A design anthropology of collaborative making: Exploring shoemaking and embroidery practices

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Design anthropology covers various design practices and research. While some researchers/pactitioners rely on anthropological insights to enhance design, others use design as a tool to gain anthropological knowledge. This paper explores the symbiotic relation between design and anthropology and proposes a 'design anthropology of collaborative making'. It contributes to gaining insights in plural ways of knowing while providing contextual insights that inform design practices. Starting from a common skill from an 'in-habitat' position, we consider both perspectives and invite collaborative engagement between people and materiality. Based on collaborations with the San community in Namibia on shoemaking and with Syrian refugee women through embroidery, we explore the added value of this tactile engagement through making to bridge theory and practice.

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Keywords: Design anthropology, Design research, Design practice, Collaborative design, In-habitat position

Design anthropology as a field of study covers a wide range of design and anthropological research focusing on making and practice used in different ways and for different purposes.[1] While some researchers and/or practitioners start from anthropological insights to enhance design practices, others use design as a tool to gain anthropological knowledge. Both positions are conceived within the span between design and anthropology, as researchers and practitioners stem from different backgrounds into the field. This paper explores symbiotic relationships between these perspectives and proposes a design anthropology of collaborative making. This approach combines common skills with the concept of 'in-habitat' position to foster engagement between people and materiality. In doing so, we gain insights into plural ways of knowing and learning and how context shapes design practices. This focus resonates with the design studies field described by Escobar (2021) but attributes a more central role to the tactility and collaborative aspect of making.

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www.elsevier.com/locate/destud
0142-694X *Design Studies* **87** (2023) 101191
https://doi.org/10.1016/j.destud.2023.101191
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We illustrate the value of collaborative making through our design/research practices which start from a similar skill set (or being knowledgeable in a specific skill). We are both trained as designers, makers, and researchers, one in footwear design and cultural sciences, the other in fashion design and conflict and development. The focus on common skill — in these cases on sandal making and embroidery - as a base for collaborative making inspires and facilitates engagement through materiality within a particular context. Engagement in this process, which can range from co-design to sitting together while practising a similar skill, helps to unravel the multiple meanings behind the materiality of the designed products.

Before presenting our field projects (and their methodologies) in Namibia and Lebanon, we first formulate how making and research blend together in a forward-looking design anthropology of collaborative making and secondly how this influences positionality of practitioners from an ‘in-habitat position’. Finally, we explore the added value of this approach for designers (including our interlocutors), anthropologists and, by extension, social researchers.

1 *Making as a conversation between design and anthropology*

Anchored in the disciplines of anthropology and design, design anthropology gained prominence as a field of study over the past decades (Gunn et al., 2013; Smith, 2022). Gladwin (1970) offers an early example of how design can be used to gain anthropological knowledge. In his book ‘East is a big bird’, he describes the skills of canoe making and the related complex navigational systems of the Puluwat natives in Micronesia. In the course of his project, he moves away from focusing on the finished canoe towards its making context. While focusing on the canoe-making, Gladwin gets to know the context-specific navigation system.

Focusing on the making process in which the object is still incomplete, rather than on the finished objects, is also a tenet in the work of Leach (2013), who states that form and meaning are generated in tandem. He illustrates the example of Naie, a dyed bark-fibre string skirt made by people in a province of Papua New Guinea. Plaiting is part of the making process where women sit together and share stories. The aesthetic power of the skirt weaves together the relationships between women, trees, their flowing water spirits, and the dynamics of marriage and kinship. The work of making Naie is to render these relationships visible. By focusing on design as a form of making, anthropologist Leach (2013) aims to explore the multi-dimensional character of design and how this contributes to a sense of empowerment rooted in local practice.

Besides the contextual emphasis, recognising design as embedded in a broader corpus of social knowledge (Gunn et al., 2013), anthropology contributes with its comparative and empirical-inductive perspective to this discipline, starting from observations in the field. As a field of study, anthropology strongly focuses on context and strives to produce knowledge that is situated, or grounded, by the specific historical, cultural, and environmental context in which it was produced. Likewise, the discipline of design, contributes to design anthropology as a future-oriented activity trying to find context-related solutions for everyday lives. In doing so, interventions and transformations in existing realities (often) through a collaborative process between different disciplines, contexts, and people are possible outcomes. These contributions challenge anthropologists' modus operandi trying to mitigate their own impact on the field. Although they are interested in social change, they do not aim for immediate action (Otto & Smith, 2013). Design and practice-based research projects connect the making, doing, and knowing in ways that such positions become inseparable.

Within the growing literature of design anthropology, these discipline-specific features are combined in different ways and for different purposes, leading to various theoretical and methodological constellations. As stated by Smith (2022: 1) "*New forms of interdisciplinary engagement with and across the field*" produce a wide arrange of pathways. *"These encounters are concerned with exploring possible futures through research and intervention in specific cultural sites, social processes and situated everyday contexts"* (Smith, 2022, p. 1). While some authors (Singh et al., 2021) propose design as an instrument for doing anthropology, others stress the importance of anthropological insights for interventional design practices (Murphy & Marcus, 2013; Smith, 2022).

