eventually led to invaluable knowledge transfer and product development. For instance, a craftsman has stated that for forty to fifty years they have been in the same place, have done the same work and been influenced by the same minds. When students/tutors 'come from a completely different world, different minds automatically produce different things' (personal communication). That is, the apprenticeship project seems to have helped change the master craftsmen's attitude to innovation through design, thus helping them to become better equipped for the future. In the beginning of the research, the main assumption was that traditional techniques could be transformed through new uses and applications to keep crafts in touch with today's culture. This study has shown that this interaction and the resultant transformation are not just one-sided, but reciprocal and beneficial for both sides. The masters have realized that their products can be developed in ways that were previously inconceivable for them. On the other hand, design students involved in the project, too, have altered their way of thinking and their approach as they observed and learned from the masters. When the transformation of the production and the products themselves are considered, it is apparent that the fuzzy front-end phase and the tacit knowledge have been crucial in the process.

In brief, although mostly considered traditional, the concepts of craft and craftsmanship are parts of today's modern culture. The fact that the number of research on craft and design has increased in the last few years indicates that this connection has been drawing attention. This study may be considered one of the examples that offer a possibility of cooperation between academy and craft workshops, creating an awareness of the existing craft culture and the issue of apprenticeship in Turkey. Furthermore, this should encourage scholars and designers to reconceptualize the notion of design in relation to contemporary craft.

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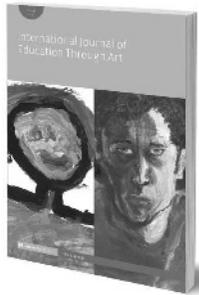
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