This paper integrates the above-mentioned perspectives by focusing on collaborative making through common skills. We do not intend to outline the state of the art but indicate how our view on design anthropology impacts our methodology and concrete methods. Drazin (2021) argues for a design anthropology based on collaboration and communication, more than on making. We base our understanding of a design anthropology primarily on making, and as such, we see collaboration and communication as an inherent part of making. Specifically, we link design and anthropology through a methodology of collaborative making of artifacts such as carving wood, weaving textile, or making footwear. While Leach (2013) and Gladwin (1970) also consider design practice central in their work, they still rely on observation and description to gain insights into the broader meaning of the making process. Instead, we move beyond a merely documentary perspective and highlight the performative aspect of design. Or as Fabian (1990: 19) argues, when using the concept 'performative ethnography', the researcher *"does not call the tune but plays along"*. This view corresponds with the work of Palmieri et al. (2021) on dwelling patterns who indicate that "a *situated, dialogic and material approach"* can enable people to engage differently (Smith, 2022). Starting engagement based on common skills allows us to bridge theory and practice by collaboratively exploring the interplay between design practice and its meanings.

Following Otto and Smith (2013), we approach design anthropological practices as a *"distinct style of knowing one that moves beyond developing insights and perspectives based on empirical research*" where designers and researchers engage with possible futures situated within everyday life and concerns to explore sustainable solutions for societal challenges (Smith, 2022: p 2). Through engagements of collaborative making, knowledge can (literally) be formed. In accordance, Tunstall (2019: p 351), being a researcher and a designer, states that: design anthropology is "*not just about the application of anthropological theories and methods toward the better design of products, services, and systems*". Instead, she highlights that "*the outcomes of design anthropology include statements providing some deeper understanding of human nature as well as designed communications, products, and experiences*" (Tunstall, 2019, p. 351).

These perspectives become particularly relevant when working with vulnerable groups and/or indigenous communities where making practices can be an alternative way to tell stories.[5] Engaging through these material practices is a way of 'knowing by doing' as it can shed light on what makers perceive to be the most important challenges around them and how they use the design process to navigate these. An example of knowing by doing through design practices is given by Ewart (2013) in the article 'Building Bridges in the Highlands of Borneo'. As an engineer turned anthropologist Ewart compares two types of building bridges with Kelabit people in Borneo. The first bridge, a traditional bamboo bridge, is grounded in local traditions and 'grows' while doing. The second, a suspension bridge, demands architectural plans and was not constructed along local traditions, evoking a lot of discussion. This type of design research can be seen as countering design from a merely Eurocentric point of view. Escobar (2021: p 27) in 'Design Struggles' points to the fact that it can make visible hidden design histories and practices.

Starting from this design anthropology, we clarify in what follows the philosophical background of the in-habitat position and how it influences multiple verbal and non-verbal dialogues between a variety of agents in different contexts.

2 *An in-habitat position: a matter of correspondence*

The 'in-habitat' position, a term we borrow from Ingold (2000, 2013), brings the acknowledgement that the researcher is implicated in the field of study and consequently influences it (Gatt & Ingold, 2013). This interaction is also known under the term 'praxeology' — the science of human action — and used by Pierre Bourdieu (1977). Together with other sociologists and anthropologists (Fabian, 1990; Ingold, 2000; Pinxten, 2010), he argues that all human and scientific research is a form of interaction and, therefore, depends on the quality of the relationship between the agents involved.

The 'in-habitat' position starts from the idea that design is embedded in a broader corpus of social knowledge. The designer takes an insider perspective, participating in an encompassing process in a transforming world (Ingold, 2013). Design from this view does not merely focus on the final product, but on the making process that takes place in a particular context. From the outset the maker is placed as a participant amongst a world of active materials. Ingold (2020) refers to the concept of correspondence where the maker moves along with the material and the people involved. During this act of moving together, hopes and dreams are formulated. He also points to the importance of correspondence through making when words seem to fail (Ingold, 2020). Therefore, design, from an in-habitat position is open-ended and foregrounds the 'improvisatory dynamic of the everyday' (Gatt & Ingold, 2013, p. 141). In addition, a focus on process and context allows us to redefine functional causality between form and matter; instead of form dictated upon a material, we move towards a co-existence of form and matter, or, even, to let form be dictated by material (Deleuze & Guattari, 1988). To give an example, in the book 'The Wild Thing' Bouchez (2017) describes how felting women in Kyrgyzstan not only use wool to make a blanket or a carpet. Mumbling love while felting is done by generations to connect and acquire or pass along prosperity. The focus is not on the final carpet but on the process of making, the story it tells and the closeness it brings upon the family (Bouchez, 2017).

In a nutshell, starting from an in-habitat position as a designer requires a dialectic process – constantly going back and forward, to refine the active making process in interaction with the people involved, the context and its materiality. Without denying the creative agency of the designer, this approach moves beyond the individual to consider the social and cultural contexts of creativity, including the role of collaboration in the creative process. In the book 'Creativity and cultural improvisation' Hallam and Ingold (2020) question the idea that creativity stems merely from individual expression and talent. If we are to understand the how and why of design practices, it is through the earlier described correspondence that we must attend (Ingold, 2020).

We now present two concrete design practices and highlight how a design anthropology of collaborative making can provide insights in multiple ways of knowing while simultaneously shaping design practice. The first practice concerns traditional shoe making with the JuIhoan San (Namibia), while the second practice involves embroidery with women from Syria displaced to the Shatila refugee camp (Lebanon). Both examples start from similar design knowledge, but eventually aim to address issues related to knowledge creation, ownership, power relations, and/or ecology (e.g. sustainable production systems).

3 Collaborative shoemaking and embroidering

Starting from a common skill in an in-habitat position, both cases use collaborative making as a methodology to gain insights in the relationship between people, material, and their surroundings. This way of engaging includes non-verbal and verbal types of qualitative data collection such as experimental learning through design practices, open-ended interviews, collaborative mapping of making practices, and/or co-design.[3] Both projects can be considered ‘multi-actor’ as different stakeholders are involved who participate in making and give meaning to it.

To explore and accumulate different perspectives, and promote specific outcomes, our practices pair collective making with other disciplines. In the case of the sandal project biomechanics adds quantitative data on walking habits (for example, kinetics and kinematics) and foot strength (Curtis et al., 2021; Willems et al., 2020). Combined, this results in a conceptual vocabulary on body-culture connection through footwear and walking (Willems et al., 2022). In the case of the embroidery project, a focus on rights yields information on how people formulate and give meaning to lived experience, which often include ideas about rights and justice (Destrooper & Verclyte, 2022). Furthermore, the length of iterative encounters and the longevity of collaborations is inherent to this design anthropology of collaborative making. A common aspect of this methodology is the dynamic way of analysing data, which results in living documents that ground the research and can enrich the design practices. An iterative narrative analysis of both visual and verbal data - stemming from collaborative making - gives theoretical and practical benefits. This results in processual and non-static interpretation (Fabian, 1990, p. 259), which will be discussed after the following cases.

3.1 The San-dal project: a project that asks you to tread lightly on the earth

The San-dal project is one of the projects Future Footwear Foundation (FFF) is involved in. FFF is a centre of excellence that fosters the understanding of human walking and creativity, and looks into the plenitude of ways in which people engage with their environment (Future Footwear Foundation, n.d.). To this end, FFF collaborates with different shoemaking communities (Willems, 2013; Willems, 2015; Willems et al., 2020; Willems & Roelandt, 2018), one of them within the Ju/‘hoan San. The Ju/‘hoan San (Bushmen) are among the few African indigenous peoples who have been able to retain some of their original land. Owing to the physical remoteness and harsh climate provided by the Kalahari, the traditional way of life of the San survived longer than in more readily accessible regions. Today, the Ju/’hoansi, who number some 12 000 people on both sides of the Namibia—Botswana border, are coping with significant social, political, economic, and environmental change (Biesele & Hitchcock, 2013; Marshall Thomas, 2006; Suzman, 2017).

The project has many dimensions, including biomechanical research and links to 3D printing and sustainable production, but within the scope of this paper we focus on the aspect of interactive sandal making with, by, and for the community, and on the recognition and unravelling of layer-upon-layer of community connections through skill, livelihood, and cultural heritage. In this context, we touch upon the roles both of the interactive making process and of community representatives, including healers and hunters, in connecting the present with the past and the tangible with the spiritual and, in turn, how this strengthens the community and rekindles the interest in the practice of making sandals, once designed for persistence hunting.

Originally hunter-gatherers with a mobile lifestyle, the San moved around in the Kalahari Desert covering most of Botswana, and parts of South-Africa, Namibia and Zimbabwe. They protected their feet from hot sand and thorns using a sandal made of the hides of the eland, the largest antelope of Southern Africa. The hunting sandal made out of eland skin, named n!ang n|osi, was worn by the San people until the 1950ies. When the eland became less accessible towards the end of that decade, sandals began to be made out of car tires (Willems & Roelandt, 2018). The switch to car tires and other types of footwear happened in part because of colonial history and border policy. In addition, over the past decade their natural habitat has been reduced to a small, relatively dry part of the Kalahari, the Nyae Nyae conservancy, a region where it is hard to survive and where the eland is not prone to wander around (Marshall Thomas, 2006). Western fashion habits, social media, and the dumping of second-hand shoes added to the decline in the use of traditional footwear from eland hide. In fact, by 2016 only a few San elders still knew how to make the eland hunting sandal from observing the previous generation.

FFF’s interest in the design practice of making footwear, a shared passion for and knowledge of materials, and a commitment to equity and respect were starting points for a long-term collaboration on re-creating footwear that is handmade by the San community.[4] The following fragment shows a common interest in the sandal:

> “I used to wear sandals made out of eland [Daba, n!ang] skin [n|o] to run behind eland, kudu, and warthogs. For hunting a special type of sandals was used, named ||orkos, different from the one you are making now. The sole was not flat but concave, touching the ground at two points and giving a better grip while running. When you come next time, bring along some eland skin or even kudu or wildebeest and I will show you

> how to make them." *IKunta, Bo. (2018, January 15) Interview, Doupos Nyae Nyae Conservancy, Namibia.*

In 2019, IKunta Bo — the headman of Doupos - sat down with Willems, both skilled as shoemakers they re-made the 'IIorkos', the sandal for hunting (see Fig. 1). They worked the skin and spoke about the sandal, hunting and the connection with healing dances. Indeed, this traditional sandal, which has been tested over many generations, is not only a beautiful (and functional) object, but also a fascinating source for understanding the maker's mindset and worldview. It became clear that the making of the sandal is very much linked to the hunt, of which the eland skin is a by-product. .

For the San community of Nhoma, more than the sandal itself, the narrative and history around the sandal is important. This means the cobblers carry the project into the future, giving it new meaning and exploring new approaches to sustainable design (and livelihoods). Hitchcock, an anthropologist who has worked since the 1970ies with the San describes it as follows:

> "*The Ju/'hoansi are seeking to assert the politics of belonging through carefully constructing their self-identity, demonstrating their long-standing ties to the land, recording their histories, and documenting the innovative ways in which they manage and use natural resources. The San are quick to point out that they want to take full advantage of the benefits of modernity and development, while seeking to protect and promote their language and culture with the aim of passing on*" (Hitchcock, 2018: p 119).

In the San-dal project, the sandal is treated as a living object, with a past and a future, and is studied in-depth, not out of preservation but out of epistemological, emancipatory, and ecological needs.

Part of the communication is in Afrikaans, and members of the community are involved in interpretation of group interviews and translations to and from JuIhoan. A focus on the JuIhoan language provides opportunities for learning and for sharing ideas about sustainable footwear production and distribution. Concerning the health of people and feet, in-depth biomechanical analysis has shown that the sandal can be considered as 'minimal footwear', in that it does not restrict the foot (Willems et al., 2020). Based on this information the school board of Nhoma decided to use the San-dal as part of their school uniform. Using local materials and the fact that production is often individualized, thus avoiding waste, indigenous footwear inspires sustainable production and clean-up of a polluting industry (Willems & Roelandt, 2018). The described crowdfunding campaign is in line with the personalised, immediate-return economy of hunter-gatherer communities, whereby people obtain a direct return from their labour. Indeed, delayed reimbursement and excessive (mass) production conflicts with this traditional way of distribution

Photo 1 IKunta Bo, headman of Doupos, interviewed by !Ui Kunta on hunting, healing and the making of the n!ang nIosi, Doupos, Nyae Nyae, Namibia (Nolf, 2018, p. 27)

(Marshall Thomas, 2006; Suzman, 2017). Understanding the meaning of immediate return economy related to a different worldview as well as listening to the aspirations of the community, seem conditions that determine the future of this and other projects in that region.

3.2 Migrating Heritage: embroidering as a narrative

'Migrating Heritage' is another design and practice-based research project at the same institution. This project focuses on embroidery as a narrative in conflict in displacement. It is a collaboration with 43 women from Syria who fled the conflict in their country to escape war and are now living in Shatila refugee camp in Lebanon. Based on literature within anthropology and trauma studies, this research starts from the epistemological premise that not all knowledge can be expressed in a verbal or discursive way (Eastmond, 2007; Fabian, 1990). The limitation of the spoken or written language is especially salient in the context of forced displacement. As Eastmond (2007: p 259) states, "those who have suffered extreme experiences will often find that these resist narrative ordering and verbal expression".

The ongoing Syrian conflict did not only result in massive displacement of civilians., but also resulted in massive human rights violations (Human Rights Watch, 2022). As a result, many Syrians are traumatised by experiences of

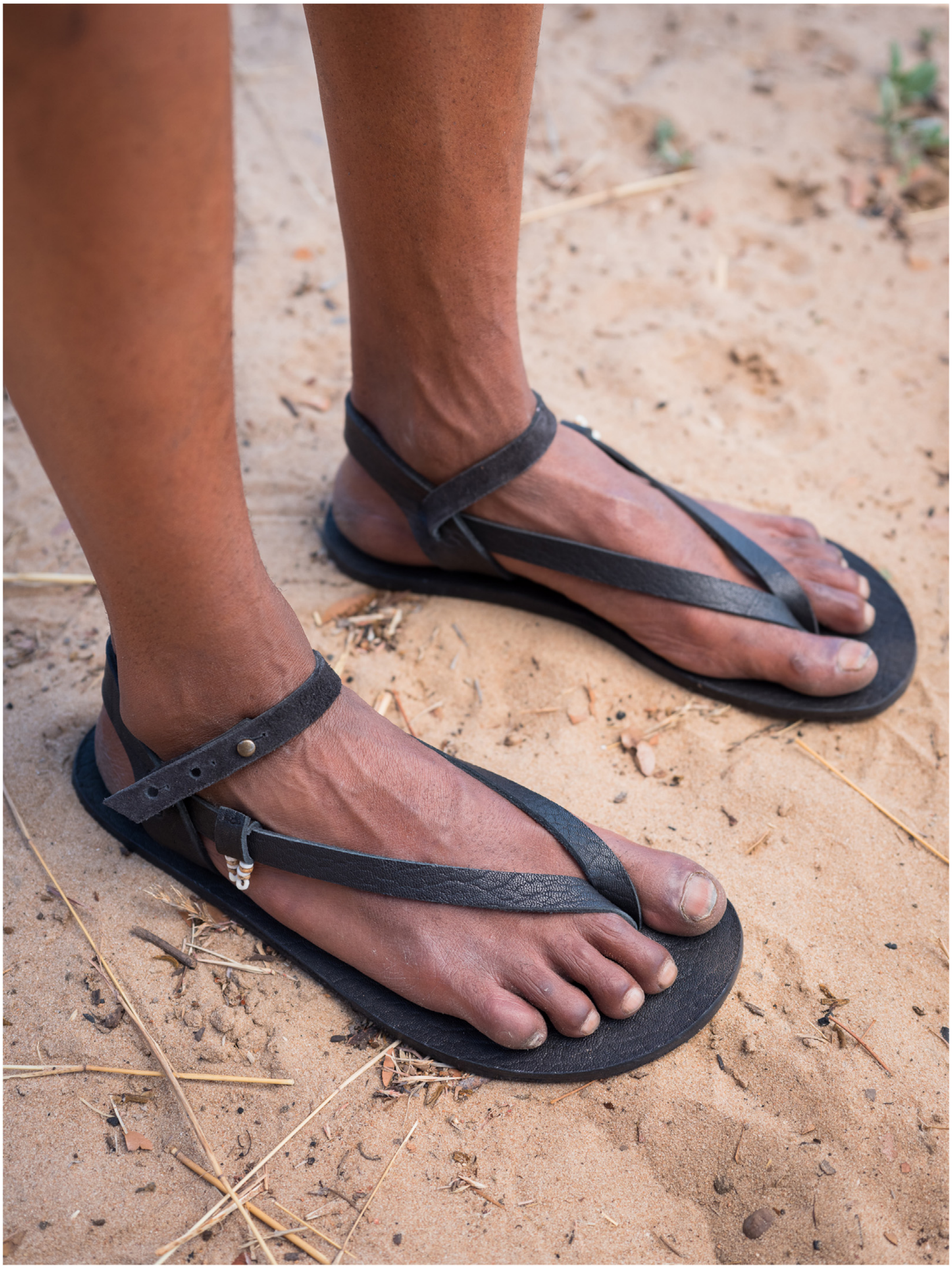

Photo 2 N!ang n|osi, featuring a back strap, a double lace between the toes, and a two-layer sole. Nyae Nyae, Namibia (Willems, 2022)

harm and/or the subsequent (forced) displacement. They are deeply affected by injustices afflicted to them, their families, their relatives, and their country (Chatelard & Kassab-Hassan, 2017). Besides the many internally displaced persons, most people who fled (outside) Syria settled in neighbouring countries due to the geographic proximity and pre-existing relationships (Sharif, 2018).

With an estimated 1,5 million, Lebanon hosts the largest number of refugees per capita in the world (UNHCR, 2020). Aside from the recent influx of people from Syria, Lebanon has been a refuge for many Palestinians since the establishment of Israel in 1948. To date, these people have not been able to return to their homeland and often still live with their children, grandchildren, and great-grandchildren in Palestinian refugee camps. Shatila, a refugee camp located in the southern suburbs of Beirut, is one of the places established in 1949 because of the massive Palestinian displacement. The camp population has increased over the years, bringing together people from different regions and backgrounds with salient growth since the onset of the Syrian conflict in 2011 (UNHCR, 2016).

Many of the women living in Shatila have in common a knowledge of embroidery, often with skills linked to their geographic region of origin. It is an everyday practice rooted in the rich textile tradition in the region and present since the establishment of the camp. Although stories are shared verbally while doing embroidery, it is also a non-verbal and visual language. As (Ghnaim, 2018, p. 44), a Palestinian-American woman, states in ‘Tatreez[5]and Tea’:

> “*Our art is our language. Our embroidery is our dialect. Our dress is our book to be read. And to read this book is to decode our stories on fabric. To know this dialect is to hear our truth*”.

The influx of Syrian refugees has rekindled the attention for embroidery both as a practice and a product. Local and international organisations introduced new design initiatives, making embroidery more prominent in the daily life of the women living in Shatila. Moreover, the practices do not require a lot of space, material, or machinery. By harnessing skills and knowledge that people carry along when they flee, these organisations try to rebuild livelihood and so re-establish independence (MADE 51, n. d.).

Starting from a common interest in embroidery, the Verclyte undertook preliminary fieldwork in the spring of 2020 to explore what the skill means for these recently displaced women. Although the covid-19 pandemic shortened the period of fieldwork, she nevertheless acquired insights in embroidery practices and their meanings. It soon became apparent that the meanings intertwined with this practice were widely divergent and had changed because of the conflict and ensuing displacement. The importance of embroidering was far from limited to income-generating opportunities or re-establishing independence. Instead, these women referred to multiple, often coexisting functions, including giving voice, meaning-making, and identity formation in disruptive life courses (Destrooper & Verclyte, 2022). As one of the makers stated, “we welcome the work, but we also have stories to tell” *Artisan (2020, March 9) Interview, Shatila, Lebanon.*

Although we do not share the same background, nor speak the same (verbal) language, we share an interest in skill from a joint position as makers. Exchanging knowledge about design practice generated trust and dialogue among each other. It became clear that embroidery’s value went beyond the final piece and that many women experienced the actual making process as essential. One of the women stated, referring to the making process: “We share emotions [...] What we cannot say in our houses, we can say here” *Artisan (2020, March 7) Interview, Shatila, Lebanon.* Through the repetitive character of binding stitches onto the fabric and sitting together, for example, these women voiced lived experiences and exchanged stories. Hence, embroidering together offers possibilities to engage in ways that do not exclusively rely on the spoken or written word. Instead, it starts from the context and provides a vernacular narrative rooted in the agency and strengths of these people. Nevertheless, as stories are shared verbally as well, Verclyte collaborated with a translator, a woman who grew up in Shatila, to overcome the lingual challenges.

Unfortunately, the ongoing covid-19 pandemic postponed a second and more extended visit to Shatila, prompting her to develop a hybrid strategy of digital and actual presence in the field. As contacts were already established, we continued collaboration with stakeholders online through (often visual) discussions. This online exchange led to a digital embroidery session in the autumn of 2020, where we shared insights regarding material, techniques, colours, patterns, and composition. By jointly making, we further explored the colourful language of embroidery, a reciprocal learning experience that allowed us to interact on a more equal footing and mitigate existing power relations. The collaborative making, here, took the shape of experimental learning, where the Verclyte took on the role of apprentice while the women in Shatila were the experts on the matter.

While these experiences were valuable in times of limited access to the field, focusing on what makers perceive to be the challenges and opportunities around them and how they use the design processes to navigate these requires more context-sensitivity. For example, embroidery is usually practised while sitting alongside each other and transmitted through careful mentorship in a shared place. The online experiment did not allow us to take part in this experience; not being part of the same context caused fragmented observation and interaction. When steering the camera on the movement of hands guiding the needle and thread, for example, facial expression was not visible. In addition, these online platforms did not provide a safe and secure space to touch on more sensitive topics.

Therefore, real-live fieldwork was conducted at a later stage during several encounters where this exercise was repeated to learn the vocabulary of this language. This experimental learning did not only provide insights in technical aspects such as mastering certain stitches, but also unravel the meaning behind material choices. These classes took place in the practitioners' homes or an organisation where embroidery was practised, according to the women's preferences.

After the embroidery classes, Verclyte practised the skills she had learned while the women were embroidering their personal stories. Most of the time, this was done in small focus groups of 4–5 women. In this research phase, she was making together in the same space, but each woman worked on her own piece of fabric. Some women already finished their embroidery in advance and preferred to give some verbal clarification based on their embroidered work to better understand their stories or join the conversation with the other women. Documentary photographer Aaron Lapeirre visualised this process.

Photo 3 Embroidery class. Shatila, Lebanon (Lapeirre, 2021a)

Exploring shoemaking and embroidery practices

Photo 4 Embroidering. Shatila, Lebanon (Lapeirre, 2021b)

Inspired by the embroidered works, Verclyte made collages with the photographs of the (making) context. During a fifth visit in October 2022, the women commented on the collages by embroidering on them. The collaborative making in this phase did not result in individual works but in co-designed pieces generated in correspondence. One of the women interpreted a collage with two birds as something negative because of its dark colour. She continued elaborating on this idea and transformed the biggest bird into a Syrian soldier. Underneath the big bird, she embroidered her nephew who gets suffocated by the bird. Furthermore, she embroidered the small bird, as a symbol for innocence and hope. Inspired by the collage, this woman embroidered the injustice she experienced in Syria and aspiration for the future.

This example shows how collaborative making can be a way to gain insight into lived experiences of conflict and displacement while at the same time influence the design process in unforeseen ways. In sum, all these little encounters influenced the direction of the design practice, the positionality of the people involved, and so the usage of design anthropology. As Fabian (1990: p 13) argues, this performance is not based on a 'pre-existing script' but evolves in the making through dialogue between interlocutors. It underscores the focus on process and the malleability of embroidery practices that transform through interaction between people and their context. As such, the

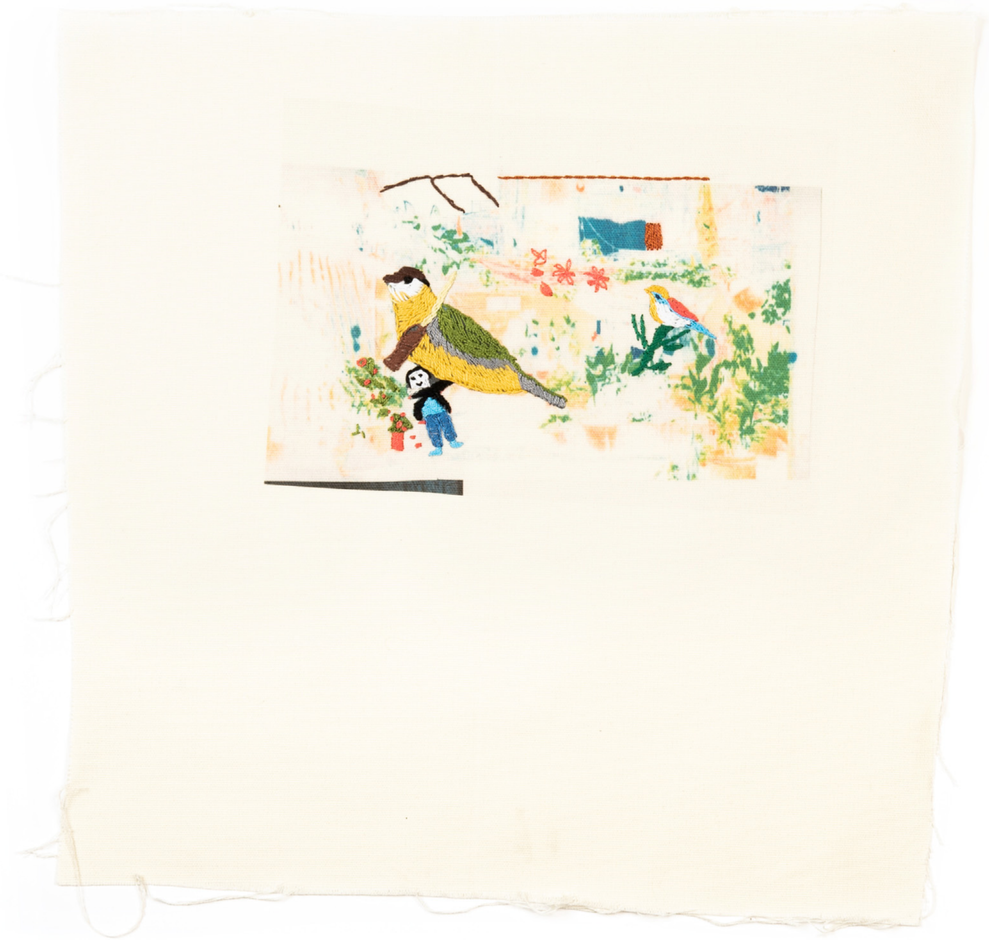

Photo 5 Embroidering collages. Shatila, Lebanon (Lapeirre, 2022)

emancipatory character of this research does not lie in a pre-formulated change as conceived in many design projects. Instead, it lies in exploring the language of embroidery to visualise lived experiences and imagine the future of people whose voices are often side-lined when merely focussing on the verbal or written word.

4 When making, doing, and knowing come together

Even if the San-dal and embroidery project differ in important aspects, such as start date, quantity of visits, interactions and time spent by the authors in the field, both cases highlight the possible value of a design anthropology through collaborative making. We discuss this value by digging into the related key concepts (common skill and in-habitat position) and focus on the mutual influence between theory and practice. In line with Singh et al. (2021), we relocate design from being an object of anthropology towards an instrument of doing anthropology, and simultaneously highlight the transformative character of this approach (Marcus & Murphy, 2013; Smith, 2022). Due to the specificity of each skill and context, we will illustrate the methodological influence on design practices through concrete examples.

First, the merging between design and anthropology centralises around a skill that the researcher and interlocutors have in common, although from a different context. When skilled, you are familiar with the operations executed through hands, fingers, and eyes, through which a common language can be developed. It allows us to move away from the merely spoken and written word using the language of design to engage and communicate with people. The story told through collaborative making, including the material, takes the collaborators on a common journey. Being a novice practitioner requires learning a skill that is not impossible but requires many hours of dedication. Sennett (2008) describes in his book 'The Craftsman' that for every skill learned an average of 10 000 h is needed to understand the basics. To put in context: with 8 h a day, five days a week, 48 working weeks a year, this would be well over five years. The 'trick' that both design ('art' in the original wordings of Taussig, 2009) and anthropology make tangible and alive is the ability to slow down or even block and divert the way by which we so speedily, even instantaneously, transform sensory knowledge into knowledge (Taussig, 2009, p. 188). And, so, design anthropology can make us slow down and pause before our habitual, almost automatic way of thinking and allow a moment to imagine how things could be otherwise.

Slow research and long-term involvement also relate to the design projects described above as they help to explore and make visible viable designs stemming from populations that use contextually embedded knowledge. For example, the embroidered stories in Shatila are shaped while making, informed by the context they live(d) in. The slow character of binding stitches onto the fabric gives people time to reflect, which affects the final design. A woman used different types of stitches to emphasise emotions she experienced while embroidering about forced displacement. Besides expressing lived experiences and imagining a more just future, the repetitive nature of embroidery helps to address emotions and cope with sorrow and pain. Exploring embroidery as a common language makes it possible to 'talk' about these topics in a contextual embedded, performative, and non-linear way.

Secondly, and besides the common skill, exploring the meanings behind design practices through collaborative making demands close physical interaction and attentive encounters between people and materiality. Therefore, we must recognise and acknowledge the agents involved co-creating knowledge and things. Framed from an 'in-habitat position' and in line with Ingold's (2020) notion of correspondence, this approach allows for more horizontal ways of positioning, as a methodology 'with' rather than 'of' people. We acknowledge, as mentioned by Lawther et al. (2019), that power relations can be amplified when researching as an 'outsider' within a post-conflict context or when working with groups that have been marginalised. When moving between the global North and South, historical backgrounds, wealth disparities, and access to education can create barriers between researchers and the populations with whom we work. A shared interest in skill equally pushes forward a dialectic process of constantly going back and forth between the people involved while reflecting together on the design and research process.

Consensus decision-making with all agents happens on the smallest unit of settlement in ways that are supportive and respectful of the needs and rights of the people involved. This includes negotiating the set-up of the research, the process, and its outcome, as well as positionalities which may shift throughout the projects among different interests, backgrounds, and expectations (Boeykens, 2019). Although we reflect on our positionality, this cannot be seen separately from the positionalities of the people with whom we work. Within the embroidery project, the researcher shifted from being a maker interested in embroidery towards an apprentice, towards a facilitator, towards a co-designer. Also, within the sandal project, the role of the researcher shifted between being a person who knows a lot about shoes, towards a facilitator, looking with them and adapting the sandal to different circumstances and bringing to the fore the linked meanings of making. Depicting the different layers behind making goes hand in hand with the shift in positionalities, including creating other positionalities that were not at play during the start of the collaboration.

Interaction along different backgrounds, perspectives and positionalities can influence design processes, in a way that the design 'grows' along the process. In the embroidery project, the embroidered stories inspired the researcher to make collages based on the works of the women. Subsequently, associations were made among the women in Shatila. Inspired by these collages, they elaborated certain ideas by embroidering on them. A collage holding an emblem of the United Nations Refugee Agency (UNHCR) in the shape of a pomegranate tree, for example, was associated with the concept of refugeehood, the lack of dignity and self-determination. A woman erased UNHCR's logo by adding colourful flowers on top of them, which made the tree flourish again. As such, the co-creation influenced the design and converted a negative connotation into aspirations for the future.

Thirdly, this notion of acquiring, sharing, and transferring skills helps us explore multiple forms of knowing stemming from various worldviews and practices, including non-Western design. We strive for what Connell (2018, p. 30) calls a "*mosaic epistemology, where separate knowledge systems sit beside each other* *like tiles in a mosaic, each based on a specific culture or historical experience, and each having its own claims to validity*". Design from this perspective is reoriented toward creative experimentation with forms, concepts, and materials which are deeply embedded in a broader worldview. Design here can bring about particular ways of being, knowing, and doing, and add to a mosaic world. This is in line with Escobar (2018) who pursues an autonomous design that can foster pluriverse openings. Dynamic documenting of design practices not only opens doors towards refining tactile output, but also yields openings towards fields such as biomechanics and human rights, equally raising questions, e.g. ownership related to cultural heritage.

Through the collaborative re-making of the sandal, the importance of the eland, the narrative and the material, became obvious. The eland is linked to the San creation story, to healing, to the eland dance and songs, to the hunt, and to puberty initiation rites (Keeney & Keeney, 2013; Lieberman et al., 2020). Additional biomechanical research confirmed the positive impact of the sandal on foot health (Willems et al., 2020). Matter is no longer considered inert and passive but receives agency and becomes an actant. In 'Vibrant Matter' Bennett (2010) advocates that such a view on matter (and non-human forces) can advance ecological and materially sustainable ways of production and consumption. The design of the San-dal is dynamic and changes visually depending on the contexts and its users (e.g. closing systems). Nevertheless, after common reflection on the scarcity of hides, one thing was clear, all agents preferred to use only eland skins, and to not use cow hides alien to their hunter-gathering culture.

To conclude, via collaborative making we move beyond the empirical, towards transformative interventions impacting both theory and practice. Our examples correspond to Smith (2022: p 4), who describes design anthropology's potential to *"bring to the fore the temporal, past-present-future entanglements, and frictions that such processes entail, especially when dealing with inclusive approaches to sensitive cultural and historical issues"*.

5 Conclusion

Proposing a design anthropology of collaborative making means facilitating a negotiated process as a mode of engagement with the people involved and the materials used. In this paper, this engagement starts from common interests in a similar skill.

We first situated making as a conversation between design and anthropology and how we understand the liaison between theory and practice. We continued by explaining the 'in-habitat position', as a way to horizontalize the relations between all agents. We then illustrated a design anthropological approach through a methodology of collaborative making based on shared skills with cases from shoemaking (Nhoma, Namibia) and embroidering (Shatila, Lebanon).

After describing the methodology and context of both cases, we discussed the value of collaborative making based on common skills. We conclude this approach allows for plural ways of knowing while at the same time nourishing a more balanced and inclusive way of design. In doing so, these engagements open up towards other dimensions and opportunities for change where designers (including our interlocutors), anthropologists and, by extension, social researchers can benefit from. To grasp the full understanding of what this change entails and how it impacts the broader public, further experimental and comparative research is required.

Funding statement

The research project *On Migrating Heritage* is financed by the HOGENT Arts Research Fund [1SA-OF1902], awarded to Catherine Willems, with PI Sofie Verclyte.

Catherine Willems's current research *Future Footwear 2.0* is financed by the HOGENT Arts Research Fund [*1SA-OF1602*].

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential.

Acknowledgements

The authors wish to thank Prof. Tine Destrooper, Prof. Rik Pinxten, Elke Evrard, Brigitte Herremans, Anne-Mie Engelen, and the (design) students of KASK & Conservatorium of the School of Arts of HOGENT for their comments during the drafting process, fieldwork assistant Farah Hindawi for facilitating and contributing to the exploratory fieldwork in Shatila and the research collaborators in Shatila and the Ju'Ihoan San and Flora Blommaert from Nhoma (Nhoma Safari Camp) in Namibia for their participation and sharing their insights. Furthermore, we want to thank the anonymous reviewers for their helpful suggestions.

Notes

1. Both authors contributed equally to this article.
1. A comprehensive overview can be found in the Editorial by Smith (2022), in the Special Section on Design Anthropology.

2. In the book The Tacit Dimension Polanyi (1966, p. 4) states, that *"We can know more than we can tell"* in which he refers to the fact that our knowledge grows through the experience and practice of design.
5. 'Tatreez' means embroidery in Arabic (Ghnaim, 2018).
3. Although collaborative making corresponds to Participatory Design — and other forms of co-creation — Participatory Design is not necessarily the same as how we describe a design anthropology of collaborative making. The latter starts from a similar skill set within different contexts that bring along knowledge.
4. Simultaneously a crowdfunding campaign was launched in 2016 through the kickstarter platform, called 'the original San-dal'. It was a collaboration between the San community (including 9 cobblers), UK based company Vivobarefoot, and a local NGO. In 2016, 633 backers pledged GBP92,000 to help bring this project to life (Willems & Roelandt, 2018).

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